GROUND WATER QUALITY INVESTIGATION

Northwest Plating
Seattle, Washington

Prepared for

Spectrum Services
1900 Wazee Street, Suite 210
Denver, Colorado 80202

Prepared by

Herrera Environmental Consultants, Inc.
2200 Sixth Avenue, Suite 601
Seattle, Washington 98121
Telephone: 206/441-9080

May 21, 1999

Confidential Work Product

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Introduction

Herrera Environmental Consultants was retained by Spectrum Services to collect ground water samples from eight monitoring wells located at the former Northwest Plating facility located at 825 Dakota Street South in Seattle, Washington. The work was performed according to Herrera's scope of work and proposal dated April 7, 1999.

Field Investigation/Sampling Methodology

On April 19, 1999, a hydrogeologist from Herrera met with one of the property owners at the former Northwest Plating facility to locate the monitoring wells, check their condition, measure water levels, and test for the presence of dense and light non-aqueous phase liquids (NAPLs). Two monitoring wells, MW14 and MW17, located inside the building were measured along with well MW5 and four unlabeled monitoring wells located outside of the building (Figure 1). The unlabeled wells were four inches in diameter and completed to depths ranging from 23.5 to 25.5 feet below ground surface. Monitoring wells MW2, MW3, MW4 and MW7 were not located. MW1 was located adjacent to one of the 4-inch monitoring wells, but a special tool was needed to access the well.

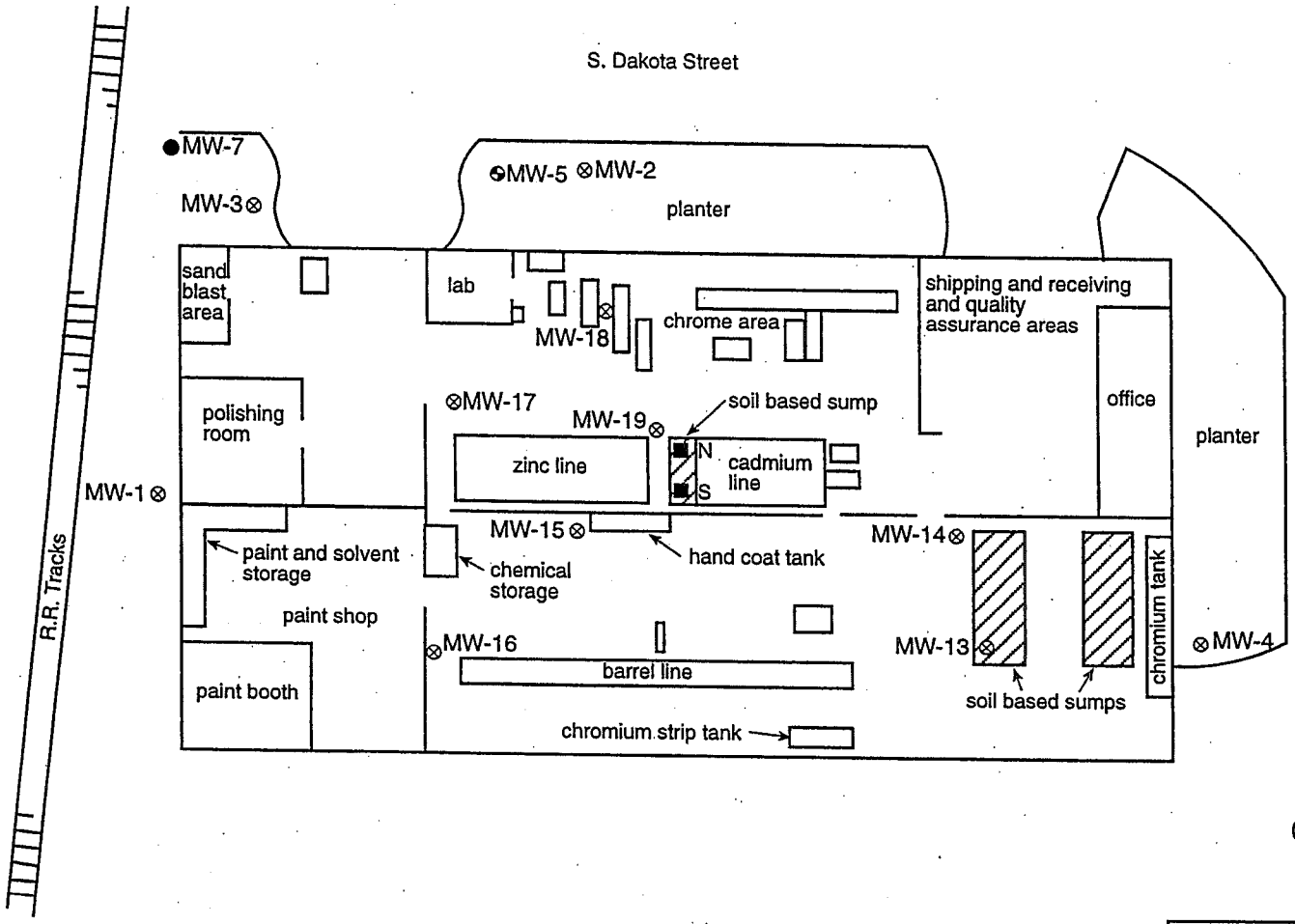
On April 22, 1999, a metal detector was used by Herrera to locate monitoring wells MW2, MW3, MW4 and MW7 outside the building. Wells MW2, MW3, and MW4 could not be accessed, requiring a special tool to open the threaded, flush-mounted steel well plates. The remaining wells MW15, MW16, MW18, and MW19 inside of the building were sounded, along with wells MW1 and MW7. Well MW13 could not be located because of equipment and material stored inside the building.

On April 27, 1999 the steel well plates for wells MW2, MW3, and MW4 were broken with a sledge hammer after several hours of trying to loosen the threaded plates with a specially fabricated tool. Each of the three wells were retro-fitted with a locking pressure cap and the broken steel plates were covered with a piece of wood or plexiglass after sampling was completed.

There was no indication of dense or light NAPLs in the 15 wells measured at the northwest plating facility. There also was not evidence of casing or screen damage and no build up of silt was noticed.

Water samples were collected from wells MW1, MW2, MW4, MW5, MW7, MW 15 and MW17 on April 27, 1999. Well MW3 was pumped dry on April 27, but well recovery was very slow and the water sample was collected on April 28, 1999. All wells were sampled according to the following procedures:

- The static water level in each well was measured to within 0.01 foot prior to ground water purging and sampling activities.
- The purging of each monitoring well was accomplished with a low-flow peristaltic pump. The pumping rates generally varied from 0.1 to 0.2



Source: GeoEngineers (Figure 3, Building Site Plan and Exploration Locations)

Figure 1. Monitoring well location, Northwest Plating, Seattle, Washington.

gallons per minute (gpm), although well MW-4 was pumped at 0.8 gpm (the silicon and polyethylene tubing for the pump was replaced at each well prior to purging.)

- A ground water sampling log was used for each well to record the static water level, water column volume, and periodic measurements of pH, temperature, specific conductance, turbidity and other pertinent information.
- The wells were pumped at low flow rates until a minimum of three well volumes were removed and the pH and specific conductance measurements were within +/- 0.1 pH units and +/- 3% umhos/cm respectively. These parameters were measured after removing one volume of water from the well. If the parameters did not stabilize after removing three volumes of water, pumping continued until a maximum of five volumes were removed. Some of the wells were pumped dry prior to removing three volumes of water.
- Water samples were collected immediately after three to five volumes of water were removed from the well. If the well was pumped dry, sample collection was performed after the water level had recovered to within 90% of the original static water level. However, the water level in MW-3 only recovered to within 72% of its original static level after waiting 23 hours, at which time the sample was collected.
- The sample containers were filled directly with the tubing used to purge the well. A high capacity filter cartridge (0.45 microns) was attached to the pump outflow prior to filling the containers for dissolved metals analyses.
- The properly labeled and sealed sample containers were placed directly in a cooler with ice.
- The samples were hand delivered to Analytical Resources Inc. in Seattle for analysis following proper chain of custody procedures.
- The water samples collected from each well were analyzed for volatile organic compounds (EPA Method 8260), dissolved metals (cadmium, chromium and zinc- EPA Method 6010), hexavalent chromium (SM 3500), and total cyanide (EPA Method 335.2).

Washington State Regulatory Criteria

The analytical results have been compared to the Model Toxics Control Act (MTCA) Cleanup Regulation , Chapter 173-140 WAC. According to MTCA cleanup criteria, Method A standards apply to routine cleanup actions involving relatively few hazardous substances. For those hazardous substances not addressed under applicable state and federal laws, cleanup levels are established at concentrations that do not exceed the natural background concentration or the practical quantitation limit for the substance in question.

Method B cleanup levels are established using applicable state and federal laws or the risk equations specified in WAC 173-340-720 through 173-340-750. For individual carcinogens, cleanup levels are based on the upper bound of the estimated excess lifetime cancer risk of one in one million. For individual noncarcinogenic substances, cleanup levels are set at concentrations anticipated to result in no acute or chronic toxic effects on human health and the environment.

Where a hazardous waste site involves multiple pathways of exposure, method B cleanup levels for individual substances must be modified in accordance with the procedures in WAC 173-140-708. According to this method, the total excess lifetime cancer risk for a site shall not exceed one in one hundred thousand and the hazard index for substances with similar noncarcinogenic toxic effects shall not exceed one.

The method B cleanup levels used in this report should be considered preliminary and for comparative purposes. These levels were calculated for individual compounds and will likely change and may become more stringent when their cumulative effect is calculated.

Method C is considered a conditional method that is used when compliance with cleanup levels developed under the method A or B may be impossible to achieve or may cause greater environmental harm. In those situations, method C cleanup levels for individual hazardous substances may be established on the basis of applicable state and federal laws and a site-specific risk assessment. Method C industrial soil cleanup levels may also be established at industrial properties which meet the criteria in WAC 173-340-745. For individual carcinogens, method C cleanup levels are based upon the upper bound of the estimated lifetime cancer risk of one in one hundred thousand (1×10^{-5}). For individual noncarcinogenic substances, method C cleanup levels are set at concentrations which are anticipated to result in no acute or chronic toxic effects on human health and no acute or chronic toxic effects on human health and no significant adverse effects on the protection and propagation of aquatic and terrestrial organisms. Where a hazardous waste site involves multiple hazardous substances and/or multiple pathways of exposure, method C cleanup levels for individual substances must be modified in accordance with the procedures in WAC 173-340-708. Under this method, the total excess lifetime cancer risk for a site shall not exceed one in one hundred thousand (1×10^{-5}) and the hazard index for substances with similar noncarcinogenic toxic effects shall not exceed one (1).

Regulatory Review in Vicinity of Northwest Plating

A review of Washington State Department of Ecology files was conducted for sites within about a half mile of the Northwest Plating facility to acquire ground water information (i.e., hydraulic parameters) applicable to the site. There was no available ground water information in files for sites close to this site.

Analytical Results

A summary of analytical results are provided in Table 1; the laboratory analytical report is provided in Appendix A. Based on the sampling results of the eight monitoring wells, elevated metals and solvent compounds are present in the shallow monitoring wells. Wells MW-1, MW-

Table 1. Summary of laboratory analytical results for the May 27-28, 1999 ground water sampling, Northwest Plating facility, Seattle, Washington.

	MTCA[a] Method A	*MTCA[a] Method B*	Sample Identification							
			MW-1	MW-2	MW-3	MW-4	MW-5	MW-7	MW-15	MW-17
Date Sampled			4/27/99	4/27/99	4/28/99	4/27/99	4/27/99	4/27/99	4/27/99	4/27/99
Depth to Water (feet below top of casing)			8.58	7.16	9.01	7.65	4.27	3.10	6.63	7.81
Field Parameters										
PH			6.06	6.94	7.53	6.17	7.53	7.80	6.35	6.56
Conductivity (µmhos/cm)			657	513	1,039	513	1,405	1,205	889	690
Temperature (degrees centigrade)			11.8	11.8	-	12.5	14.1	13.3	11.8	12.4
Turbidity (NTU)			2.9	4.8	50	8.9	<1	3.1	77	12
Volatile Organic Compounds (ug/L)										
Vinyl Chloride	*0.2*	*0.023*	**1.5**	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		*160*	5.0	<1.0	<10	<1.0	<1.0	<1.0	3.7	<1.0
cis-1,2-Dichloroethene		*80*	**140**	3.7	**780**	<1.0	<1.0	<1.0	**180**	11
Chloroform		*7.17*	1.6	<1.0	<10	<1.0	<1.0	<1.0	1.0J	<1.0
1,1,1-Trichloroethane	*200*	*7,200*	4.3	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	*5*	*3.98*	**4,100**	**19**	**1,000**	**8.5**	<1.0	<1.0	~~**2,600**~~	**21**
Tetrachloroethene	*5*	*0.858*	**36**	<1.0	**15**	<1.0	<1.0	<1.0	**9.1**	<1.0
Metals (dissolved) (mg/L)										
Cadmium	*0.005*	*0.008*	**0.373**	**0.044**	**0.048**	<0.002	<0.002	<0.002	**0.013**	**0.018**
Chromium	*0.050*	*16*	0.014	8.26	0.455	<0.005	<0.005	<0.005	0.918	8.16
Hexavalent Chromium		*0.080*	<0.010	**8.1**	**3.4**	<0.010	<0.010	<0.010	**0.82**	**6.9**
Zinc		*4.8*	0.583	<0.004	0.007	<0.004	<0.004	<0.004	0.519	0.048
Additional Parameter (mg/L)										
Total Cyanide		*0.320*	0.025	<0.005	0.033	<0.005	<0.005	<0.005	**0.37**	0.007

[a] MTCA Model Toxics Control Act cleanup regulation (Department of Ecology publication 94-06, 1996)
J Estimated concentration
Values exceeding MTCA Method A or Method B are printed in boldface type
Analytical methods- Volatile organic compounds EPA method 8260; metals (cadmium, chromium, zinc) method 6010; hexavalent chromium SM3500Cr-D; total cyanide EPA 335.2.

2, MW-3, MW-4, MW-15 and MW-17 are completed to total depths ranging from 10.5 to 13.0 feet bgs. These six wells are considered shallow, and have been completed with screened lengths ranging from five to seven and a half feet long. Well MW-5, completed to a total depth of 25.0 feet bgs is considered intermediate although it is screened from five to 25 feet bgs. Well MW-7, a deep well is completed to a depth of 39.0 feet and screened from 34 to 39 feet bgs.

Elevated concentrations of trichloroethene (TCE) were detected in the six shallow wells at concentrations ranging from 8.5 to 4,100 ug/L. The method B cleanup level for TCE is 3.98 ug/L. Cis-1,2-dichloroethene, a degradation product of TCE was detected in five of the shallow wells at concentrations ranging from 3.7 to 780 ug/L. The method B level for this compound is 80 ug/L. Tetrachloroethene was detected in three of the shallow wells at concentrations ranging from 9.1 to 36 ug/L. The method B cleanup for this compound is 0.858 ug/L. Vinyl chloride was detected in well MW-1 at a concentration of 1.5 ug/L, and the cleanup level is 0.023 ug/L. The method reporting limit of 1 ug/L is higher than the cleanup level. A lower reporting limit can be achieved by using selected ion monitoring Low concentrations of trans-1, 2-dichloroethene, and chloroform were found in two of the wells at concentrations below the method B cleanup levels. No volatiles, metals or total cyanide concentrations were detected above reporting limits in the intermediate or deep wells.

Cadmium concentrations exceeded the method B cleanup level of 0.008 mg/L in five of the six shallow wells at concentrations ranging from 0.013 to 0.373 mg/L. Chromium concentrations were less than the method B cleanup criteria of 16 mg/L in all of the six shallow wells at concentrations ranging from 0.455 to 8.26 mg/L. Hexavalent chromium exceeded the method B cleanup criteria of 0.080 mg/L in four of the six shallow wells at concentrations ranging from 0.82 to 8.1 mg/L. Zinc was detected in four of the six shallow wells at concentrations ranging from 0.007 to 0.583 mg/L. The highest zinc concentration was one order of magnitude less than the method B cleanup level of 4.8 mg/L.

Total cyanide was detected in four of the six shallow wells, but only the concentration of 0.37 mg/L detected in well MW-15 exceeded the method B cleanup level of 0.320 mg/L.

Quality Assurance Review

The analysis of eight water samples for total cyanide, chromium, cadmium, hexavalent chromium, zinc, and volatile organic compounds were determined to be acceptable for use based on the following criteria:

Holding Times--All analyses were conducted within the maximum holding times required by U.S. EPA (40 CFR Parts 100-149, July 1, 1992).

Method Blanks--There were no contaminants in the method blank samples above the instrument reporting limits.

Trip Blank--Methylene chloride was detected in the trip blank at a concentration of 5ug/L exceeding the reporting limit of 2 ug/L. Methylene chloride is a common laboratory contaminant and it was not detected in any of the other analyses.

Laboratory Control Analysis--Laboratory control samples refer to check standards, blank spikes, or standard reference materials. Recoveries of bromomethane, chloroethane, and acrolein were high for the VOC analyses. There were no detections of any of these compounds in any of the samples and no corrective action was taken. All of the other VOC compounds were within acceptable control limit ranges (70 percent to 150 percent). The control samples analyzed for the metals and total cyanide were all within acceptable control limits.

Surrogate Recoveries--The percent recoveries of surrogates for all of the VOC analyses were within acceptable control limit ranges (70 percent to 130 percent).

Laboratory Duplicates--The relative percent difference (RPD) for some samples analyzed in duplicate could not be calculated because neither sample had detectable concentrations. The RPD was within acceptable control limits for those samples with detectable concentrations.

Matrix Spikes (MS)--The percent recoveries for matrix spikes were within control limits for all samples.

Conclusions

- Shallow ground water beneath the Northwest Plating facility exceeds MTCA cleanup criteria for four volatile organics (vinyl chloride, cis-1,2-Dichloroethene, trichloroethene, and tetrachloroethene), and cadmium, hexavalent chromium and total cyanide.

Limitations

This report has been prepared for exclusive use by Spectrum Services for this project only. The analyses and conclusions included in this report are based on conditions encountered at the time of our field investigation and our experience and judgment. Herrera cannot be responsible for interpretation by others of the data contained in this report.

Herrera's services were performed with due diligence in a manner consistent with that level of care and skill ordinarily exercised by members of the professional community currently practicing under similar conditions in the area. No other warranty, express or implied, is made.

APPENDIX A

Laboratory Analytical Report

Analytical Resources, Incorporated
Analytical Chemists and Consultants

14 May 1999

Bruce Carpenter
Herrera Environmental Consultants, Inc.
2200 Sixth Avenue, Suite 601
Seattle, WA 98121-1823

RE: Project: NW Plating/c1335.01
ARI Job Nos: AF03 and AF25

Dear Bruce:

Please find enclosed an original chain of custody record and a set of analytical results for the above referenced project. Eight water samples and a trip blank were received in good condition on April 28, 1999.

The samples were analyzed for volatile organic compounds referencing US EPA method 8260, dissolved metals referencing US EPA method 6010, total cyanide referencing US EPA method 335.2 and hexavalent chromium referencing standard method 3500Cr-D. Quality control analysis results are included for your review.

Recoveries of bromomethane, chloroethane, and acrolein in the volatiles laboratory control sample were high. There were no detections of any of these compounds in any of the samples and no corrective action was taken.

No other analytical complications were noted. Copies of these reports and all associated raw data will be kept on file at ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mary Lou Fox

Mary Lou Fox
Project Manager
marylou@arilabs.com
(206)-389-6155

MLF/mlf
Enclosures

Chain of Custody Record & Laboratory Analysis Request

Date: 4/28/99
Page 1 of 1
Number of coolers: 1
Cooler Temp: 3.5

Analytical Resources, Incorporated
Analytical Chemist and Consultants
400 Ninth Avenue North
Seattle, WA 98109-4708
(206) 621-6490
(206) 621-7523 (Fax)

ARI Client: Herrera Environmental Phone#: 441-9080
Client Contact: Bruce Carpenter
Client Project ID: NW Plating / 1335.01
Samplers: Bruce Carpenter

	Sample ID	Date	Time	Matx	No Cont	Lab ID	Volatiles	CN Total	Cr +6	Dis. Cr, Cd, Zn					Notes/Comments
1	MW4	4/27	1250	W	6		X	X	X	X					99-5396 99-5403 AE03
2	MW5		1540				X	X	X	X					
3	MW2		1715				X	X	X	X					
4	MW7		2022				X	X	X	X					
5	MW1		2035				X	X	X	X					
6	MW17		2135				X	X	X	X					
7	MW15		2200				X	X	X	X					TRIP BLANK 4/20

ARI Project No:
T.A.T. Requested: 10 Days
Comments/Special Instructions:

Relinquished by: (Signature)	Bruce A. Carpenter	Relinquished by: (Signature)	Relinquished by: (Signature)
Printed Name:	Bruce A. Carpenter	Printed Name:	Printed Name:
Company:	Herrera Environmental	Company:	Company:
Date: 4/28/99 Time: 7:55		Date: Time:	Date: Time:
Received by: (Signature)	Carrie McDougal	Received by: (Signature)	Received by: (Signature)
Printed Name:	Carrie McDougal	Printed Name:	Printed Name:
Company:	ARI	Company:	Company:
Date: 4/28/99 Time: 755		Date: Time:	Date: Time:

Chain of Custody Record & Laboratory Analysis Request

Date: 4/28/99
Page: 1 of 1
Number of coolers: 1
Cooler Temp:
Rad. Survey:

Analytical Resources, Incorporated
Analytical Chemists and Consultants
400 Ninth Avenue North
Seattle, WA 98109-4708
(206) 621-6490
(206) 621-7523 (Fax)

ARI Client: Herrera Environmental Phone#: 441-9080
Client Contact: Bruce A. Carpenter
Client Project ID: NW Plating e1335.01
Samplers: Bruce Carpenter

	Sample ID	Date	Time	Matx	No Cont	Lab ID	Analysis Required: Volatiles	Total CN	Cr+6	Cr, Zn, Cd					Notes/Comments
1	MW3	4/28/99	15:35	Water	6		X	X	X	X					99-5485 AF25
2															
3															
4															
5															
6															
7															

ARI Project No:

Comments/Special Instructions:
TAT 10 Days

Relinquished by: (Signature)	Relinquished by: (Signature)	Relinquished by: (Signature)
Printed Name: Bruce A. Carpenter	Printed Name:	Printed Name:
Company: Herrera Environmental	Company:	Company:
Date: 4/28/99 Time: 1745	Date: Time:	Date: Time:
Received by: (Signature)	Received by: (Signature)	Received by: (Signature)
Printed Name: Carrie McDougall	Printed Name:	Printed Name:
Company: ARI	Company:	Company:
Date: 4/28/99 Time: 1745	Date: Time:	Date: Time:

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: Method Blank

Lab Sample ID: 050499MB
LIMS ID: 99-5403
Matrix: Water
Data Release Authorized: MS
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: NA
Date Received: NA

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	1.0 U
74-83-9	Bromomethane	1.0 U
75-01-4	Vinyl Chloride	1.0 U
75-00-3	Chloroethane	1.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
156-59-2	cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	5.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
75-69-4	Trichlorofluoromethane	1.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U
1330-20-7	m,p-Xylene	1.0 U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: Method Blank

Lab Sample ID: 050499MB
LIMS ID: 99-5403
Matrix: Water
Data Release Authorized: MP
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: NA
Date Received: NA

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
107-02-8	Acrolein	50 U
74-88-4	Methyl Iodide	1.0 U
74-96-4	Bromoethane	2.0 U
107-13-1	Acrylonitrile	5.0 U
563-58-6	1,1-Dichloropropene	1.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U
96-18-4	1,2,3-Trichloropropane	3.0 U
110-57-6	trans-1,4-Dichloro-2-butene	5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0 U
87-68-3	Hexachlorobutadiene	5.0 U
106-93-4	Ethylene Dibromide	1.0 U
74-97-5	Bromochloromethane	1.0 U
590-20-7	2,2-Dichloropropane	1.0 U
142-28-9	1,3-Dichloropropane	1.0 U
98-82-8	Isopropylbenzene	1.0 U
103-65-1	n-Propylbenzene	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U
98-06-6	tert-Butylbenzene	1.0 U
135-98-8	sec-Butylbenzene	1.0 U
99-87-6	4-Isopropyltoluene	1.0 U
104-51-8	n-Butylbenzene	1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0 U
91-20-3	Naphthalene	5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	82.4%
d8-Toluene	95.1%
Bromofluorobenzene	86.9%
d4-1,2-Dichlorobenzene	97.3%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: Method Blank

Lab Sample ID: 050499MB
LIMS ID: 99-5485
Matrix: Water
Data Release Authorized: DMD
Reported: 05/05/99

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: NA
Date Received: NA

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	1.0 U
74-83-9	Bromomethane	1.0 U
75-01-4	Vinyl Chloride	1.0 U
75-00-3	Chloroethane	1.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
156-59-2	cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	5.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
75-69-4	Trichlorofluoromethane	1.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U
1330-20-7	m,p-Xylene	1.0 U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: Method Blank

Lab Sample ID: 050499MB
LIMS ID: 99-5485
Matrix: Water
Data Release Authorized: GMB
Reported: 05/05/99

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: NA
Date Received: NA

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
107-02-8	Acrolein	50 U
74-88-4	Methyl Iodide	1.0 U
74-96-4	Bromoethane	2.0 U
107-13-1	Acrylonitrile	5.0 U
563-58-6	1,1-Dichloropropene	1.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U
96-18-4	1,2,3-Trichloropropane	3.0 U
110-57-6	trans-1,4-Dichloro-2-butene	5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0 U
87-68-3	Hexachlorobutadiene	5.0 U
106-93-4	Ethylene Dibromide	1.0 U
74-97-5	Bromochloromethane	1.0 U
590-20-7	2,2-Dichloropropane	1.0 U
142-28-9	1,3-Dichloropropane	1.0 U
98-82-8	Isopropylbenzene	1.0 U
103-65-1	n-Propylbenzene	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U
98-06-6	tert-Butylbenzene	1.0 U
135-98-8	sec-Butylbenzene	1.0 U
99-87-6	4-Isopropyltoluene	1.0 U
104-51-8	n-Butylbenzene	1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0 U
91-20-3	Naphthalene	5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	82.4%
d8-Toluene	95.1%
Bromofluorobenzene	86.9%
d4-1,2-Dichlorobenzene	97.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: MW4

Lab Sample ID: AF03A
LIMS ID: 99-5396
Matrix: Water
Data Release Authorized: MP
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	1.0 U
74-83-9	Bromomethane	1.0 U
75-01-4	Vinyl Chloride	1.0 U
75-00-3	Chloroethane	1.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
156-59-2	cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	5.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	**Trichloroethene**	**8.5**
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
75-69-4	Trichlorofluoromethane	1.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U
1330-20-7	m,p-Xylene	1.0 U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW4

Lab Sample ID: AF03A
LIMS ID: 99-5396
Matrix: Water
Data Release Authorized: JHB
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
107-02-8	Acrolein	50 U
74-88-4	Methyl Iodide	1.0 U
74-96-4	Bromoethane	2.0 U
107-13-1	Acrylonitrile	5.0 U
563-58-6	1,1-Dichloropropene	1.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U
96-18-4	1,2,3-Trichloropropane	3.0 U
110-57-6	trans-1,4-Dichloro-2-butene	5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0 U
87-68-3	Hexachlorobutadiene	5.0 U
106-93-4	Ethylene Dibromide	1.0 U
74-97-5	Bromochloromethane	1.0 U
590-20-7	2,2-Dichloropropane	1.0 U
142-28-9	1,3-Dichloropropane	1.0 U
98-82-8	Isopropylbenzene	1.0 U
103-65-1	n-Propylbenzene	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U
98-06-6	tert-Butylbenzene	1.0 U
135-98-8	sec-Butylbenzene	1.0 U
99-87-6	4-Isopropyltoluene	1.0 U
104-51-8	n-Butylbenzene	1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0 U
91-20-3	Naphthalene	5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	88.4%
d8-Toluene	98.0%
Bromofluorobenzene	85.1%
d4-1,2-Dichlorobenzene	102%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW5

Lab Sample ID: AF03B
LIMS ID: 99-5397
Matrix: Water
Data Release Authorized: MS
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	1.0 U
74-83-9	Bromomethane	1.0 U
75-01-4	Vinyl Chloride	1.0 U
75-00-3	Chloroethane	1.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
156-59-2	cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	5.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
75-69-4	Trichlorofluoromethane	1.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U
1330-20-7	m,p-Xylene	1.0 U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW5

Lab Sample ID: AF03B
LIMS ID: 99-5397
Matrix: Water
Data Release Authorized: MS
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
107-02-8	Acrolein	50 U
74-88-4	Methyl Iodide	1.0 U
74-96-4	Bromoethane	2.0 U
107-13-1	Acrylonitrile	5.0 U
563-58-6	1,1-Dichloropropene	1.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U
96-18-4	1,2,3-Trichloropropane	3.0 U
110-57-6	trans-1,4-Dichloro-2-butene	5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0 U
87-68-3	Hexachlorobutadiene	5.0 U
106-93-4	Ethylene Dibromide	1.0 U
74-97-5	Bromochloromethane	1.0 U
590-20-7	2,2-Dichloropropane	1.0 U
142-28-9	1,3-Dichloropropane	1.0 U
98-82-8	Isopropylbenzene	1.0 U
103-65-1	n-Propylbenzene	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U
98-06-6	tert-Butylbenzene	1.0 U
135-98-8	sec-Butylbenzene	1.0 U
99-87-6	4-Isopropyltoluene	1.0 U
104-51-8	n-Butylbenzene	1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0 U
91-20-3	Naphthalene	5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	85.1%
d8-Toluene	96.1%
Bromofluorobenzene	84.9%
d4-1,2-Dichlorobenzene	102%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATI

Sample No: MW2

Lab Sample ID: AF03C
LIMS ID: 99-5398
Matrix: Water
Data Release Authorized: JMB
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	1.0 U
74-83-9	Bromomethane	1.0 U
75-01-4	Vinyl Chloride	1.0 U
75-00-3	Chloroethane	1.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
156-59-2	**cis-1,2-Dichloroethene**	**3.7**
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	5.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	**Trichloroethene**	**19**
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
75-69-4	Trichlorofluoromethane	1.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U
1330-20-7	m,p-Xylene	1.0 U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW2

Lab Sample ID: AF03C
LIMS ID: 99-5398
Matrix: Water
Data Release Authorized: MS
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
107-02-8	Acrolein	50 U
74-88-4	Methyl Iodide	1.0 U
74-96-4	Bromoethane	2.0 U
107-13-1	Acrylonitrile	5.0 U
563-58-6	1,1-Dichloropropene	1.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U
96-18-4	1,2,3-Trichloropropane	3.0 U
110-57-6	trans-1,4-Dichloro-2-butene	5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0 U
87-68-3	Hexachlorobutadiene	5.0 U
106-93-4	Ethylene Dibromide	1.0 U
74-97-5	Bromochloromethane	1.0 U
590-20-7	2,2-Dichloropropane	1.0 U
142-28-9	1,3-Dichloropropane	1.0 U
98-82-8	Isopropylbenzene	1.0 U
103-65-1	n-Propylbenzene	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U
98-06-6	tert-Butylbenzene	1.0 U
135-98-8	sec-Butylbenzene	1.0 U
99-87-6	4-Isopropyltoluene	1.0 U
104-51-8	n-Butylbenzene	1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0 U
91-20-3	Naphthalene	5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	90.7%
d8-Toluene	97.4%
Bromofluorobenzene	90.9%
d4-1,2-Dichlorobenzene	104%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW7

Lab Sample ID: AF03D
LIMS ID: 99-5399
Matrix: Water
Data Release Authorized: JHB
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	1.0 U
74-83-9	Bromomethane	1.0 U
75-01-4	Vinyl Chloride	1.0 U
75-00-3	Chloroethane	1.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
156-59-2	cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	5.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
75-69-4	Trichlorofluoromethane	1.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U
1330-20-7	m,p-Xylene	1.0 U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW7

Lab Sample ID: AF03D
LIMS ID: 99-5399
Matrix: Water
Data Release Authorized: [signature]
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
107-02-8	Acrolein	50 U
74-88-4	Methyl Iodide	1.0 U
74-96-4	Bromoethane	2.0 U
107-13-1	Acrylonitrile	5.0 U
563-58-6	1,1-Dichloropropene	1.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U
96-18-4	1,2,3-Trichloropropane	3.0 U
110-57-6	trans-1,4-Dichloro-2-butene	5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0 U
87-68-3	Hexachlorobutadiene	5.0 U
106-93-4	Ethylene Dibromide	1.0 U
74-97-5	Bromochloromethane	1.0 U
590-20-7	2,2-Dichloropropane	1.0 U
142-28-9	1,3-Dichloropropane	1.0 U
98-82-8	Isopropylbenzene	1.0 U
103-65-1	n-Propylbenzene	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U
98-06-6	tert-Butylbenzene	1.0 U
135-98-8	sec-Butylbenzene	1.0 U
99-87-6	4-Isopropyltoluene	1.0 U
104-51-8	n-Butylbenzene	1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0 U
91-20-3	Naphthalene	5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	86.6%
d8-Toluene	98.4%
Bromofluorobenzene	90.7%
d4-1,2-Dichlorobenzene	100%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATE

Sample No: MW1

Lab Sample ID: AF03E
LIMS ID: 99-5400
Matrix: Water
Data Release Authorized: AB
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	1.0 U
74-83-9	Bromomethane	1.0 U
75-01-4	**Vinyl Chloride**	**1.5**
75-00-3	Chloroethane	1.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	**trans-1,2-Dichloroethene**	**5.0**
156-59-2	**cis-1,2-Dichloroethene**	**140**
67-66-3	**Chloroform**	**1.6**
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	**1,1,1-Trichloroethane**	**4.3**
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	5.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	**Trichloroethene**	**3600 E**
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	**Tetrachloroethene**	**36**
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
75-69-4	Trichlorofluoromethane	1.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U
1330-20-7	m,p-Xylene	1.0 U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW1

Lab Sample ID: AF03E
LIMS ID: 99-5400
Matrix: Water
Data Release Authorized: [signature]
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
107-02-8	Acrolein	50 U
74-88-4	Methyl Iodide	1.0 U
74-96-4	Bromoethane	2.0 U
107-13-1	Acrylonitrile	5.0 U
563-58-6	1,1-Dichloropropene	1.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U
96-18-4	1,2,3-Trichloropropane	3.0 U
110-57-6	trans-1,4-Dichloro-2-butene	5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0 U
87-68-3	Hexachlorobutadiene	5.0 U
106-93-4	Ethylene Dibromide	1.0 U
74-97-5	Bromochloromethane	1.0 U
590-20-7	2,2-Dichloropropane	1.0 U
142-28-9	1,3-Dichloropropane	1.0 U
98-82-8	Isopropylbenzene	1.0 U
103-65-1	n-Propylbenzene	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U
98-06-6	tert-Butylbenzene	1.0 U
135-98-8	sec-Butylbenzene	1.0 U
99-87-6	4-Isopropyltoluene	1.0 U
104-51-8	n-Butylbenzene	1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0 U
91-20-3	Naphthalene	5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	81.5%
d8-Toluene	95.3%
Bromofluorobenzene	88.1%
d4-1,2-Dichlorobenzene	103%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW1 DILUTION

Lab Sample ID: AF03E-DL
LIMS ID: 99-5400
Matrix: Water
Data Release Authorized: JMB
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 0.033 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	150 U
74-83-9	Bromomethane	150 U
75-01-4	Vinyl Chloride	150 U
75-00-3	Chloroethane	150 U
75-09-2	Methylene Chloride	300 U
67-64-1	Acetone	750 U
75-15-0	Carbon Disulfide	150 U
75-35-4	1,1-Dichloroethene	150 U
75-34-3	1,1-Dichloroethane	150 U
156-60-5	trans-1,2-Dichloroethene	150 U
156-59-2	**cis-1,2-Dichloroethene**	**150**
67-66-3	Chloroform	150 U
107-06-2	1,2-Dichloroethane	150 U
78-93-3	2-Butanone	750 U
71-55-6	1,1,1-Trichloroethane	150 U
56-23-5	Carbon Tetrachloride	150 U
108-05-4	Vinyl Acetate	750 U
75-27-4	Bromodichloromethane	150 U
78-87-5	1,2-Dichloropropane	150 U
10061-01-5	cis-1,3-Dichloropropene	150 U
79-01-6	**Trichloroethene**	**4100**
124-48-1	Dibromochloromethane	150 U
79-00-5	1,1,2-Trichloroethane	150 U
71-43-2	Benzene	150 U
10061-02-6	trans-1,3-Dichloropropene	150 U
110-75-8	2-Chloroethylvinylether	750 U
75-25-2	Bromoform	150 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	750 U
591-78-6	2-Hexanone	750 U
127-18-4	Tetrachloroethene	150 U
79-34-5	1,1,2,2-Tetrachloroethane	150 U
108-88-3	Toluene	150 U
108-90-7	Chlorobenzene	150 U
100-41-4	Ethylbenzene	150 U
100-42-5	Styrene	150 U
75-69-4	Trichlorofluoromethane	150 U
76-13-1	1,1,2-Trichlorotrifluoroethane	300 U
1330-20-7	m,p-Xylene	150 U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW1
DILUTION

Lab Sample ID: AF03E-DL
LIMS ID: 99-5400
Matrix: Water
Data Release Authorized: MB
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 0.033 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	150 U
95-50-1	1,2-Dichlorobenzene	150 U
541-73-1	1,3-Dichlorobenzene	150 U
106-46-7	1,4-Dichlorobenzene	150 U
107-02-8	Acrolein	7500 U
74-88-4	Methyl Iodide	150 U
74-96-4	Bromoethane	300 U
107-13-1	Acrylonitrile	750 U
563-58-6	1,1-Dichloropropene	150 U
74-95-3	Dibromomethane	150 U
630-20-6	1,1,1,2-Tetrachloroethane	150 U
96-12-8	1,2-Dibromo-3-chloropropane	750 U
96-18-4	1,2,3-Trichloropropane	450 U
110-57-6	trans-1,4-Dichloro-2-butene	750 U
108-67-8	1,3,5-Trimethylbenzene	150 U
95-63-6	1,2,4-Trimethylbenzene	150 U
87-68-3	Hexachlorobutadiene	750 U
106-93-4	Ethylene Dibromide	150 U
74-97-5	Bromochloromethane	150 U
590-20-7	2,2-Dichloropropane	150 U
142-28-9	1,3-Dichloropropane	150 U
98-82-8	Isopropylbenzene	150 U
103-65-1	n-Propylbenzene	150 U
108-86-1	Bromobenzene	150 U
95-49-8	2-Chlorotoluene	150 U
106-43-4	4-Chlorotoluene	150 U
98-06-6	tert-Butylbenzene	150 U
135-98-8	sec-Butylbenzene	150 U
99-87-6	4-Isopropyltoluene	150 U
104-51-8	n-Butylbenzene	150 U
120-82-1	1,2,4-Trichlorobenzene	750 U
91-20-3	Naphthalene	750 U
87-61-6	1,2,3-Trichlorobenzene	750 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	89.4%
d8-Toluene	99.5%
Bromofluorobenzene	85.8%
d4-1,2-Dichlorobenzene	101%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW17

Lab Sample ID: AF03F
LIMS ID: 99-5401
Matrix: Water
Data Release Authorized: MS
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	1.0 U
74-83-9	Bromomethane	1.0 U
75-01-4	Vinyl Chloride	1.0 U
75-00-3	Chloroethane	1.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
156-59-2	**cis-1,2-Dichloroethene**	**11**
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	5.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	**Trichloroethene**	**21**
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
75-69-4	Trichlorofluoromethane	1.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U
1330-20-7	m,p-Xylene	1.0 U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW17

Lab Sample ID: AF03F
LIMS ID: 99-5401
Matrix: Water
Data Release Authorized: MP
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
107-02-8	Acrolein	50 U
74-88-4	Methyl Iodide	1.0 U
74-96-4	Bromoethane	2.0 U
107-13-1	Acrylonitrile	5.0 U
563-58-6	1,1-Dichloropropene	1.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U
96-18-4	1,2,3-Trichloropropane	3.0 U
110-57-6	trans-1,4-Dichloro-2-butene	5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0 U
87-68-3	Hexachlorobutadiene	5.0 U
106-93-4	Ethylene Dibromide	1.0 U
74-97-5	Bromochloromethane	1.0 U
590-20-7	2,2-Dichloropropane	1.0 U
142-28-9	1,3-Dichloropropane	1.0 U
98-82-8	Isopropylbenzene	1.0 U
103-65-1	n-Propylbenzene	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U
98-06-6	tert-Butylbenzene	1.0 U
135-98-8	sec-Butylbenzene	1.0 U
99-87-6	4-Isopropyltoluene	1.0 U
104-51-8	n-Butylbenzene	1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0 U
91-20-3	Naphthalene	5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	88.4%
d8-Toluene	97.9%
Bromofluorobenzene	89.3%
d4-1,2-Dichlorobenzene	103%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW15

Lab Sample ID: AF03G
LIMS ID: 99-5402
Matrix: Water
Data Release Authorized: MB
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	1.0 U
74-83-9	Bromomethane	1.0 U
75-01-4	Vinyl Chloride	1.0 U
75-00-3	Chloroethane	1.0 U
75-09-2	Methylene Chloride	2.0 U
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	**trans-1,2-Dichloroethene**	**3.7**
156-59-2	**cis-1,2-Dichloroethene**	**180**
67-66-3	**Chloroform**	**1.0 J**
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	5.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	**Trichloroethene**	**2900 E**
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	**Tetrachloroethene**	**9.1**
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
75-69-4	Trichlorofluoromethane	1.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U
1330-20-7	m,p-Xylene	1.0 U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS
Page 2 of 2

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW15

Lab Sample ID: AF03G
LIMS ID: 99-5402
Matrix: Water
Data Release Authorized: MB
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
107-02-8	Acrolein	50 U
74-88-4	Methyl Iodide	1.0 U
74-96-4	Bromoethane	2.0 U
107-13-1	Acrylonitrile	5.0 U
563-58-6	1,1-Dichloropropene	1.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U
96-18-4	1,2,3-Trichloropropane	3.0 U
110-57-6	trans-1,4-Dichloro-2-butene	5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0 U
87-68-3	Hexachlorobutadiene	5.0 U
106-93-4	Ethylene Dibromide	1.0 U
74-97-5	Bromochloromethane	1.0 U
590-20-7	2,2-Dichloropropane	1.0 U
142-28-9	1,3-Dichloropropane	1.0 U
98-82-8	Isopropylbenzene	1.0 U
103-65-1	n-Propylbenzene	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U
98-06-6	tert-Butylbenzene	1.0 U
135-98-8	sec-Butylbenzene	1.0 U
99-87-6	4-Isopropyltoluene	1.0 U
104-51-8	n-Butylbenzene	1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0 U
91-20-3	Naphthalene	5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0 U

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	86.1%
d8-Toluene	93.9%
Bromofluorobenzene	90.7%
d4-1,2-Dichlorobenzene	102%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW15 DILUTION

Lab Sample ID: AF03G-DL
LIMS ID: 99-5402
Matrix: Water
Data Release Authorized: MP
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 0.033 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	150 U
74-83-9	Bromomethane	150 U
75-01-4	Vinyl Chloride	150 U
75-00-3	Chloroethane	150 U
75-09-2	Methylene Chloride	300 U
67-64-1	Acetone	750 U
75-15-0	Carbon Disulfide	150 U
75-35-4	1,1-Dichloroethene	150 U
75-34-3	1,1-Dichloroethane	150 U
156-60-5	trans-1,2-Dichloroethene	150 U
156-59-2	**cis-1,2-Dichloroethene**	**200**
67-66-3	Chloroform	150 U
107-06-2	1,2-Dichloroethane	150 U
78-93-3	2-Butanone	750 U
71-55-6	1,1,1-Trichloroethane	150 U
56-23-5	Carbon Tetrachloride	150 U
108-05-4	Vinyl Acetate	750 U
75-27-4	Bromodichloromethane	150 U
78-87-5	1,2-Dichloropropane	150 U
10061-01-5	cis-1,3-Dichloropropene	150 U
79-01-6	**Trichloroethene**	**2600**
124-48-1	Dibromochloromethane	150 U
79-00-5	1,1,2-Trichloroethane	150 U
71-43-2	Benzene	150 U
10061-02-6	trans-1,3-Dichloropropene	150 U
110-75-8	2-Chloroethylvinylether	750 U
75-25-2	Bromoform	150 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	750 U
591-78-6	2-Hexanone	750 U
127-18-4	Tetrachloroethene	150 U
79-34-5	1,1,2,2-Tetrachloroethane	150 U
108-88-3	Toluene	150 U
108-90-7	Chlorobenzene	150 U
100-41-4	Ethylbenzene	150 U
100-42-5	Styrene	150 U
75-69-4	Trichlorofluoromethane	150 U
76-13-1	1,1,2-Trichlorotrifluoroethane	300 U
1330-20-7	m,p-Xylene	150 U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW15 DILUTION

Lab Sample ID: AF03G-DL
LIMS ID: 99-5402
Matrix: Water
Data Release Authorized: [signature]
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 0.033 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	150 U
95-50-1	1,2-Dichlorobenzene	150 U
541-73-1	1,3-Dichlorobenzene	150 U
106-46-7	1,4-Dichlorobenzene	150 U
107-02-8	Acrolein	7500 U
74-88-4	Methyl Iodide	150 U
74-96-4	Bromoethane	300 U
107-13-1	Acrylonitrile	750 U
563-58-6	1,1-Dichloropropene	150 U
74-95-3	Dibromomethane	150 U
630-20-6	1,1,1,2-Tetrachloroethane	150 U
96-12-8	1,2-Dibromo-3-chloropropane	750 U
96-18-4	1,2,3-Trichloropropane	450 U
110-57-6	trans-1,4-Dichloro-2-butene	750 U
108-67-8	1,3,5-Trimethylbenzene	150 U
95-63-6	1,2,4-Trimethylbenzene	150 U
87-68-3	Hexachlorobutadiene	750 U
106-93-4	Ethylene Dibromide	150 U
74-97-5	Bromochloromethane	150 U
590-20-7	2,2-Dichloropropane	150 U
142-28-9	1,3-Dichloropropane	150 U
98-82-8	Isopropylbenzene	150 U
103-65-1	n-Propylbenzene	150 U
108-86-1	Bromobenzene	150 U
95-49-8	2-Chlorotoluene	150 U
106-43-4	4-Chlorotoluene	150 U
98-06-6	tert-Butylbenzene	150 U
135-98-8	sec-Butylbenzene	150 U
99-87-6	4-Isopropyltoluene	150 U
104-51-8	n-Butylbenzene	150 U
120-82-1	1,2,4-Trichlorobenzene	750 U
91-20-3	Naphthalene	750 U
87-61-6	1,2,3-Trichlorobenzene	750 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	85.6%
d8-Toluene	97.8%
Bromofluorobenzene	85.8%
d4-1,2-Dichlorobenzene	101%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: Trip Blank

Lab Sample ID: AF03H
LIMS ID: 99-5403
Matrix: Water
Data Release Authorized: AB
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/20/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	1.0 U
74-83-9	Bromomethane	1.0 U
75-01-4	Vinyl Chloride	1.0 U
75-00-3	Chloroethane	1.0 U
75-09-2	**Methylene Chloride**	**5.0**
67-64-1	Acetone	5.0 U
75-15-0	Carbon Disulfide	1.0 U
75-35-4	1,1-Dichloroethene	1.0 U
75-34-3	1,1-Dichloroethane	1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0 U
156-59-2	cis-1,2-Dichloroethene	1.0 U
67-66-3	Chloroform	1.0 U
107-06-2	1,2-Dichloroethane	1.0 U
78-93-3	2-Butanone	5.0 U
71-55-6	1,1,1-Trichloroethane	1.0 U
56-23-5	Carbon Tetrachloride	1.0 U
108-05-4	Vinyl Acetate	5.0 U
75-27-4	Bromodichloromethane	1.0 U
78-87-5	1,2-Dichloropropane	1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0 U
79-01-6	Trichloroethene	1.0 U
124-48-1	Dibromochloromethane	1.0 U
79-00-5	1,1,2-Trichloroethane	1.0 U
71-43-2	Benzene	1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0 U
110-75-8	2-Chloroethylvinylether	5.0 U
75-25-2	Bromoform	1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0 U
591-78-6	2-Hexanone	5.0 U
127-18-4	Tetrachloroethene	1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U
108-88-3	Toluene	1.0 U
108-90-7	Chlorobenzene	1.0 U
100-41-4	Ethylbenzene	1.0 U
100-42-5	Styrene	1.0 U
75-69-4	Trichlorofluoromethane	1.0 U
76-13-1	1,1,2-Trichlorotrifluoroethane	2.0 U
1330-20-7	m,p-Xylene	1.0 U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: Trip Blank

Lab Sample ID: AF03H
LIMS ID: 99-5403
Matrix: Water
Data Release Authorized: MS
Reported: 05/06/99

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/20/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
107-02-8	Acrolein	50 U
74-88-4	Methyl Iodide	1.0 U
74-96-4	Bromoethane	2.0 U
107-13-1	Acrylonitrile	5.0 U
563-58-6	1,1-Dichloropropene	1.0 U
74-95-3	Dibromomethane	1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U
96-18-4	1,2,3-Trichloropropane	3.0 U
110-57-6	trans-1,4-Dichloro-2-butene	5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0 U
87-68-3	Hexachlorobutadiene	5.0 U
106-93-4	Ethylene Dibromide	1.0 U
74-97-5	Bromochloromethane	1.0 U
590-20-7	2,2-Dichloropropane	1.0 U
142-28-9	1,3-Dichloropropane	1.0 U
98-82-8	Isopropylbenzene	1.0 U
103-65-1	n-Propylbenzene	1.0 U
108-86-1	Bromobenzene	1.0 U
95-49-8	2-Chlorotoluene	1.0 U
106-43-4	4-Chlorotoluene	1.0 U
98-06-6	tert-Butylbenzene	1.0 U
135-98-8	sec-Butylbenzene	1.0 U
99-87-6	4-Isopropyltoluene	1.0 U
104-51-8	n-Butylbenzene	1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0 U
91-20-3	Naphthalene	5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0 U

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	83.1%
d8-Toluene	93.7%
Bromofluorobenzene	87.0%
d4-1,2-Dichlorobenzene	101%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: MW3

Lab Sample ID: AF25A
LIMS ID: 99-5485
Matrix: Water
Data Release Authorized: *AW*
Reported: 05/05/99

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/28/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 0.50 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
75-09-2	Methylene Chloride	20 U
67-64-1	Acetone	50 U
75-15-0	Carbon Disulfide	10 U
75-35-4	1,1-Dichloroethene	10 U
75-34-3	1,1-Dichloroethane	10 U
156-60-5	trans-1,2-Dichloroethene	10 U
156-59-2	**cis-1,2-Dichloroethene**	**780**
67-66-3	Chloroform	10 U
107-06-2	1,2-Dichloroethane	10 U
78-93-3	2-Butanone	50 U
71-55-6	1,1,1-Trichloroethane	10 U
56-23-5	Carbon Tetrachloride	10 U
108-05-4	Vinyl Acetate	50 U
75-27-4	Bromodichloromethane	10 U
78-87-5	1,2-Dichloropropane	10 U
10061-01-5	cis-1,3-Dichloropropene	10 U
79-01-6	**Trichloroethene**	**1000**
124-48-1	Dibromochloromethane	10 U
79-00-5	1,1,2-Trichloroethane	10 U
71-43-2	Benzene	10 U
10061-02-6	trans-1,3-Dichloropropene	10 U
110-75-8	2-Chloroethylvinylether	50 U
75-25-2	Bromoform	10 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	50 U
591-78-6	2-Hexanone	50 U
127-18-4	**Tetrachloroethene**	**15**
79-34-5	1,1,2,2-Tetrachloroethane	10 U
108-88-3	Toluene	10 U
108-90-7	Chlorobenzene	10 U
100-41-4	Ethylbenzene	10 U
100-42-5	Styrene	10 U
75-69-4	Trichlorofluoromethane	10 U
76-13-1	1,1,2-Trichlorotrifluoroethane	20 U
1330-20-7	m,p-Xylene	10 U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW3

Lab Sample ID: AF25A
LIMS ID: 99-5485
Matrix: Water
Data Release Authorized: MP
Reported: 05/05/99

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/28/99
Date Received: 04/28/99

Instrument: FINN3
Date Analyzed: 05/04/99

Sample Amount: 0.50 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	10 U
95-50-1	1,2-Dichlorobenzene	10 U
541-73-1	1,3-Dichlorobenzene	10 U
106-46-7	1,4-Dichlorobenzene	10 U
107-02-8	Acrolein	500 U
74-88-4	Methyl Iodide	10 U
74-96-4	Bromoethane	20 U
107-13-1	Acrylonitrile	50 U
563-58-6	1,1-Dichloropropene	10 U
74-95-3	Dibromomethane	10 U
630-20-6	1,1,1,2-Tetrachloroethane	10 U
96-12-8	1,2-Dibromo-3-chloropropane	50 U
96-18-4	1,2,3-Trichloropropane	30 U
110-57-6	trans-1,4-Dichloro-2-butene	50 U
108-67-8	1,3,5-Trimethylbenzene	10 U
95-63-6	1,2,4-Trimethylbenzene	10 U
87-68-3	Hexachlorobutadiene	50 U
106-93-4	Ethylene Dibromide	10 U
74-97-5	Bromochloromethane	10 U
590-20-7	2,2-Dichloropropane	10 U
142-28-9	1,3-Dichloropropane	10 U
98-82-8	Isopropylbenzene	10 U
103-65-1	n-Propylbenzene	10 U
108-86-1	Bromobenzene	10 U
95-49-8	2-Chlorotoluene	10 U
106-43-4	4-Chlorotoluene	10 U
98-06-6	tert-Butylbenzene	10 U
135-98-8	sec-Butylbenzene	10 U
99-87-6	4-Isopropyltoluene	10 U
104-51-8	n-Butylbenzene	10 U
120-82-1	1,2,4-Trichlorobenzene	50 U
91-20-3	Naphthalene	50 U
87-61-6	1,2,3-Trichlorobenzene	50 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	84.3%
d8-Toluene	96.2%
Bromofluorobenzene	95.5%
d4-1,2-Dichlorobenzene	104%

WATER VOLATILE SYSTEM MONITORING COMPOUND SUMMARY

Matrix: Water 5 mL

QC Report No: AF03

Lab ID	Client ID	DCE	TOL	BFB	DCB	TOT OUT
AF03A	MW4	88%	98%	85%	102%	0
AF03B	MW5	85%	96%	85%	102%	0
AF03C	MW2	91%	97%	91%	104%	0
AF03D	MW7	87%	98%	91%	100%	0
AF03E	MW1	82%	95%	88%	103%	0
AF03E-DIL	MW1	89%	100%	86%	101%	0
AF03F	MW17	88%	98%	89%	103%	0
AF03G	MW15	86%	94%	91%	102%	0
AF03G-DIL	MW15	86%	98%	86%	101%	0
050499MB	Method Blank	82%	95%	87%	97%	0
AF03H	Trip Blank	83%	94%	87%	101%	0
AF03LCS	Lab Cntrl Sample	80%	98%	92%	100%	0

		LCS/MB LIMITS	QC LIMITS
(DCE)	= 1,2-Dichloroethane-d4	(70-130)	(70-130)
(TOL)	= Toluene-d8	(70-130)	(70-130)
(BFB)	= Bromofluorobenzene	(70-130)	(70-130)
(DCB)	= 1,2-Dichlorobenzene-d4	(70-130)	(70-130)

\# Column to be used to flag recovery values

* Values outside of required QC limits

D System Monitoring Compound diluted out

WATER VOLATILE SYSTEM MONITORING COMPOUND SUMMARY

Matrix: Water 5 mL

QC Report No: AF25

Lab ID	Client ID	DCE	TOL	BFB	DCB	TOT OUT
050499MB	Method Blank	82%	95%	87%	97%	0
AF25A	MW3	84%	96%	96%	104%	0
AF25LCS	Lab Cntrl Sample	80%	98%	92%	100%	0

		LCS/MB LIMITS	QC LIMITS
(DCE)	= 1,2-Dichloroethane-d4	(70-130)	(70-130)
(TOL)	= Toluene-d8	(70-130)	(70-130)
(BFB)	= Bromofluorobenzene	(70-130)	(70-130)
(DCB)	= 1,2-Dichlorobenzene-d4	(70-130)	(70-130)

\# Column to be used to flag recovery values

* Values outside of required QC limits

D System Monitoring Compound diluted out

ANALYTICAL
RESOURCES
INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab Sample ID: AF03SB
LIMS ID: 99-5403
Matrix: Water
Data Release Authorized: MJ
Reported: 05/06/99
Date Analyzed: 05/04/99
Instrument: FINN3

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: 04/28/99

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE AMT	% RECOVERY
Chloromethane	53.5	50.0	107%
Bromomethane	83.4	50.0	167%
Vinyl Chloride	31.9	50.0	63.8%
Chloroethane	92.2	50.0	184%
Methylene Chloride	53.1	50.0	106%
Acetone	248.	250	99.2%
Carbon Disulfide	45.3	50.0	90.6%
1,1-Dichloroethene	51.9	50.0	104%
1,1-Dichloroethane	49.1	50.0	98.2%
trans-1,2-Dichloroethene	53.0	50.0	106%
cis-1,2-Dichloroethene	51.0	50.0	102%
Chloroform	49.3	50.0	98.6%
1,2-Dichloroethane	43.4	50.0	86.8%
2-Butanone	235.	250	94.0%
1,1,1-Trichloroethane	48.3	50.0	96.6%
Carbon Tetrachloride	47.7	50.0	95.4%
Vinyl Acetate	27.9	50.0	55.8%
Bromodichloromethane	47.8	50.0	95.6%
1,2-Dichloropropane	50.1	50.0	100%
cis-1,3-Dichloropropene	46.8	50.0	93.6%
Trichloroethene	52.2	50.0	104%
Dibromochloromethane	44.2	50.0	88.4%
1,1,2-Trichloroethane	49.1	50.0	98.2%
Benzene	48.7	50.0	97.4%
trans-1,3-Dichloropropene	46.0	50.0	92.0%
2-Chloroethylvinylether	19.1	50.0	38.2%
Bromoform	46.5	50.0	93.0%
4-Methyl-2-Pentanone (MIBK)	222.	250	88.8%
2-Hexanone	197.	250	78.8%
Tetrachloroethene	47.3	50.0	94.6%
1,1,2,2-Tetrachloroethane	48.7	50.0	97.4%
Toluene	50.7	50.0	101%
Chlorobenzene	51.5	50.0	103%
Ethylbenzene	51.8	50.0	104%
Styrene	50.2	50.0	100%
Trichlorofluoromethane	43.7	50.0	87.4%
1,1,2-Trichlorotrifluoroethane	44.6	50.0	89.2%
m,p-Xylene	107.	100	107%
O-Xylene	50.5	50.0	101%

.eported in ug/L

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS
Page 2 of 2

ANALYTICAL RESOURCES INCORPORATE

Lab Sample ID: AF03SB
LIMS ID: 99-5403
Matrix: Water
Data Release Authorized: JR3
Reported: 05/06/99
Date Analyzed: 05/04/99
Instrument: FINN3

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: 04/28/99

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE AMT	% RECOVERY
1,2-Dichlorobenzene	50.5	50.0	101%
1,3-Dichlorobenzene	53.4	50.0	107%
1,4-Dichlorobenzene	52.9	50.0	106%
Acrolein	437.	250	175%
Methyl Iodide	45.6	50.0	91.2%
Bromoethane	45.0	50.0	90.0%
Acrylonitrile	46.0	50.0	92.0%
1,1-Dichloropropene	52.5	50.0	105%
Dibromomethane	45.2	50.0	90.4%
1,1,1,2-Tetrachloroethane	48.5	50.0	97.0%
1,2-Dibromo-3-chloropropane	52.6	50.0	105%
1,2,3-Trichloropropane	50.2	50.0	100%
trans-1,4-Dichloro-2-butene	36.0	50.0	72.0%
1,3,5-Trimethylbenzene	53.1	50.0	106%
1,2,4-Trimethylbenzene	53.5	50.0	107%
Hexachlorobutadiene	61.2	50.0	122%
Ethylene Dibromide	46.2	50.0	92.4%
Bromochloromethane	49.9	50.0	99.8%
2,2-Dichloropropane	51.3	50.0	103%
1,3-Dichloropropane	44.6	50.0	89.2%
Isopropylbenzene	54.9	50.0	110%
n-Propylbenzene	51.6	50.0	103%
Bromobenzene	52.2	50.0	104%
2-Chlorotoluene	48.8	50.0	97.6%
4-Chlorotoluene	51.6	50.0	103%
tert-Butylbenzene	54.3	50.0	109%
sec-Butylbenzene	56.6	50.0	113%
4-Isopropyltoluene	56.3	50.0	113%
n-Butylbenzene	56.5	50.0	113%
1,2,4-Trichlorobenzene	62.4	50.0	125%
Naphthalene	72.4	50.0	145%
1,2,3-Trichlorobenzene	63.4	50.0	127%

Lab Control Surrogate Recovery	
d4-1,2-Dichloroethane	80.2%
d8-Toluene	98.4%
Bromofluorobenzene	91.6%
d4-1,2-Dichlorobenzene	99.7%

Reported in ug/L

ANALYTICAL
RESOURCES
INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Lab Sample ID: AF25SB
LIMS ID: 99-5485
Matrix: Water
Data Release Authorized: MJ
Reported: 05/05/99
Date Analyzed: 05/04/99
Instrument: FINN3

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: 04/28/99

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE AMT	% RECOVERY
Chloromethane	53.5	50.0	107%
Bromomethane	83.4	50.0	167%
Vinyl Chloride	31.9	50.0	63.8%
Chloroethane	92.2	50.0	184%
Methylene Chloride	53.1	50.0	106%
Acetone	248.	250	99.2%
Carbon Disulfide	45.3	50.0	90.6%
1,1-Dichloroethene	51.9	50.0	104%
1,1-Dichloroethane	49.1	50.0	98.2%
trans-1,2-Dichloroethene	53.0	50.0	106%
cis-1,2-Dichloroethene	51.0	50.0	102%
Chloroform	49.3	50.0	98.6%
1,2-Dichloroethane	43.4	50.0	86.8%
2-Butanone	235.	250	94.0%
1,1,1-Trichloroethane	48.3	50.0	96.6%
Carbon Tetrachloride	47.7	50.0	95.4%
Vinyl Acetate	27.9	50.0	55.8%
Bromodichloromethane	47.8	50.0	95.6%
1,2-Dichloropropane	50.1	50.0	100%
cis-1,3-Dichloropropene	46.8	50.0	93.6%
Trichloroethene	52.2	50.0	104%
Dibromochloromethane	44.2	50.0	88.4%
1,1,2-Trichloroethane	49.1	50.0	98.2%
Benzene	48.7	50.0	97.4%
trans-1,3-Dichloropropene	46.0	50.0	92.0%
2-Chloroethylvinylether	19.1	50.0	38.2%
Bromoform	46.5	50.0	93.0%
4-Methyl-2-Pentanone (MIBK)	222.	250	88.8%
2-Hexanone	197.	250	78.8%
Tetrachloroethene	47.3	50.0	94.6%
1,1,2,2-Tetrachloroethane	48.7	50.0	97.4%
Toluene	50.7	50.0	101%
Chlorobenzene	51.5	50.0	103%
Ethylbenzene	51.8	50.0	104%
Styrene	50.2	50.0	100%
Trichlorofluoromethane	43.7	50.0	87.4%
1,1,2-Trichlorotrifluoroethane	44.6	50.0	89.2%
m,p-Xylene	107.	100	107%
O-Xylene	50.5	50.0	101%

Reported in ug/L

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

ANALYTICAL RESOURCES INCORPORATED

Lab Sample ID: AF25SB
LIMS ID: 99-5485
Matrix: Water
Data Release Authorized:
Reported: 05/05/99
Date Analyzed: 05/04/99
Instrument: FINN3

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: 04/28/99

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE AMT	% RECOVERY
1,2-Dichlorobenzene	50.5	50.0	101%
1,3-Dichlorobenzene	53.4	50.0	107%
1,4-Dichlorobenzene	52.9	50.0	106%
Acrolein	437.	250	175%
Methyl Iodide	45.6	50.0	91.2%
Bromoethane	45.0	50.0	90.0%
Acrylonitrile	46.0	50.0	92.0%
1,1-Dichloropropene	52.5	50.0	105%
Dibromomethane	45.2	50.0	90.4%
1,1,1,2-Tetrachloroethane	48.5	50.0	97.0%
1,2-Dibromo-3-chloropropane	52.6	50.0	105%
1,2,3-Trichloropropane	50.2	50.0	100%
trans-1,4-Dichloro-2-butene	36.0	50.0	72.0%
1,3,5-Trimethylbenzene	53.1	50.0	106%
1,2,4-Trimethylbenzene	53.5	50.0	107%
Hexachlorobutadiene	61.2	50.0	122%
Ethylene Dibromide	46.2	50.0	92.4%
Bromochloromethane	49.9	50.0	99.8%
2,2-Dichloropropane	51.3	50.0	103%
1,3-Dichloropropane	44.6	50.0	89.2%
Isopropylbenzene	54.9	50.0	110%
n-Propylbenzene	51.6	50.0	103%
Bromobenzene	52.2	50.0	104%
2-Chlorotoluene	48.8	50.0	97.6%
4-Chlorotoluene	51.6	50.0	103%
tert-Butylbenzene	54.3	50.0	109%
sec-Butylbenzene	56.6	50.0	113%
4-Isopropyltoluene	56.3	50.0	113%
n-Butylbenzene	56.5	50.0	113%
1,2,4-Trichlorobenzene	62.4	50.0	125%
Naphthalene	72.4	50.0	145%
1,2,3-Trichlorobenzene	63.4	50.0	127%

Lab Control Surrogate Recovery	
d4-1,2-Dichloroethane	80.2%
d8-Toluene	98.4%
Bromofluorobenzene	91.6%
d4-1,2-Dichlorobenzene	99.7%

Reported in ug/L

ANALYTICAL
RESOURCES
INCORPORATED

INORGANIC ANALYSIS DATA SHEET
DISSOLVED METALS

Sample No: Method Blank

Lab Sample ID: AF03MB
LIMS ID: 99-5397
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: NA
Date Received: NA

Data Release Authorized:
Reported: 05/13/99

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
6010	04/30/99	6010	05/11/99	7440-43-9	Cadmium	0.002	0.002 U
6010	04/30/99	6010	05/11/99	7440-47-3	Chromium	0.005	0.005 U
6010	04/30/99	6010	05/11/99	7440-66-6	Zinc	0.004	0.004 U

U Analyte undetected at given RL

RL Reporting Limit

ANALYTICAL
RESOURCES
INCORPORATED

INORGANIC ANALYSIS DATA SHEET
DISSOLVED METALS

Sample No: Method Blank

Lab Sample ID: AF25MB
LIMS ID: 99-5485
Matrix: Water

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: NA
Date Received: NA

Data Release Authorized:
Reported: 05/11/99

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
6010	04/29/99	6010	05/10/99	7440-43-9	Cadmium	0.002	0.002 U
6010	04/29/99	6010	05/10/99	7440-47-3	Chromium	0.005	0.005 U
6010	04/29/99	6010	05/10/99	7440-66-6	Zinc	0.004	0.004 U

U Analyte undetected at given RL

RL Reporting Limit

ANALYTICAL
RESOURCES
INCORPORATED

INORGANIC ANALYSIS DATA SHEET
DISSOLVED METALS

Sample No: MW4

Lab Sample ID: AF03A
LIMS ID: 99-5396
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/13/99

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
6010	04/30/99	6010	05/11/99	7440-43-9	Cadmium	0.002	0.002 U
6010	04/30/99	6010	05/11/99	7440-47-3	Chromium	0.005	0.005 U
6010	04/30/99	6010	05/11/99	7440-66-6	Zinc	0.004	0.004 U

U Analyte undetected at given RL

RL Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Lab Sample ID: AF03A
LIMS ID: 99-5396
Matrix: Water

Sample No: MW4
QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/13/99

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Sample mg/L	Spike mg/L	Spike Added	% Recovery	Q
Cadmium	0.002 U	0.103	0.100	103%	
Chromium	0.005 U	0.263	0.250	105%	
Zinc	0.004 U	0.515	0.500	103%	

'Q' codes:
- N = control limit not met
- H = %R not applicable, sample concentration too high
- * = RPD control limit not met
- NA = Not applicable - analyte not spiked

Control Limits:
- Percent Recovery: 75-125%
- RPD: +/-20%

ANALYTICAL
RESOURCES
INCORPORATED

INORGANIC ANALYSIS DATA SHEET
DISSOLVED METALS

Sample No: MW5

Lab Sample ID: AF03B
LIMS ID: 99-5397
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/13/99

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
6010	04/30/99	6010	05/11/99	7440-43-9	Cadmium	0.002	0.002 U
6010	04/30/99	6010	05/11/99	7440-47-3	Chromium	0.005	0.005 U
6010	04/30/99	6010	05/11/99	7440-66-6	Zinc	0.004	0.004 U

U Analyte undetected at given RL

RL Reporting Limit

ANALYTICAL
RESOURCES
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INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Lab Sample ID: AF03B
LIMS ID: 99-5397
Matrix: Water

Data Release Authorized:
Reported: 05/13/99

Sample No: MW5
QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: 04/28/99

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Sample mg/L	Duplicate mg/L	RPD	Control Limit	Q
Cadmium	0.002 U	0.002 U	0.0%	+/- 0.002	L
Chromium	0.005 U	0.005 U	0.0%	+/- 0.005	L
Zinc	0.004 U	0.004 U	0.0%	+/- 0.004	L

'Q' codes: * = control limit not met
L = RPD not valid, alternate limit = detection limit

ANALYTICAL
RESOURCES
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INORGANIC ANALYSIS DATA SHEET
DISSOLVED METALS

Sample No: MW2

Lab Sample ID: AF03C
LIMS ID: 99-5398
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/13/99

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
6010	04/30/99	6010	05/11/99	7440-43-9	Cadmium	0.002	0.044
6010	04/30/99	6010	05/11/99	7440-47-3	Chromium	0.005	8.26
6010	04/30/99	6010	05/11/99	7440-66-6	Zinc	0.004	0.004 U

U Analyte undetected at given RL

RL Reporting Limit

ANALYTICAL
RESOURCES
INCORPORATE

INORGANIC ANALYSIS DATA SHEET **Sample No: MW7**
DISSOLVED METALS

Lab Sample ID: AF03D
LIMS ID: 99-5399
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/13/99

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
6010	04/30/99	6010	05/11/99	7440-43-9	Cadmium	0.002	0.002 U
6010	04/30/99	6010	05/11/99	7440-47-3	Chromium	0.005	0.005 U
6010	04/30/99	6010	05/11/99	7440-66-6	Zinc	0.004	0.004 U

U Analyte undetected at given RL

RL Reporting Limit

FORM-I

ANALYTICAL
RESOURCES
INCORPORATED

INORGANIC ANALYSIS DATA SHEET
DISSOLVED METALS

Sample No: MW1

Lab Sample ID: AF03E
LIMS ID: 99-5400
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/13/99

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
6010	04/30/99	6010	05/11/99	7440-43-9	Cadmium	0.002	0.373
6010	04/30/99	6010	05/11/99	7440-47-3	Chromium	0.005	0.014
6010	04/30/99	6010	05/11/99	7440-66-6	Zinc	0.004	0.583

U Analyte undetected at given RL

RL Reporting Limit

ANALYTICAL
RESOURCES
INCORPORATE

INORGANIC ANALYSIS DATA SHEET
DISSOLVED METALS

Sample No: MW17

Lab Sample ID: AF03F
LIMS ID: 99-5401
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/13/99

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
6010	04/30/99	6010	05/11/99	**7440-43-9**	**Cadmium**	0.002	**0.018**
6010	04/30/99	6010	05/11/99	**7440-47-3**	**Chromium**	0.005	**8.16**
6010	04/30/99	6010	05/11/99	**7440-66-6**	**Zinc**	0.004	**0.048**

U Analyte undetected at given RL

RL Reporting Limit

ANALYTICAL
RESOURCES
INCORPORATED

INORGANIC ANALYSIS DATA SHEET
DISSOLVED METALS

Sample No: MW15

Lab Sample ID: AF03G
LIMS ID: 99-5402
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/13/99

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
6010	04/30/99	6010	05/11/99	**7440-43-9**	**Cadmium**	0.002	**0.013**
6010	04/30/99	6010	05/11/99	**7440-47-3**	**Chromium**	0.005	**0.918**
6010	04/30/99	6010	05/11/99	**7440-66-6**	**Zinc**	0.004	**0.519**

U Analyte undetected at given RL

RL Reporting Limit

ANALYTICAL
RESOURCES
INCORPORATE

INORGANIC ANALYSIS DATA SHEET
DISSOLVED METALS

Sample No: MW3

Lab Sample ID: AF25A
LIMS ID: 99-5485
Matrix: Water

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/28/99
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/11/99

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
6010	04/29/99	6010	05/10/99	7440-43-9	Cadmium	0.002	0.048
6010	04/29/99	6010	05/10/99	7440-47-3	Chromium	0.005	0.455
6010	04/29/99	6010	05/10/99	7440-66-6	Zinc	0.004	0.007

U Analyte undetected at given RL

RL Reporting Limit

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

ANALYTICAL
RESOURCES
INCORPORATED

Lab Sample ID: AF03LCS
LIMS ID: 99-5397
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01

Data Release Authorized:
Reported: 05/13/99

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Spike mg/L	Spike Added	% Recovery	Q
Cadmium	0.106	0.100	106%	
Chromium	0.264	0.250	106%	
Zinc	0.525	0.500	105%	

'Q' codes: N = control limit not met
NA = Not applicable - analyte not spiked

Control Limits: 80-120%

ANALYTICAL
RESOURCES
INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Lab Sample ID: AF25LCS
LIMS ID: 99-5485
Matrix: Water

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01

Data Release Authorized:
Reported: 05/11/99

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Spike mg/L	Spike Added	% Recovery	Q
Cadmium	0.107	0.100	107%	
Chromium	0.266	0.250	106%	
Zinc	0.548	0.500	110%	

'Q' codes: N = control limit not met
NA = Not applicable - analyte not spiked

Control Limits: 80-120%

ANALYTICAL
RESOURCES
INCORPORATED

QA Report - Method Blank Analysis

Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: NA

Data Release Authorized:
Reported: 05/12/99 Dr. M.A. Perkins

METHOD BLANK RESULTS
CONVENTIONALS

Analysis Date & Batch	Constituent	Units	Result	
05/03/99 050399#1	Total Cyanide	mg/L	< 0.005	U
04/28/99 042899#1	Hexavalent Chrome	mg/L	< 0.010	U

ANALYTICAL
RESOURCES
INCORPORATED

QA Report - Method Blank Analysis

QC Report No: AF25-Herrera Environmental
Matrix: Water Project: NW Plating
c1335.01
Date Received: NA

Data Release Authorized:
Reported: 05/12/99 Dr. M.A. Perkins

METHOD BLANK RESULTS
CONVENTIONALS

Analysis Date & Batch	Constituent	Units	Result	
04/29/99 042999#1	Hexavalent Chrome	mg/L	< 0.010	U
05/03/99 050399#1	Total Cyanide	mg/L	< 0.005	U

ANALYTICAL
RESOURCES
INCORPORATED

Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW4

Lab Sample ID: AF03A
LIMS ID: 99-5396
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/12/99 Dr. M.A. Perkins

Analyte	Analysis Date & Batch	Method	RL	Units	Result
Hexavalent Chrome	04/28/99 042899#1	SM3500Cr-D	0.010	mg/L	< 0.010 U
Total Cyanide	05/03/99 050399#1	EPA 335.2	0.004	mg/L	< 0.005 U

RL Analytical reporting limit
U Undetected at reported detection limit

Report for AF03 received 04/28/99

ANALYTICAL
RESOURCES
INCORPORATED

Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW5

Lab Sample ID: AF03B
LIMS ID: 99-5397
Matrix: Water

Data Release Authorized: DMB
Reported: 05/12/99 Dr. M.A. Perkins

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Analyte	Analysis Date & Batch	Method	RL	Units	Result
Hexavalent Chrome	04/28/99 042899#1	SM3500Cr-D	0.010	mg/L	< 0.010 U
Total Cyanide	05/03/99 050399#1	EPA 335.2	0.004	mg/L	< 0.005 U

RL Analytical reporting limit
U Undetected at reported detection limit

Report for AF03 received 04/28/99

ANALYTICAL
RESOURCES
INCORPORATED

Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW2

Lab Sample ID: AF03C
LIMS ID: 99-5398
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/12/99 Dr. M.A. Perkins

Analyte	Analysis Date & Batch	Method	RL	Units	Result
Hexavalent Chrome	04/28/99 042899#1	SM3500Cr-D	0.10	mg/L	8.1
Total Cyanide	05/03/99 050399#1	EPA 335.2	0.004	mg/L	< 0.005 U

RL Analytical reporting limit
U Undetected at reported detection limit

Report for AF03 received 04/28/99

ANALYTICAL
RESOURCES
INCORPORATED

Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW7

Lab Sample ID: AF03D
LIMS ID: 99-5399
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Data Release Authorized: MMP
Reported: 05/12/99 Dr. M.A. Perkins

Analyte	Analysis Date & Batch	Method	RL	Units	Result
Hexavalent Chrome	04/28/99 042899#1	SM3500Cr-D	0.010	mg/L	< 0.010 U
Total Cyanide	05/03/99 050399#1	EPA 335.2	0.004	mg/L	< 0.005 U

RL Analytical reporting limit
U Undetected at reported detection limit

Report for AF03 received 04/28/99

ANALYTICAL
RESOURCES
INCORPORATED

Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW1

Lab Sample ID: AF03E
LIMS ID: 99-5400
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/12/99 Dr. M.A. Perkins

Analyte	Analysis Date & Batch	Method	RL	Units	Result
Hexavalent Chrome	04/28/99 042899#1	SM3500Cr-D	0.010	mg/L	< 0.010 U
Total Cyanide	05/03/99 050399#1	EPA 335.2	0.004	mg/L	0.025

RL Analytical reporting limit
U Undetected at reported detection limit

Report for AF03 received 04/28/99

ANALYTICAL
RESOURCES
INCORPORATED

Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW7

Lab Sample ID: AF03D
LIMS ID: 99-5399
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Data Release Authorized: MMF
Reported: 05/12/99 Dr. M.A. Perkins

Analyte	Analysis Date & Batch	Method	RL	Units	Result
Hexavalent Chrome	04/28/99 042899#1	SM3500Cr-D	0.010	mg/L	< 0.010 U
Total Cyanide	05/03/99 050399#1	EPA 335.2	0.004	mg/L	< 0.005 U

RL Analytical reporting limit
U Undetected at reported detection limit

Report for AF03 received 04/28/99

ANALYTICAL
RESOURCES
INCORPORATED

Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW15

Lab Sample ID: AF03G
LIMS ID: 99-5402
Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/27/99
Date Received: 04/28/99

Data Release Authorized: MP
Reported: 05/12/99 Dr. M.A. Perkins

Analyte	Analysis Date & Batch	Method	RL	Units	Result
Hexavalent Chrome	04/28/99 042899#1	SM3500Cr-D	0.010	mg/L	0.82
Total Cyanide	05/03/99 050399#1	EPA 335.2	0.020	mg/L	0.37

RL Analytical reporting limit
U Undetected at reported detection limit

Report for AF03 received 04/28/99

ANALYTICAL
RESOURCES
INCORPORATED

Final Report
Laboratory Analysis of Conventional Parameters

Sample No: MW3

Lab Sample ID: AF25A
LIMS ID: 99-5485
Matrix: Water

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01
Date Sampled: 04/28/99
Date Received: 04/28/99

Data Release Authorized: MB
Reported: 05/12/99 Dr. M.A. Perkins

Analyte	Analysis Date & Batch	Method	RL	Units	Result
Hexavalent Chrome	04/29/99 042999#1	SM3500Cr-D	0.10	mg/L	3.4
Total Cyanide	05/03/99 050399#1	EPA 335.2	0.004	mg/L	0.033

RL Analytical reporting limit
U Undetected at reported detection limit

Report for AF25 received 04/28/99

ANALYTICAL
RESOURCES
INCORPORATED

QA Report - Laboratory Control Samples

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: NA

Data Release Authorized:
Reported: 05/12/99 Dr. M.A. Perkins

LABORATORY CONTROL SAMPLES
CONVENTIONALS

Constituent	Units	Measured Value	True Value	Recovery
Laboratory Control Sample				
Hexavalent Chrome	mg/L	0.610	0.630	96.8%

Date analyzed: 04/28/99 Batch ID: 042899#1

ANALYTICAL
RESOURCES
INCORPORATED

QA Report - Laboratory Control Samples

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: NA

Data Release Authorized:
Reported: 05/12/99 Dr. M.A. Perkins

LABORATORY CONTROL SAMPLES
CONVENTIONALS

Constituent	Units	Measured Value	True Value	Recovery
Laboratory Control Sample				
Hexavalent Chrome	mg/L	0.630	0.630	100%

Date analyzed: 04/29/99 Batch ID: 042999#1

ANALYTICAL
RESOURCES
INCORPORATED

QA Report - Standard Reference Material Analysis

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: NA

Data Release Authorized:
Reported: 05/12/99 Dr. M.A. Perkins

STANDARD REFERENCE MATERIAL ANALYSIS
CONVENTIONALS

Constituent	Units	Value	True Value	Recovery
SPEX #14-125				
Total Cyanide	mg/L	0.150	0.150	100%
Date analyzed: 05/03/99	Batch ID: 050399#1			
SPEX #6-116CR				
Hexavalent Chrome	mg/L	0.250	0.250	100%
Date analyzed: 04/28/99	Batch ID: 042899#1			

ANALYTICAL
RESOURCES
INCORPORATED

QA Report - Standard Reference Material Analysis

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: NA

Data Release Authorized:
Reported: 05/12/99 Dr. M.A. Perkins

STANDARD REFERENCE MATERIAL ANALYSIS
CONVENTIONALS

Constituent	Units	Value	True Value	Recovery
SPEX #6-116				
Hexavalent Chrome	mg/L	0.250	0.250	100%
Date analyzed: 04/29/99	Batch ID: 042999#1			
SPEX #14-125				
Total Cyanide	mg/L	0.150	0.150	100%
Date analyzed: 05/03/99	Batch ID: 050399#1			

ANALYTICAL
RESOURCES
INCORPORATED

QA Report - Replicate Analysis

QC Report No: AF03-Herrera Environmental
Matrix: Water Project: NW Plating
c1335.01
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/12/99 Dr. M.A. Perkins

DUPLICATE ANALYSIS RESULTS
CONVENTIONALS

Constituent	Units	Sample Value	Duplicate Value	RPD
ARI ID: 99-5396, AF03 A	**Client Sample ID: MW4**			
Total Cyanide	mg/L	< 0.005 U	< 0.005 U	NA
ARI ID: 99-5402, AF03 G	**Client Sample ID: MW15**			
Hexavalent Chrome	mg/L	0.82	0.83	1.2%

ANALYTICAL
RESOURCES
INCORPORATE

QA Report - Replicate Analysis

Matrix: Water

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/12/99 Dr. M.A. Perkins

DUPLICATE ANALYSIS RESULTS
CONVENTIONALS

Constituent	Units	Sample Value	Duplicate Value	RPD
ARI ID: 99-5485, AF25 A Client Sample ID: MW3				
Hexavalent Chrome	mg/L	3.4	3.3	3.0%

ANALYTICAL
RESOURCES
INCORPORATED

QA Report - Matrix Spike/Matrix Spike Duplicate Analysis

Matrix: Water

QC Report No: AF03-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/12/99 Dr. M.A. Perkins

MATRIX SPIKE QA/QC REPORT
CONVENTIONALS

Constituent	Units	Sample Value	Spike Value	Spike Added	Recovery
ARI ID: 99-5396, AF03 A	**Client Sample ID: MW4**				
Total Cyanide	mg/L	< 0.00	0.153	0.150	102%
ARI ID: 99-5402, AF03 G	**Client Sample ID: MW15**				
Hexavalent Chrome	mg/L	0.820	1.43	0.620	98.4%

MS/MSD Recovery Limits: 75 - 125 %

ANALYTICAL
RESOURCES
INCORPORATE

QA Report - Matrix Spike/Matrix Spike Duplicate Analysis

Matrix: Water

QC Report No: AF25-Herrera Environmental
Project: NW Plating
c1335.01
Date Received: 04/28/99

Data Release Authorized:
Reported: 05/12/99 Dr. M.A. Perkins

MATRIX SPIKE QA/QC REPORT
CONVENTIONALS

Constituent	Units	Sample Value	Spike Value	Spike Added	Recovery
ARI ID: 99-5485, AF25 A Client Sample ID: MW3					
Hexavalent Chrome	mg/L	3.35	3.98	0.620	102%

MS/MSD Recovery Limits: 75 - 125 %