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Hazardous Waste Remediation
NYSDEC Region 1

Feasibility Study Report
U.S. Electroplating Corp., Site No.: 1-52-027
100 Field Street
West Babylon, NY 11704

August 2001

Prepared For:

U.S. Electroplating Corp.
100 Field Street
West Babylon, NY 11704

Prepared By:

CA RICH CONSULTANTS, INC.
17 Dupont Street
Plainview, NY 11803

CA RICH CONSULTANTS, INC.
CERTIFIED GROUND-WATER AND
ENVIRONMENTAL SPECIALISTS

August 2, 2001

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Eastern Remedial Action, Room 242
50 Wolf Road
Albany, New York 12233-7010

Attention: Joseph Peck

Re: **Feasibility Study Report**
U. S. Electroplating Corp., Site No.: 1-52-027
100 Field Street, West Babylon, New York
Index No.: W1-0710-94-11

Dear Mr. Peck:

Attached is our Feasibility Study Report for the above-referenced Site. If you have any questions regarding this report, please do not hesitate to call our Office.

Sincerely,

CA RICH CONSULTANTS, INC.

Eric A. Weinstock
Assocaite

Stephen J. Osmundsen
Senior Engineer

cc: Robert Birnbaum
Raymond E. Cowen, P.E.
G. Anders Carlson, Ph.D.
Sy Robbins
Alali Tamuno, Esq.
Miriam Villani, Esq.

17 DUPONT STREET, PLAINVIEW, NEW YORK 11803 • TEL 516/576-8844 • FAX 516/576-0093

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Eastern Remedial Action, 11th Floor
625 Broadway, Albany, New York 12233-7015
Phone: (518) 402-9622 • **FAX:** (518) 402-4627
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

July 30, 2001

Mr. Eric Weinstock
C.A. Rich Consultants, Inc.
404 Glen Cove Avenue
Sea Cliff, NY 11579

Dear Mr. Weinstock:

Re: Draft Feasibility Study Report
U.S. Electroplating Corp., Site No. 152027
Dated May, 2001

On July 25, 2001, the NYS Department of Health (NYSDOH) verbally approved the subject report. Note that the NYSDOH has previously cited the following restrictions in it's approval of the Remediation Investigation Report. These restrictions are that since the Cadmium concentrations (63.6 ppm) remaining at SG-W after excavation were still sufficiently high enough to warrant restrictions on any future activity (e.g. Cleaning). Therefore, for such future activity, personal protection of workers will be required and appropriate disposal of any waste generated. The NYS Department of Environmental Conservation (NYSDEC) hereby conditionally approves the subject report.

The Operations and Maintenance (O&M) program outlined in the subject report may be implemented once the department issues a Record of Decision (ROD).

The NYSDEC and C.A. Rich will need to present the findings of the subject report to the public along with the Department's Proposed Remedy before a ROD can be issued.

If you have any questions, please contact me at (518) 402-9622.

Yours truly,

Joseph I. Peck
Project Manager
Section C

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Focused Feasibility Study Report
U.S. Electroplating Corp., Site No.: 1-52-027
100 Field Street
West Babylon, NY 11704

1.0 INTRODUCTION

The following Focused Feasibility Study Report has been prepared by CA RICH Consultants, Inc. (CA RICH) on behalf of U.S. Electroplating Corp. in accordance with an Order on Consent, Index Number W1-0710-94-11.

The goal of this Focused Feasibility Study Report is to evaluate the remedial alternatives available to address the following issues.

- The metals contamination in the bottom of the excavations of the storm drains and cesspools performed as part of the Interim Remedial Measures (IRM) effort, and,
- The horizontal and vertical migration of dissolved metals in the groundwater emanating from the U.S. Electroplating Corp. Site (the "Site").

For the purposes of this investigation, the contaminants of concern are the metals cadmium, chromium and zinc.

2.0 PHYSICAL SITE CHARACTERISTICS

2.1 Site History

The Site is located at 100 Field Street in West Babylon, Suffolk County, New York. The property has been owned and operated by the U.S. Electroplating Corp. from 1971 to the present. U.S. Electroplating Corp. is a "job shop" metal plater. They receive parts from metal parts fabricators and either electroplate the parts or anodize them.

The facility conducts most plating operations in tanks or barrels. We have been advised by U.S. Electroplating Corp. that copper, tin, cadmium, and nickel have been the most common plating operations. Anodizing is the process in which the surface of the metal, typically aluminum, is dyed black.

In the electroplating process, parts are either placed in baskets or hung on racks. They are then dipped into various tanks of alkaline cleaners, acid etch, plating solutions, stripping solutions and rinses. Plating operations generate a significant quantity of wastewater. U.S. Electroplating Corp. minimizes waste generation by careful water conservation, recycling, and process adaptations. The small quantity of waste generated on-site is stored in a tank and is periodically hauled off site by KBF for recycling and treatment.

2.2 Physical Layout of Buildings

The U.S. Electroplating Corp. facility at 100 Field Street consists of a one story concrete block building. The Site includes a parking lot on the north parcel which is underlain by three storm drains and a septic system. An illustration of these pools is included as Figure 1. Roof leaders and gutters are connected to the storm drains in the parking lot.

2.3 Previous Sampling and Removals at this Site

Previous investigations at the Site are summarized on the following table. Details of these investigations and the results of any samples collected are included in the reports cited in the References section of this document.

Investigations	Date
Phase I Preliminary Investigation (Ref.1)	September 20, 1984
Phase II Investigation (Ref.2)	April 3, 1990
RI Work Plan (Ref.3)	January 1994
RI Report - Part A (Ref.4)	January 30, 1996
IRM Report (Ref.5)	August 7, 1998
RI Report (Ref. 6)	May, 2001

2.4 Geological Setting

The Site is situated upon the glacial outwash soil deposits of Long Island at an elevation of approximately 61 feet above mean sea level (MSL). The elevation of the water table occurring within the underlying upper glacial aquifer is approximately 19 feet below the land surface. Based upon measurements by the Suffolk County Department of Health Services (SCDHS), the direction of shallow groundwater flow is to the south-southeast.

The Upper Glacial Formation is approximately 100 feet thick and is underlain by the Magothy Formation, the principal water supply aquifer for most of Western Suffolk County. The Site is located on the northern boundary of the Gardiners Clay. It is not known at this time whether the clay is present between the Upper Glacial Formation and the Magothy Formation. The Magothy Aquifer consists of material deposited in marine and fluvial or deltaic environments during the Cretaceous Period. These deposits consist of beds and lenses of sandy clay, clayey sand, silt, and sand and gravel; the coarsest sediments generally are within the basal 50 to 100 ft of the unit (Refs. 6 & 7). The Magothy Formation is, in turn, underlain by the Raritan Formation. The Raritan Formation is composed of the upper Raritan Clay, a regional confining layer, followed by the more permeable Lloyd Sand. The Lloyd Sand lies directly upon crystalline bedrock.

3.0 SUMMARY OF IRM ACTIVITIES

During the Winter of 1998, an Interim Remedial Measure (IRM) was performed at the Site. Details of this activity are documented in Reference 5.

3.1 Clean out of Storm Drains 1,2,5 & 6, Cesspools 1 & 2, and Sewer Grates E & W

During March of 1998, the wastewater and storm water from each storm drain, sewer grate and the cesspools were pumped out by Jarrach Cesspools, Inc. of Deer Park, New York and transported to the SCDPW plant in Bergen Point, NY, under SCDPW permit # 52-006 and DEC permit # 1A226. The bottom of storm drains SD-1, SD-2, SD-6 and cesspools CP-1 and CP-2 were excavated using a rubber tired back hoe. Soil was excavated from the bottom of the structures and screened using a precleaned, stainless steel hand-operated soil auger and a HNu Photo Ionization Detection (PID) meter.

The excavation of SD-1, SD-2, SD-6, and CP-2 extended until the water table was reached. Once the interface of the visible contamination and the groundwater was reached an end-point sample was collected. The excavation of storm sewer grate west (SG-W), storm sewer grate east (SG-E), and SD-5 were performed using a truck mounted crane with an "orange peel" bucket.

Screening analysis were performed for cyanide, chromium, and cadmium on an expedited turn-around basis by EcoTest Laboratories, Inc. The results of these screening results, included in Reference 5, were used as a guide to determine the final depth of the excavations.

All excavated soil was removed and transported under manifest by Freehold Carting Inc. to either Evergreen Environmental or Philips Environmental Services. Copies of the manifests can be found in Reference 5. A total of 498.05 tons of metals-contaminated soil was excavated and disposed of during the IRM.

3.2 Summary of IRM End-Point Results

End point samples were collected from the bottom of each of the IRM excavations. The results indicate that the contamination was below the NYSDEC TAGM Cleanup Objectives for all organic compounds, except for Benzo(a)Anthracene and Benzo(a)Pyrene in SG-W, and Benzo(a)Pyrene in SD-2. These compounds are typically related to petroleum combustion and are not related to metal plating.

The results for the inorganic compounds indicate that the contamination is slightly above the NYSDEC Cleanup Objectives for SD-1, SD-2, SD-6, SG-W, SG-E, and CP-2 for a few select elements. A summary of these results are included on Tables 1, 2, and 3 of this report.

4.0 SUMMARY OF REMEDIAL INVESTIGATION

The following is a summary of the Remedial Investigation Report, a detailed presentation of this data is included in Reference 6. The Remedial Investigation addressed groundwater quality and soil conditions around an on-site storage shed. The attached Figures 2, 3 and 4 illustrate the location of these sample points. A summary of the Remedial Investigation analytical data is included on Tables 4 through 7.

4.1 Groundwater

4.1.1 Upgradient Groundwater Quality

During the Remedial Investigation, Geoprobe point GP-1 was located upgradient of the Site. Chromium and zinc were found in the deeper samples from this location, indicating that minor amounts of these metals are already present in the groundwater when it reaches the Site.

On-site monitoring well MW-1 is upgradient of the remediated cesspools and storm drains. However, this well appears to have been impacted by historical cadmium releases and exceeded the TOGS during the November 1998 sampling round. During the October 2000 round of sampling, however, the cadmium values were below the TOGS.

4.1.2 On-site Groundwater Quality

Monitoring wells MW-2, and MW-3 are site boundary wells. The sampling data reveals that cadmium, chromium and zinc concentrations in the groundwater from these wells exceeded the TOGS and are most likely a result of the U.S. Electroplating Corp.'s former storm drain and cesspool discharges.

4.1.3 Downgradient Groundwater Quality

Wells MW-4a&b, 5a&b and 6a&b and the remaining Geoprobe locations, GP-2, GP-3, GP-4, GP-5, GP-6, and GP-7, are located downgradient from the Site.

During the Geoprobe survey of November 1998, zinc did not exceed the NYSDEC TOGS values. Cadmium values exceed the NYSDEC TOGS at some of the locations where it was detected, but decreased in concentration as it migrated away from the Site. At a depth of 60 feet, cadmium was only found at one location, GP-3, and it was at a value of 11.6 ug/L, exceeding the NYSDEC TOGS value of 5 ug/L by only 6.6 ug/l. This indicates that while there is cadmium at the Site, it is naturally decreasing in concentration as it migrates down into the soil and travels downgradient with the ambient groundwater.

There was no detection of cyanide in any of the locations for any of the depth horizons. Apparently, any cyanide that may have migrated down to the water table biodegraded before reaching the groundwater monitoring wells.

During the October 2000 sampling event, none of the off-site wells exceeded the TOGS concentrations for cadmium, chromium or zinc. These samples were collected from depths of 35 to 45 and 55 to 65 feet below grade and correspond to the Geoprobe locations GP-3, 4 & 6 of the November 1998 sampling event.

4.2 Soil

Shallow soil samples collected around the on-site storage shed revealed detections of cadmium, chromium and zinc in exceedance of the TAGM. Given the industrial history of this property, these exceedances are not unusual. These locations are all covered by asphalt pavement which serves as a barrier to infiltration of rain water.

5.0 DEVELOPMENT AND SCREENING OF ALTERNATIVES

5.1 Introduction

The primary objective of this Focused Feasibility Study is to develop and evaluate remedial alternatives that are protective to human health and the environment, with respect to the remaining metals contamination detected during the IRM and the off-site groundwater contamination identified in the Remedial Investigation. For the purposes of this Feasibility Study the following criteria have been developed.

- The contaminants of concern are the metals cadmium, chromium and zinc;
- The Standards, Criteria and Guidance (SCGs) are the NYSDEC TAGM for soil (Ref. 7) and the NYSDEC TOGS for groundwater (Ref. 8);
- The areas of concern are the soils below excavations SD-1, SD-2, SD-6, SG-W, SG-E, and CP-2 and the groundwater within the upper glacial aquifer downgradient of the Site.

5.2 Description of Remedial Alternatives for Soil

Two remedial alternatives have been developed to address the remaining soil contamination at the bottom of the excavations in SD-1, SD-2, SD-6, SG-W, SG-E, and CP-2. Shallow soil samples collected around the on-site storage shed revealed detections of cadmium, chromium and zinc in exceedance of the TAGM, however, this area is currently covered by asphalt pavement which serves as a barrier to infiltration of rain water.

5.2.1 No Action Coupled with Long-Term Groundwater Monitoring

The no action alternative would consist of allowing the metals detected below the water table at the bottoms of these excavations to remain in place. The six on-site and off-site monitoring well locations would be sampled twice annually in accordance with an approved post-remediation sampling plan to confirm that the metals are no longer leaching out of these soils and into the groundwater.

5.2.2 Additional Soil Excavation Below the Water Table

The additional soil excavation alternative consists of the removal of additional soil from the storm drains and cesspool. As the initial excavations were extended to the water table, the use of shoring (using materials such as sheet piling) and dewatering would be required to advance these excavations.

5.3 Description of Remedial Alternatives for Groundwater

5.3.1 No Action Coupled with Long-Term Groundwater Monitoring

The no action alternative would consist of allowing the metals detected below the water table at the bottoms of these excavations to remain in place. The six on-site and off-site monitoring well locations would be sampled twice annually in accordance with an approved post-remediation sampling plan to confirm that the metals are no longer leaching out of these soils and into the groundwater.

5.3.2 Groundwater Pumping and Treatment

The pump and treat alternative would consist of the installation of one off-site pumping well to capture the metals contaminated groundwater migrating from the Site. A trench would have to be constructed to connect piping from the off-site well to the Site. This pumped water would, in turn, need to be treated. A treatment plant would have to be designed and constructed that would be capable of removing the dissolved metals to a level acceptable for recharge back to the upper glacial aquifer. An injection well and a SPDES permit would be required to return the treated water to the ground.

6.0 DETAILED ANALYSIS OF ALTERNATIVES

6.1 Analysis of Remedial Alternatives for Soil

6.1.1 No Action Coupled with Long-Term Groundwater Monitoring

Based on the results of the RI groundwater samples, the No Action Coupled with Long-Term Groundwater Monitoring Alternative is an applicable option for this site and would be protective of human health and the environment. All of the excavation end-points are below ground and do not pose a threat for the contamination of surface soils or for dermal contact to workers at the Site.

The concentrations of the contaminants of concern measured in the October 2000 RI groundwater samples are less than the drinking water standards included in the TOGS in all of the wells with the exception of site boundary wells MW-2 and 3. The nearest downgradient water supply well is approximately one mile from the site. Cluster wells MW-4a&b, 5a&b and 6a&b are located between wells MW-2 & 3 and the supply wells and serve as "early warning" compliance points.

The cost to implement this alternative is relatively reasonable as compared to excavating below the water table.

6.1.2 Additional Soil Excavation Below the Water Table

The Additional Soil Excavation Below the Water Table Alternative is an applicable option for this site and would be protective of human health and the environment. There are, however, several logistical constraints associated with this technology. The drains and cesspool are in close proximity to structures. As such, the driving of sheet piling along with construction dewatering would be needed to safely advance these excavations. Water from the dewatering pumps would have to be discharged at the Site.

The cost to implement this alternative is relatively expensive as compared to the No Action Coupled with Long-Term Monitoring Alternative. As there are no receptors threatened by the metals remaining at the bottom of these storm drains and cesspools, the benefits of this option do not justify the increase in expense.

6.2 Analysis of Remedial Alternatives for Groundwater

6.2.1 No Action Coupled with Long-Term Groundwater Monitoring

Based on the results of the RI groundwater samples, the No Action Coupled with Long-Term Groundwater Monitoring Alternative is an applicable option for this site and would be protective of human health and the environment.

As stated earlier, the concentrations of the contaminants of concern measured in the October 2000 RI groundwater samples are less than the drinking water standards included in the TOGS in all of the wells with the exception of wells MW-2 & 3. The nearest downgradient water supply well is approximately one mile from the site. Cluster wells MW-4a&b, 5a&b and 6a&b are located between wells MW-2 & 3 and the supply wells and serve as "early warning" compliance points.

The cost to implement this alternative is relatively reasonable as compared groundwater pumping and treatment.

6.2.2 Groundwater Pumping and Treatment

The Groundwater Pumping and Treatment Alternative is an applicable option for this site and would be protective of human health and the environment. There are, however, several logistical constraints associated with this technology. A trench would have to be constructed to connect piping from an off-site well to the Site. This pumped water would, in turn, need to be treated. An injection well and a SPDES permit would be required to return the treated water to the ground.

With the exception of wells MW-2 & 3, the concentrations of the contaminants of concern measured in the October 2000 RI groundwater samples are less than the drinking water standards included in the TOGS. The nearest water supply well is approximately one mile downgradient of the Site. As such, the concentrations of these dissolved metals in the groundwater should decrease significantly by adsorption onto the aquifer matrix before a receptor is impacted.

The cost to implement this alternative is relatively expensive as compared to the No Action Coupled with Long-Term Monitoring Alternative. As there are no receptors threatened by the elevated concentrations of metals detected in the groundwater samples from well MW-3 and these metals were below the TOGS in wells MW-4a&b, 5a&b and 6a&b, the benefits of this option do not justify the increase in expense.

7.0 ALTERNATIVE SELECTION

We recommend the No Action Coupled with Long-Term Groundwater Monitoring Alternative for this Site. This alternative is both cost effective and protective of human health and the environment.

The six on-site and off-site monitoring well locations should be sampled twice annually in accordance with an approved post-remediation sampling plan to confirm that the metals are no longer leaching out of these soils and into the groundwater. Should there be a significant increase in the groundwater concentrations, the need for an additional program of remediation may need to be considered. The following monitoring well locations are recommended for the post-remediation groundwater monitoring program:

- well MW-1
- well MW-2
- well MW-3
- cluster wells MW-4 a and b
- cluster wells MW-5 a and b
- cluster wells MW-6 a and b

During the 2-year monitoring period, the concentrations of cadmium, chromium and zinc should be tabulated. After 2 years and once the concentrations of these metals reach a near constant or asymptotic condition, the requirements for a groundwater monitoring program should be re-evaluated.

8.0 REFERENCES

1. Woodward-Clyde Consultants, Inc. 1984. NYSDEC Phase I Preliminary Investigation, U.S. Electroplating Corp., West Babylon, New York. Prepared for the New York State Department of Environmental Conservation, Albany, New York, 1984.

2. Woodward-Clyde Consultants, Inc. 1990. NYSDEC Phase II Investigation, U.S. Electroplating Corp., West Babylon, New York. Prepared for the New York State Department of Environmental Conservation, Albany, New York, 1990.

3. Donnelly Engineering, 1994. Remedial Investigation Work Plan, U.S. Electroplating Corp., West Babylon, New York. Prepared for the New York State Department of Environmental Conservation, Albany, New York, 1994.

4. Donnelly Engineering, 1996. Remedial Investigation, U.S. Electroplating Corp., West Babylon, New York. Prepared for the New York State Department of Environmental Conservation, Albany, New York.

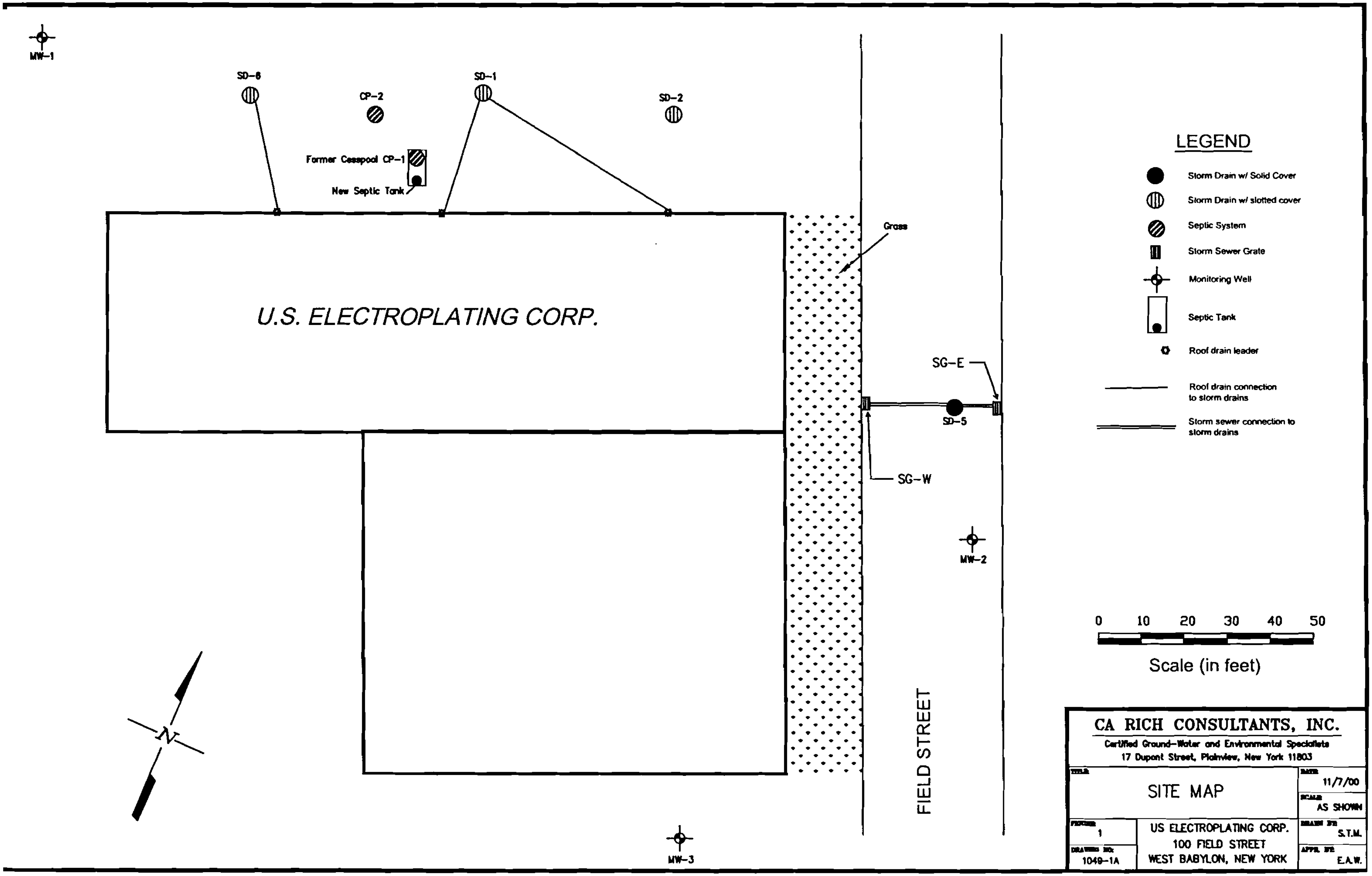
5. CA RICH Consultants, Inc., 1998. Interim Remedial Measures Report, U.S. Electroplating Corp., West Babylon, New York. Prepared for the New York State Department of Environmental Conservation, Albany, New York.

6. CA RICH Consultants, Inc., 2001. Remedial Investigation Report, U.S. Electroplating Corp., West Babylon, New York. Prepared for the New York State Department of Environmental Conservation, Albany, New York.

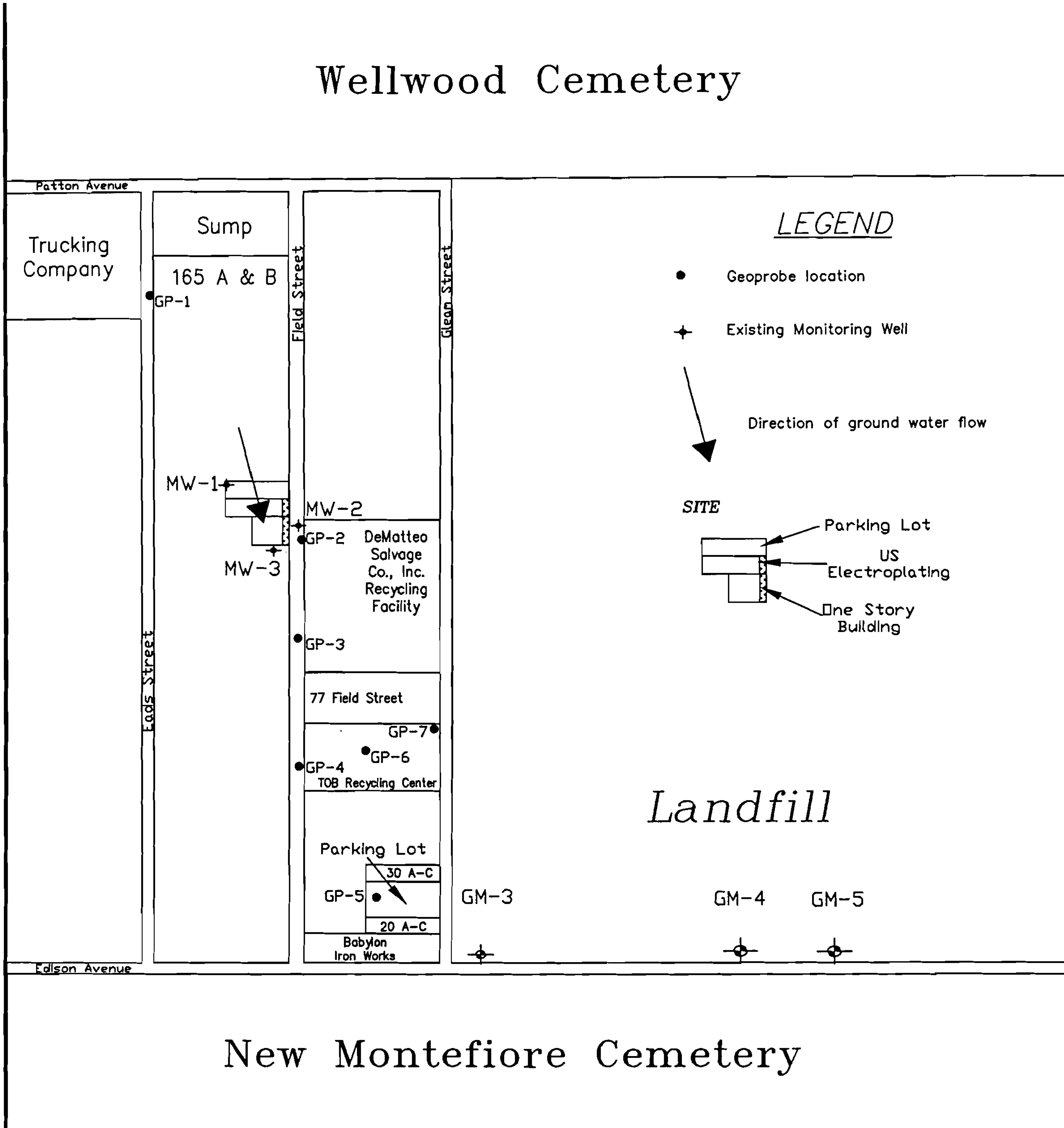
7. NYSDEC, January 24, 1994, Department's Technical And Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels.

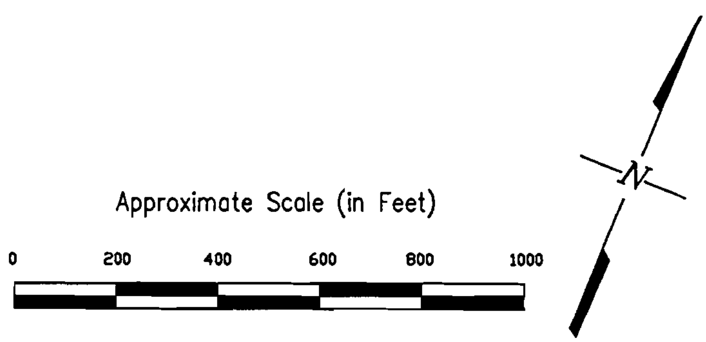
8. NYSDEC, October 22, 1993, Technical and Operational Guidance Series (TOGS) (1.1.1) Ambient Water Quality Standards and Guidance Values.

FIGURES



MW-1
SD-6
CP-2
SD-1
SD-2
Former Cesspool CP-1
New Septic Tank
Grass
U.S. ELECTROPLATING CORP.
SG-E
SD-5
SG-W
MW-2
MW-3
FIELD STREET
N
LEGEND
Storm Drain w/ Solid Cover
Storm Drain w/ slotted cover
Septic System
Storm Sewer Grate
Monitoring Well
Septic Tank
Roof drain leader
Roof drain connection to storm drains
Storm sewer connection to storm drains
0 10 20 30 40 50
Scale (in feet)
CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803
SITE MAP
11/7/00
AS SHOWN
1
US ELECTROPLATING CORP.
100 FIELD STREET
WEST BABYLON, NEW YORK
1049-1A
S.T.M.
E.A.W.

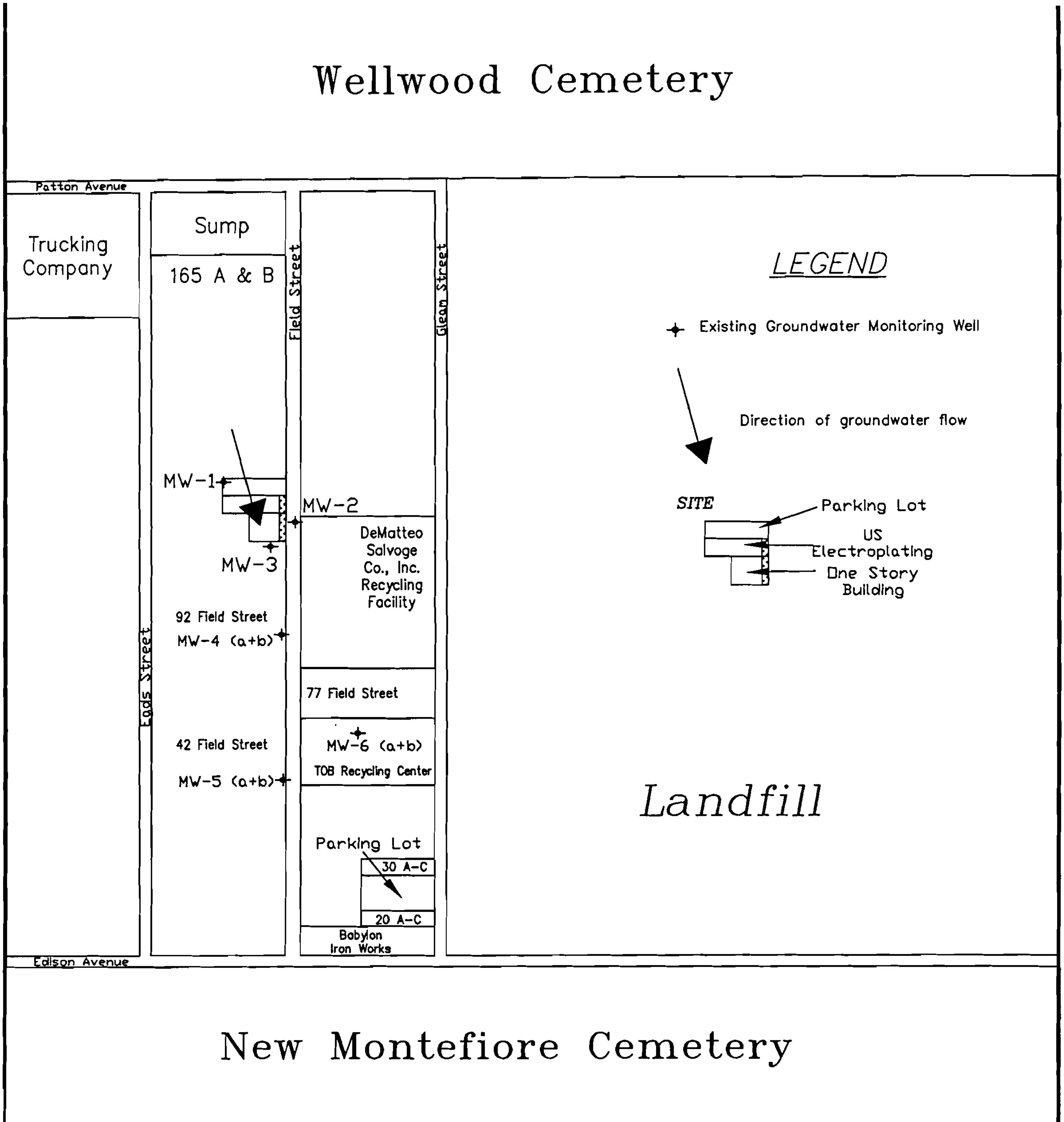




CA RICH CONSULTANTS, INC.

Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

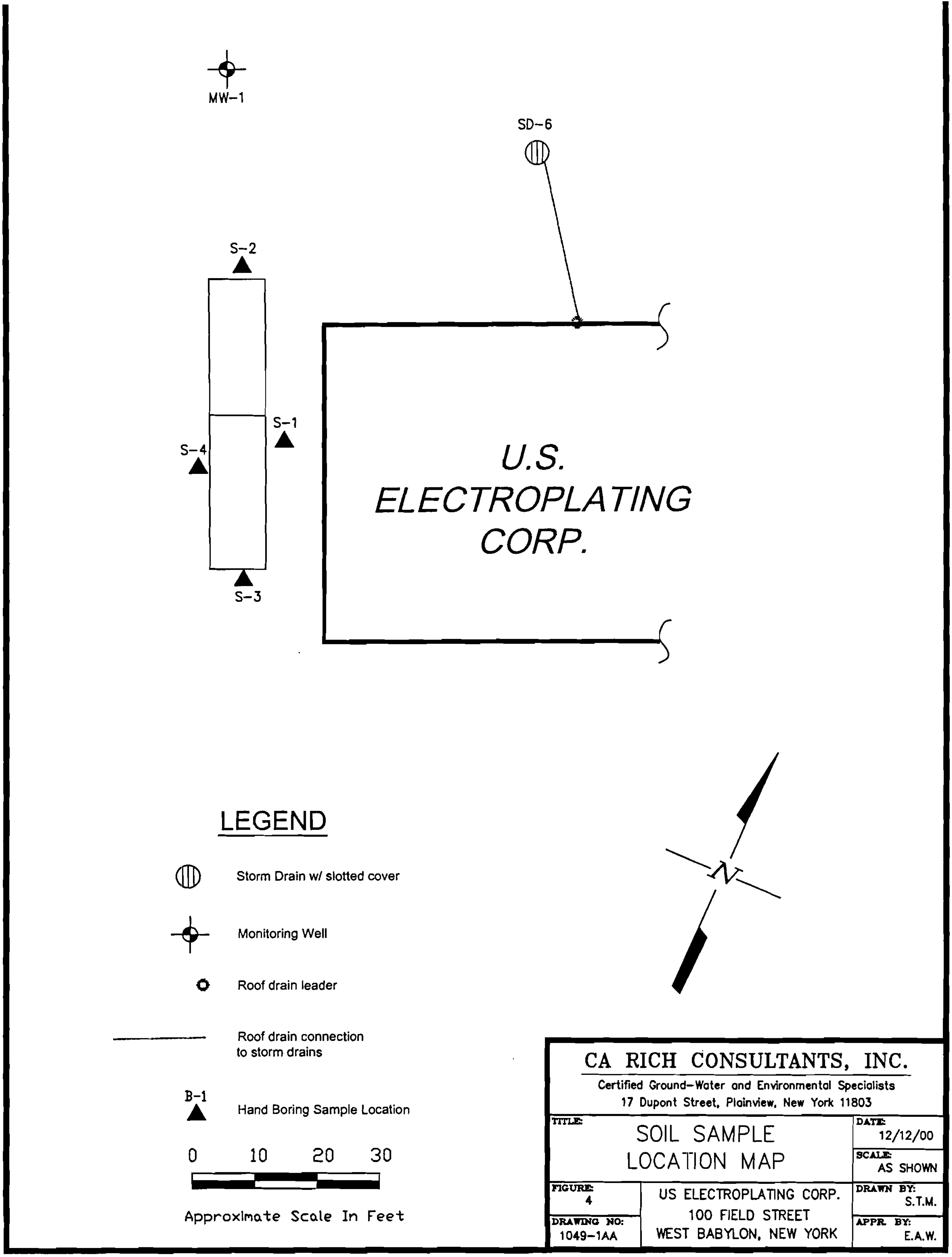
TITLE: Geoprobe Location Map		DATE: 12/12/00 SCALE: As Shown
FIGURE: 2	U.S. ELECTROPLATING 100 FIELD STREET WEST BABYLON, NEW YORK	DRAWN BY: S.T.M./J.H.
DRAWING NO: 1050-1AA		APPR. BY: E.W.



CA RICH CONSULTANTS, INC.

Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803

TITLE: Groundwater Monitoring Well Location Map		DATE: 12/12/00
		SCALE: As Shown
FIGURE: 3	U.S. ELECTROPLATING 100 FIELD STREET WEST BABYLON, NEW YORK	DRAWN BY: S.T.M.
DRAWING NO: 1050-AN		APPR. BY: E.A.W.


MW-1
SD-6
S-2
S-1
S-4
S-3
U.S.
ELECTROPLATING
CORP.
N
LEGEND
Storm Drain w/ slotted cover
Monitoring Well
Roof drain leader
Roof drain connection
to storm drains
B-1
Hand Boring Sample Location
0 10 20 30
Approximate Scale In Feet
CA RICH CONSULTANTS, INC.
Certified Ground-Water and Environmental Specialists
17 Dupont Street, Plainview, New York 11803
TITLE:
SOIL SAMPLE
LOCATION MAP
DATE:
12/12/00
SCALE:
AS SHOWN
FIGURE:
4
DRAWING NO:
1049-1AA
US ELECTROPLATING CORP.
100 FIELD STREET
WEST BABYLON, NEW YORK
DRAWN BY:
S.T.M.
APPR. BY:
E.A.W.

TABLES

Table 1
Summary of Analytical Detections in End-Point Soil Samples
for Volatile Organics After Data Validation
U.S. Electroplating Corp.
100 Field Street, West Babylon, New York

Sample ID	SG-W	SD-2	SD-6	SD-6DUP	TRIP BLANK	SG-E	SD-5	CP-1*	CP-2	FIELD BLANK	SD-1	SD-1RE	TRIP BLANK	NYSDEC
Matrix	Soil	Soil	Soil	Soil	Aqueous	Soil	Soil	Soil	Soil	Aqueous	Soil	Soil	Aqueous	TAGM**
Depth in feet	10.25	15.5	15.25	15.25	NA	12.0	10.7	16.0	18.0	NA	17.0	17.0	NA	Cleanup
Date Sampled	03/02/98	03/02/98	03/04/98	03/04/98		03/05/98	03/06/98	01/21/98	02/25/98	02/25/98	02/27/98	02/27/98		Objectives
Volatile Organics														
(NYSDOH Method 91-1)														
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/L	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/L	ug/Kg	ug/Kg	ug/L	ug /Kg
Acrolein	59 UJ	55 UJ	61 UJ	63 UJ	50 UJ	52 UJ	52 UJ	53 U	57 U	50 U	59 U	59 U	50 U	NA
Acrylonitrile	59 U	55 U	61 U	63 U	50 U	52 U	52 U	53 U	57 U	50 U	59 U	59 U	50 U	NA
Chloromethane	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	NA
Bromomethane	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	NA
Vinyl Chloride	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	200
Chloroethane	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	1,900
Methylene Chloride	6 U	6 U	6 U	6 U	2 J	5 U	49	5 U	6 U	3 J	6 U	6 U	5 U	100
Acetone	6 UJ	6 UJ	6 UJ	6 U	5 J	5 U	28 J	5 U	6 U	5 U	6 U	6 U	5 U	200
Carbon Disulfide	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	2,700
Trichlorofluoromethane	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	NA
1,1-Dichloroethene	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	400
1,1-Dichloroethane	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	200
trans-1,2-Dichloroethene	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	300
Chloroform	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	300
1,2-Dichloroethane	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	100
2-Butanone	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	300
1,1,1-Trichloroethane	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	800
Carbon Tetrachloride	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	600
Vinyl Acetate	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	NA
Bromodichloromethane	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	NA
1,2-Dichloropropane	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	NA
cis-1,3-Dichloropropene	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	NA
Trichloroethene	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	700
Benzene	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	60
Dibromochloromethane	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	NA
1,1,2-Trichloroethane	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	NA
trans-1,3-Dichloropropene	6 UJ	6 UJ	6 UJ	6 U	5 UJ	5 U	5 UJ	5 U	6 U	5 U	6 U	6 U	5 U	NA
2-Chloroethylvinylether	6 UJ	6 UJ	6 UJ	6 U	5 UJ	5 U	5 UJ	5 U	6 UJ	5 UJ	6 UJ	6 UJ	5 UJ	NA
Bromoform	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	NA
2-Hexanone	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 UJ	5 U	NA
4-Methyl-2-pentanone	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 UJ	5 U	1,000
Tetrachloroethene	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 UJ	5 U	1,400
1,1,2,2-Tetrachloroethane	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 UJ	5 U	600
Toluene	7	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	2 J	3 J	5 U	1,500
Chlorobenzene	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 UJ	5 U	1,700
Ethylbenzene	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	4 J	6 J	5 U	1,500
Styrene	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	NA
m,p-Xylene	12 U	11 U	12 U	13 U	10 U	10 U	10 U	10 U	11 U	10 U	4 J	6 J	10 U	1,200
o-Xylene	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	2 J	3 J	5 U	1,200
cis-1,2-Dichloroethene	6 U	6 U	6 U	6 U	5 U	5 U	5 U	5 U	6 U	5 U	6 U	6 U	5 U	NA

Notes:
B - Indicates compound found in associated blank.
J - Indicates compound concentration found below MDL.
U - Indicates compound analyzed for but not found.
E - Indicates result exceeds highest calibration standard.
D - Indicates result is based on a dilution.
NA - no guideline is reported.
ug/kg: micrograms per kilogram - parts per billion
*Concentration exceeds NYSDEC TAGM***

** The results for sample CP-1 were provided by the client's previous consultant and were not validated.*

*** NYSDEC Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels; January 24, 1994.*

Prepared by CA RICH CONSULTANTS, INC.

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TABLE 2

Summary of Analytical Detections in End-Point Soil Samples for SemiVolatile Organics After Data Validation

U.S. Electroplating Corp.
100 Field Street, West Babylon, New York

Sample ID	SG-W	SG-WDL	SD-2	SD-6	SD-6DUP	SG-E	SD-5	CP-1*	CP-2	FIELD BLANK	SD-1	NYSDEC TAGM**
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Aqueous	Soil	Cleanup
Depth In Feet	10.3	10.3	15.5	15.3	15.3	12.0	10.7	16.0	18.0	NA	17.0	Objectives
Date Sampled	03/02/98	03/02/98	03/02/98	03/04/98	03/04/98	03/05/98	03/06/98	01/21/98	02/25/98	02/25/98	02/27/98	
Semivolatile Organics (NYSDEC Method 91-2)												
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l	ug/kg	ug/kg
Acenaphthene	390 U	2000 U	41 J	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	50,000
Acenaphthylene	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	41,000
Anthracene	110 J	2000 U	40 J	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	50,000
Benzo(a)Anthracene	640 J	360 JD	88 J	410 UJ	420 UJ	350 UJ	350 UJ	350 U	380 U	10 U	42 J	224
Benzo(a)Pyrene	640 J	500 JD	90 J	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	61
Benzo(b)fluoranthene	990 J	910 JD	120 J	410 U	420 U	350 U	350 U	350 U	380 U	10 U	110 J	1,100
Benzo(g,h,i)Perylene	180 J	2000 UJ	41 J	410 UJ	420 UJ	350 UJ	350 UJ	350 U	380 UJ	10 UJ	400 UJ	50,000
Benzo(k)Fluoranthene	830 J	430 JD	57 J	410 U	420 U	350 U	350 U	350 u	380 u	10 U	41 J	1,100
Benzoic Acid	2000 UJ	9800 U	1800 UJ	2000 UJ	2100 UJ	1700 UJ	1700 UJ	1700 U	1900 UJ	10 UJ	2000 UJ	2,700
Benzyl Alcohol	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	50 U	400 U	NA
bis(-2-Chloroethyl)Ether	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	390 U	10 U	400 U	NA
bis(2-Chloroisopropyl)ether	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 UJ	NA
Bis(2-Ethylhexyl)Phthalate	1500	1000 JD	150 J	410 U	420 U	78 J	43 J	350 U	380 U	10 U	220 J	50,000
bis(-2-Chloroethoxy)Methane	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	NA
4-Bromophenyl-phenylether	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	NA
Butylbenzylphthalate	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 UJ	400 U	50,000
4-Chloroaniline	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	220
2-Chloronaphthalene	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	NA
4-Chloro-3-methylphenol	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	240
2-Chlorophenol	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	800
4-Chlorophenyl-phenylether	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	NA
Chrysene	910 J	520 JD	120 J	410 UJ	420 UJ	350 UJ	350 UJ	350 U	380 U	10 U	78 J	400
Dibenzo(a,h)Anthracene	390 UJ	2000 UJ	370 UJ	410 UJ	420 UJ	350 UJ	350 UJ	350 U	380 UJ	10 U	400 UJ	14
Dibenzofuran	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	6,200
1,2-Dichlorobenzene	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	7,900
1,3-Dichlorobenzene	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	1,600
1,4-Dichlorobenzene	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	8,500
3,3'-Dichlorobenzidine	390 UJ	2000 U	370 UJ	410 UJ	420 UJ	350 UJ	350 UJ	350 U	380 U	10 U	400 U	NA
2,4-Dichlorophenol	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	400
Diethylphthalate	390 U	2000 U	38 J	410 U	420 U	350 U	570	350 U	380 U	10 U	400 U	7,100
2,4-Dimethylphenol	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	NA
Dimethyl Phthalate	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	2,000
Di-n-Butylphthalate	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	8,100
4,6-Dinitro-2-methylphenol	390 U	2000 UJ	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 UJ	NA
2,4-Dinitrophenol	390 UJ	2000 UJ	370 UJ	410 UJ	420 UJ	350 UJ	350 UJ	350 U	380 UJ	10 UJ	400 UJ	200
2,4-Dinitrotoluene	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	NA
2,6-Dinitrotoluene	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	1,000
Di-n-octyl phthalate	350 J	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	50,000
Fluoranthene	1400	1400 JD	210 J	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	50,000
Fluorene	67 J	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	190 J	50,000
Hexachlorobenzene	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	410
Hexachlorobutadiene	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	NA
Hexachlorocyclopentadiene	390 UJ	2000 U	370 UJ	410 UJ	420 UJ	350 UJ	350 UJ	350 U	380 U	10 UJ	400 U	NA
Hexachloroethane	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	NA
Indeno(1,2,3-cd)Pyrene	180 J	2000 UJ	43 J	410 UJ	420 UJ	350 UJ	350 UJ	350 U	380 UJ	10 U	400 UJ	3,200
Isophorone	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	4,400
2-Methylnaphthalene	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	36,400
2-Methylphenol	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	100
3&4-Methylphenol	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	900
Naphthalene	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	13,000
2-Nitroaniline	390 U	2000 UJ	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	430
3-Nitroaniline	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	500
4-Nitroaniline	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	NA
Nitrobenzene	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	200
2-Nitrophenol	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	330
4-Nitrophenol	390 UJ	2000 UJ	370 UJ	410 UJ	420 UJ	350 UJ	350 UJ	350 U	380 UJ	10 UJ	400 UJ	100
N-Nitrosodimethylamine	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 UJ	10 U	400 UJ	NA
N-Nitrosodiphenylamine	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	NA
N-Nitroso-Di-n-propylamine	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	NA
Pentachlorophenol	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	1,000
Phenanthrene	730	680 JD	110 J	410 U	420 U	350 U	350 U	350 U	380 U	10 U	72 J	50,000
Phenol	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	30
Pyrene	1600	930 JD	180 J	410 U	420 U	350 U	350 U	350 U	380 U	10 U	110 J	50,000
1,2,4-Trichlorobenzene	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	3,400
2,4,5-Trichlorophenol	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	100
2,4,6-Trichlorophenol	390 U	2000 U	370 U	410 U	420 U	350 U	350 U	350 U	380 U	10 U	400 U	NA

Notes:

B - Indicates compound found in associated blank.
J - Indicates compound concentration found below MDL.
U - Indicates compound analyzed for but not found.
E - Indicates result exceeds highest calibration standard.
D - Indicates result is based on a dilution.
NA - no guideline is reported.
ug/kg: micrograms per kilogram - parts per billion
Concentration exceeds NYSDEC TAGM**

*** NYSDEC Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Soil Cleanup Levels; January 24, 1998.*

** The results for sample CP-1 were provided by the client's previous consultant and were not validated.*

Prepared by CA RICH CONSULTANTS, INC.

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TABLE 3

Summary of Analytical Detections in End-Point Soil Samples
for TAL Metals After Data Validation
U.S. Electroplating Corp.
100 Field Street, West Babylon, New York

Sample ID	SG-W	SD-2	SD-6	SD-6DUP	SG-E	SD-5	CP-1*	SD-1	CP-2	Field Blank	NYSDEC
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Aqueous	TAGM**
Depth in Feet	10.3	15.5	15.3	15.3	12.0	10.7	16.0	16.0	16.1	NA	Cleanup
Date Sampled	3/2/98	3/2/98	3/4/98	3/4/98	3/5/98	3/6/98	1/21/98	3/6/98	3/6/98	2/25/98	Objectives
TAL Metals											
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	mg/kg
Aluminum	1740	1620	1290	1390	959	957	2100	934	759	200 U	SB
Antimony	6.98 UJ	6.90 UJ	7.80 UJ	7.64 UJ	6.52 UJ	6.88 UJ	6.35 U	7.66 UJ	7.37 UJ	100 U	SB
Arsenic	1.48	1.16 U	1.24 U	1.27 U	1.09 U	1.08 U	1.05	1.23 U	1.19 U	8.00 U	7.5
Barium	7.61	4.65	3.72	4.06	3.83	4.21	4.96 U	3.07	2.88	30.0 U	300
Beryllium	0.349 U	0.345 U	0.390 U	0.382 U	0.326 U	0.344 U	0.318 U	0.383 U	0.368 U	5.00 U	0.16 or SB
Cadmium	63.6 J	15.9 J	1.90 J	3.91 J	11.1 J	6.03 J	15.1	17.5 J	17.1 J	30.0 U	1
Calcium	795	967	732	587	234	403	3800	352	465	1000 U	SB
Chromium	67.2 J	36.1 J	6.95 J	12.0 J	22.1 J	7.64 J	38.7	94.2 J	75.2 J	30.0 U	10
Cobalt	2.09 U	2.07 U	2.34 U	2.29 U	1.96 U	2.07	1.91 U	2.3 U	2.21 U	30.0 U	30
Copper	18.8 J	5.34 J	2.92 J	3.03 J	10.3 J	3.86 J	3.81	4.32 J	9.80 J	30.0 U	25
Iron	3660	2640	2060	2550	3970	1730	3090	1650	1590	200 U	2,000
Lead	20.9 U	20.7 U	23.4 U	22.9 U	19.6 U	20.7 U	19.1 U	23 U	22.1 U	300 U	200 - 500
Magnesium	469 J	704 J	524 J	505 J	229 J	246 J	2380	296 J	282 J	1000 U	SB
Manganese	27.6	42.3	53.6	70.3	25.1	36.6	81.3	15.2	19.7	15.0 U	SB
Mercury	0.236 U	0.220 U	0.243 U	0.254 U	0.207 U	0.208 U	0.210 U	0.236 U	0.249 U	0.200 U	0.1
Nickel	7.26	2.76 U	3.12 U	3.52	2.61 U	2.75 U	12.6	5.26	4.47	40.0 U	13
Potassium	140 U	138 U	156 U	153 U	130 U	138 U	127 U	163	147 U	2000 U	SB
Selenium	0.781 U	0.722 U	0.775 U	0.793 U	0.682 U	0.675 U	0.326 U	0.766 U	0.741 U	5.00 U	2
Silver	1.24	0.891	0.819	1.26	1.86	0.867	1.69	0.98	0.737 U	10.0 U	SB
Sodium	69.8 U	69.0 U	78.0 U	76.4 U	65.2 U	68.8 U	63.5 U	76.6 U	73.7 U	1000 U	SB
Thallium	0.781 U	0.722 U	0.775 U	0.793 U	0.682 U	0.675 U	0.667 U	0.766 U	0.741 U	10.0 U	SB
Vanadium	3.49 U	3.45 U	3.90 U	3.82 U	3.26 U	3.44 U	3.82	3.83 U	3.76	50.0 U	150
Zinc	110 J	27.3 J	7.80 UJ	9.48 J	24.7 J	10.9 J	20.6	59.9 J	17.8 J	100 U	20
General Chemistry											
Solids, Percent (%)	84.8	91.1	82.2	78.8	96.4	96.2	NA	84.8	80.3	NA	NA
Cyanide, Total (mg/Kg	15.9 J	3.94 J	1.1 UJ	1.26 UJ	2.10 J	0.99 UJ	NA	7.51 J	1.9 J	0.01 U	NA

Notes:
B - Indicates compound found in associated blank.
J - Indicates compound concentration found below MDL.
U - Indicates compound analyzed for but not found.
E - Indicates result exceeds highest calibration standard.
D - Indicates result is based on a dilution.
SB - Site Background
NA - no guideline is reported.
Concentration exceeds NYSDEC TAGM**
mg/kg - milligrams per kilograms or parts per million

*** NYSDEC Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels; January 24, 1994.*

** The Results for sample CP-1 were provided by the client's previous consultant and were not validated.*

Prepared by CA RICH CONSULTANTS, INC.

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TABLE 4
Summary of Analytical Detections in Geoprobe Locations for Inorganics
U.S. Electroplating Corp.
100 Field Street, West Babylon, New York

Sample ID	GP-1 20	GP-2 20	GP-3 20	GP-4 20	GP-5 20	GP-6 20	GP-7 20	GP-7D 20	NYSDEC TOGS**
Matrix	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	
Date Sampled	11/12/98	11/12/98	11/12/98	11/12/98	11/11/98	11/11/98	11/11/98	11/11/98	Objective
Units	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Metals									
Arsenic	ND	ND	ND	ND	ND	ND	ND	ND	25
Cadmium	ND	186	ND	ND	ND	ND	ND	ND	5
Chromium	ND	ND	ND	ND	ND	ND	ND	ND	50
Copper	ND	ND	ND	ND	ND	ND	ND	ND	200
Iron	2680	3340	653	1180	4310	26600	3580	3770	300
Mercury	ND	ND	ND	ND	0.588	ND	0.588	ND	0.7
Nickel	ND	ND	ND	ND	ND	ND	ND	ND	NA
Zinc	ND	107	ND	ND	ND	ND	130	151	2000
General Chemistry									
Cyanide	ND	ND	ND	ND	ND	ND	ND	ND	200

Sample ID	GP-1 40	GP-2 40	GP-3 40	GP-4 40	GP-5 40	GP-6 40	GP-7 40	NYSDEC TOGS**
Matrix	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	
Date Sampled	11/12/98	11/12/98	11/12/98	11/12/98	11/11/98	11/11/98	11/11/98	Objective
Units	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Metals								
Arsenic	ND	ND	ND	ND	ND	ND	ND	25
Cadmium	ND	ND	59.3	45.9	ND	ND	ND	5
Chromium	ND	ND	ND	ND	ND	ND	ND	50
Copper	ND	ND	ND	ND	ND	ND	ND	200
Iron	3110	5320	2790	4210	7370	4400	6130	300
Mercury	ND	ND	ND	0.503	ND	ND	ND	0.7
Nickel	ND	ND	ND	ND	ND	ND	ND	NA
Zinc	113	ND	159	ND	245	282	219	2000
General Chemistry								
Cyanide	ND	ND	ND	ND	ND	ND	ND	200

Sample ID	GP-1 60	GP-2 60	GP-3 60	GP-4 60	GP-5 60	GP-6 60	GP-7 60	NYSDEC TOGS**
Matrix	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	
Date Sampled	11/12/98	11/12/98	11/12/98	11/12/98	11/11/98	11/11/98	11/11/98	Objective
Units	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Metals								
Arsenic	ND	ND	ND	ND	ND	ND	ND	25
Cadmium	ND	ND	11.6	ND	ND	ND	ND	5
Chromium	31.5	ND	ND	ND	ND	ND	ND	50
Copper	ND	ND	ND	ND	ND	ND	ND	200
Iron	4460	8430	7560	4270	6810	4410	5520	300
Mercury	ND	0.845	ND	ND	ND	ND	ND	0.7
Nickel	ND	ND	ND	ND	ND	ND	ND	NA
Zinc	146	310	220	ND	160	327	545	2000
General Chemistry								
Cyanide	ND	ND	ND	ND	ND	ND	ND	200

Notes:
ND- Element analyzed for but not detected
*NA- no NYSDEC TOGS** values given for groundwater*
UG/L- micrograms per liter or parts per billion
*Concentration exceeds NYSDEC TOGS***

***NYSDEC Water Technical and Operational Guidance Series Guides Series (1.1.1) (TOGS) Ambient Water Quality Standards & Guidance Values, June 1998*

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TABLE 5
Summary of Analytical Detections in Preexisting Monitoring Wells for Inorganics
U.S. Electroplating Corp.
100 Field Street, West Babylon, New York

Sample ID	**MW-1**	**MW-1**	**MW-2**	**MW-2**	**MW-3**	**MW-3**	**FB-11/12**	**NYSDEC**
Matrix	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	**TOGS****
Date Sampled	11/12/98	10/5/00	11/12/98	10/5/00	11/12/98	10/5/00	11/12/98	Objectives
Units	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Metals								
Arsenic	ND	NA	ND	ND	ND	ND	ND	25
Cadmium	182	3.4	91.3	28.8	2000	131	ND	5
Chromium	ND	ND	ND	23.5	82.6	485	ND	50
Copper	ND	NA	ND	NA	ND	NA	ND	200
Iron	5650	NA	885	NA	1200	NA	103	300
Mercury	ND	NA	0.621	NA	ND	NA	ND	0.7
Nickel	ND	NA	ND	NA	1740	NA	ND	NA
Zinc	ND	20.4	247	465	237	52.2	ND	2000

Notes:
ND- Element analyzed for but not detected

*NA- no NYSDEC TOGS** value given for groundwater*

UG/L- micrograms per liter or parts per billion

***NYSDEC Water Technical and Operational Guidance Series Guide Series (1.1.1) (TOGS) Ambient Water Quality Standards & Guidance Values, June 1998*

Concentration Exceeds NYSDEC TOGS**

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TABLE 6

Summary of Analytical Detections in Newly Installed Groundwater Monitoring Wells

for Cadmium, Chromium and Zinc

U.S. Electroplating Corp.

100 Field Street, West Babylon, New York

Sample ID	**MW-4A**	**MW-4B**	**MW-5A**	**MW-5B**	**MW-6A**	**MW-6AD**	**MW-6B**	**NYSDEC**
Matrix	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	**TOGS****
Depth	45 Feet	66 Feet	45 Feet	66 Feet	45 Feet	45 Feet	66 Feet	Cleanup
Date Sampled	10/5/00	10/5/00	10/5/00	10/5/00	10/5/00	10/5/00	10/5/00	Objectives
Metals								
Units	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Cadmium	ND	ND	ND	ND	ND	ND	ND	5
Chromium	5.9	ND	13.8	ND	ND	ND	ND	50
Zinc	36.1	30.9	19.8	37.5	16.5	16.1	27.2	2000

Notes:
ND- Element analyzed for but not detected
UG/L- micrograms per liter or parts per billion
Concentration Exceeds NYSDEC TOGS**

***NYSDEC Water Technical and Operational Guidance Series Guide Series (1.1.1) (TOGS) Ambient Water Quality Standards & Guidance Values, June 1998*

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TABLE 7

Summary of Analytical Detections in Soil Samples Around Storage Shed
for Cadmium, Chromium and Zinc
U.S. Electroplating Corp.
100 Field Street, West Babylon, New York

Sample ID	S-1	S-2	S-3	S-4	S-4D	FB	NYSDEC
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Aqueous	TAGM**
Depth	2 Feet	2 Feet	2 Feet	2 Feet	2 Feet	NA	Cleanup
Date Sampled	10/5/00	10/5/00	10/5/00	10/5/00	10/5/00	10/5/00	Objectives
Units	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	UG/L	MG/KG
Cadmium	0.24	0.23	9.3	0.92	1	ND	1
Chromium	12.8	13.4	21.3	5.6	6.6	ND	10
Zinc	11.9	20.1	21.8	13.2	13.4	ND	20

Notes:
MG/KG- milligrams per kilogram or parts per million
UG/L- micrograms per liter or parts per billion
ND - Not detected

*** NYSDEC Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels; January 24, 1994.*

Concentration is equal to or exceeds NYSDEC TAGM**

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