PERIODIC REVIEW REPORT (2012)
PRIMOSHIELD INC.
NYSDEC SITE NO. 633027

WORK ASSIGNMENT NO. D007619-18

Prepared for:

New York State Department of Environmental Conservation
Albany, New York

Prepared by:

MACTEC Engineering and Consulting, P.C.
Portland, Maine

MACTEC: 3612122251

AUGUST 2013

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AUGUST 2013

Submitted by:

Jayme P. Connolly
Project Manager

Approved by:

Mark Stelmack, PE
Principal Professional

Enclosure 1
Engineering Controls - Engineering Standby Contractor Certification Form

Site Details **Box 1**

Site No. **633027**

Site Name Primoshield, Inc.

Site Address: 1212 Saint Vincent Street Zip Code: 13501
City/Town: Utica
County: Oneida
Site Acreage: ~~2.4~~ 0.82 acres (see attached Property Owner Survey)

Reporting Period: December 31, 2011 to December 31, 2012

	YES	NO
1. Is the information above correct?	☐	☒
If NO, include handwritten above or on a separate sheet.		
2. To your knowledge has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. To your knowledge has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. To your knowledge have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. To your knowledge is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

Signature of Engineering Standby Contractor

Date 8-13-13

SITE NO. 633027 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
9-125020	~~Eugene Santa Croce~~ City of Utica	Site Management Plan

Box 4

Description of Engineering Controls

Parcel	Engineering Control
9-125020	Fencing/Access Control Groundwater Treatment System

Engineering Control Details for Site No. 633027

Parcel: 9-125020

The site has a ROD dated 3/30/1995 and an engineering certification dated 3/2/1999. there is a collection trench and pump which after filtering, deliver water to the Utica City sewer. There is a fence to control access.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification, including data and material prepared by previous contractors for the current certifying period, if any;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) nothing has occurred that would constitute a failure to comply with the Site Management Plan, or equivalent if no Site Management Plan exists.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

Signature of Engineering Standby Contractor

8-13-13
Date

IC/EC CERTIFICATIONS

Box 6

Professional Engineer Signature

I certify that all information in Boxes 2 through 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Mark Stelmack at MACTEC Engineering & Consulting, PC 511 Congress St, Suite 200, Portland, ME 04101
print name (print business address)

am certifying as a Professional Engineer.

Signature of Professional Engineer

Stamp (Required for PE) Date 8-9-2013

STATE OF NEW YORK ★ MARK JAMES STELMACK ★ 080317 LICENSED PROFESSIONAL ENGINEER

- COPY -

Enclosure 1
Institutional and Engineering Controls - Property Owner Survey

Site Details **Box 1**

Site No. **633027**

Site Name Primoshield, Inc.

Site Address: 1212 Saint Vincent Street Zip Code: 13501
City/Town: Utica
County: Oneida
Site Acreage: ~~2.4~~

1212 ST. VINCENT ST. - TAX MAP-318.83-2-33 - .49 acres
1223 CONKLIN AVE. - TAX MAP-318.83-2-41 - .33 acres
TOTAL .82 acres

Reporting Period: December 31, 2011 to December 31, 2012

	YES	NO
1. Is the information above correct? (REVISED)	☒	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2, 3 or 4, include documentation with this form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☒	☐
7. Are all Institutional Controls (ICs) in place and functioning as designed?	☒	☐

Signature of Propert Owner

2-25-2013
Date

-COPY-

SITE NO. 633027 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
9-125020	~~Eugene Santa Croce~~ GORAN SMILJIC ; DEP. CITY ENGINEER	Site Management Plan

Box 4

Description of Engineering Controls

Parcel	Engineering Control
9-125020	Fencing/Access Control Groundwater Treatment System

Engineering Control Details for Site No. 633027

Parcel: 9-125020
The site has a ROD dated 3/30/1995 and an engineering certification dated 3/2/1999. there is a collection trench and pump which after filtering, deliver water to the Utica City sewer. There is a fence to control access.

CITY FORCES ONLY MOW LAWN AREAS

Box 5

Periodic Review Report (PRR) Survey Statements

For each Institutional or Engineering control listed in Boxes 3 and/or 4, by checking "YES" below I believe all of the following statements to be true:

(a) the Institutional Control(s) and/or Engineering Control(s) employed at this site remain unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control; and

(d) if a Site Management Plan (SMP) exists, nothing has occurred that would constitute a violation or failure to comply with the SMP for this Control.

YES	NO
☒	☐

Signature of Property Owner — Date: 2-05-2013

TABLE OF CONTENTS

LIST OF FIGURES

Figure

LIST OF TABLES

Table

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

EC	engineering controls
GWTS	groundwater treatment system
IC	institutional controls
LTM	long term monitoring
MACTEC	MACTEC Engineering and Consulting, P.C.
mg/L	milligram(s) per liter
ND	not detected
NYSDEC	New York State Department of Environmental Conservation
POTW	Publicly Owned Treatment Works
PRR	Periodic Review Report
RAO	remedial action objective
RI	remedial investigation
ROD	Record of Decision
Site	Primoshield site
SM	site management
SMP	site management plan
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WA	work assignment

EXECUTIVE SUMMARY

The Primoshield Inc. Site (Site No. 633027; hereinafter referred to as the Site) is a former metal electroplating facility located at 1212 St. Vincent Street in Utica, Oneida County, New York (Figure 1.1). In March 1995 a Record of Decision (ROD) was signed for the Site; the ROD established the following Remedial Action Objectives (RAOs):

- Reduce, control or eliminate the contamination present within the soils on Site.
- Eliminate the threat to surface waters by eliminating any future contaminated surface water run-off from the contaminated soils on Site, and any potential future discharge from site sewer lines to the Oneida County Sewer System.
- Eliminate the potential for direct human contact with the contaminated soils onsite.
- Mitigate the impacts of contaminated groundwater to the environment and to nearby residents.
- Prevent to the extent possible, migration of contaminants in the soils to groundwater.
- Provide for attainment of standards, criteria, and guidance values for groundwater quality at the limits of the area of concern.
- Remediate the Site and adjoining property to provide for future delisting and unrestricted use.

A Draft Site Management Plan (SMP) has been created which outlines the controls established to meet the ROD. Since remaining contaminated groundwater exists beneath the Site, engineering controls (ECs)/institutional controls are required to protect human health and the environment. EC systems at the Site include: the groundwater treatment system, site access controls, and groundwater monitoring wells. The SMP includes a soil excavation plan because post remediation sampling was not conducted to document remaining soil conditions; therefore, contaminant concentrations greater than the Soil Cleanup Objectives may be present at the Site. The remedial processes will be considered to be completed when effectiveness monitoring indicates that the remedy has achieved the RAOs identified by the decision document.

This Periodic Review Report summarizes the site management (SM) activities completed at the Site during 2012 and evaluates the effectiveness of the remedial actions. During the reporting period, SM requirements were met. Contaminants of concern at the Site include volatile organic compounds (VOCs), cadmium, chromium, lead, nickel and cyanide. The groundwater treatment

system discharge monitoring sample results from November 2012 showed detections of VOCs, nickel and cyanide all below the discharge criteria. MACTEC Engineering and Consulting P.C. concludes that the remedy for the Site is effective.

1.0 SITE HISTORY

Primoshield Inc. (the Site), a former metal electroplating facility, is located at 1212 St. Vincent Street, Utica, New York. The Site is comprised of two parcels owned by the City of Utica totaling approximately 0.82 acres in size and is located between Conkling Avenue and St. Vincent Street. The Site is designated as 1223 Conkling Avenue (tax map parcel number 41) and 1212 St. Vincent Street (tax map parcel number 33) and is located in a mixed commercial/residential area. The St. Agnes R.C. cemetery is located immediately to the southeast of the Site. The Mohawk River is located down-gradient, approximately one and one half miles to the north of the Site. Figure 2.1 shows the current site features.

Primoshield Inc. operated a metal electroplating facility from the early 1970's until August 1985. The property consisted of a factory (production building), a small laboratory and a small storage trailer, all of which were in an advanced state of disrepair at the time the Site was abandoned in 1985. Additionally, a large number of drums and open vats containing chemicals were left behind. Later in that year there was a fire at the facility. The local citizens communicated their health concerns to the New York State Department of Environmental Conservation (NYSDEC), and samples collected in December 1985 showed a high risk to the public from the Site. Consequently, on March 12, 1986 NYSDEC formally petitioned the United States Environmental Protection Agency (USEPA) to remediate the Site, including but not limited to the cleanup and removal of all the surficial and containerized hazardous wastes as well as the installation of a fence and gate system to secure the Site.

Following the fire in 1985, the facility was abandoned by its owners, and the City of Utica assumed ownership of the Site through tax foreclosure. In December 1989, NYSDEC signed a negotiated Consent Order with the City of Utica in which the city agreed to perform a Remedial Investigation (RI)/Feasibility Study to further investigate and remediate residual hazardous waste contamination remaining at the Site. The RI identified cadmium, chromium, nickel, and cyanide in surficial soils and trichloroethene, 1,1,1-thrichloroethane, 1,1-dichloroethane, and chromium in groundwater at the Site. The site was re-assigned by NYSDEC as a State Superfund project in November of 1996 because the City of Utica had inadequate funds to complete the remediation.

According to the Record of Decision (ROD), signed on March 30, 1995, the preferred remedy was: excavation and disposal of hazardous and non-hazardous soils, building demolition, and installation, operation, maintenance and monitoring of a groundwater treatment system. The originally installed groundwater treatment system was designed to treat contaminated groundwater by carbon filtration, with effluent discharged to the Publicly Owned Treatment Works (POTW). However, because contaminated groundwater concentrations decreased to levels below the discharge criteria, the carbon filters have not been in use since 2001. Site Management (SM) is currently underway and consists of five quarterly (every 15 months) groundwater monitoring, semi-annual POTW discharge monitoring, and quarterly site inspections. The last long term monitoring (LTM) event was conducted in December 2011 and the next sampling event is scheduled to happen in March 2013.

2.0 SM STATUS

During 2011 MACTEC Engineering and Consulting, P.C. (MACTEC) (through a previous Work Assignment [WA]) conducted system improvements, including replacement of the treatment system sump pump, and performed LTM and site inspections as described in the August 2011 Field Activities Plan. Findings from the work conducted in 2011 were documented in the December 2011 Trip Report (MACTEC, 2011). The NYSDEC produced a Periodic Review Report (PRR) in-house for 2011 using MACTEC documents and their own documentation. During 2012 NYSDEC continued to conduct system improvements including modifications to the programmable logic controller, and in October 2012 issued a new WA to MACTEC for continued SM.

This PRR documents SM activities from January 2012 through December 2012 conducted by MACTEC, including:

- November 2012 Quarterly Site Inspection and Discharge Monitoring (MACTEC, 2012);
- December 2012 Site Inspection

MACTEC conducted a review of available documentation provided by NYSDEC.

This report was completed using site specific documentation including the Site's ROD (NYSDEC, 1995), periodic site inspection and environmental monitoring reports (MACTEC, 2012 and 2013), and the Draft SMP (MACTEC, 2013). Activities and monitoring results from 2011 are also incorporated as needed for this report. This review was conducted to confirm that established controls according to the SM Plan (SMP) are operational and effective, that the SMP is being implemented and conducted accordingly, and that the remedy remains protective of the environment and/or public health.

SM requirements as detailed in the SMP are outlined in Table 2.1. These include quarterly inspections of institutional/engineering controls (IC/ECs) at the Site, semi-annual discharge monitoring, and LTM of groundwater from existing monitoring wells, see Figure 2.1. Existing wells are monitored to evaluate contaminant of concern concentrations (i.e., cadmium, chromium,

lead, nickel, cyanide and volatile organic compounds [VOCs]) in groundwater vs. site cleanup goals (New York State Class GA Standards [6 New York Codes, Rules and Regulations Parts 700-705].

A summary of SM activities completed during the reporting period and an evaluation of the performance, protectiveness, and effectiveness of the remedy is provided below.

2.1 INSTITUTIONAL CONTROLS/ENGINEERING CONTROLS PLAN

Because contaminated soil exists beneath the ground surface, IC/ECs are required to protect human health and the environment. Engineering control systems at the Site include: the groundwater treatment system, site access controls, and groundwater monitoring wells.

During the reporting period before the current WA was issued the treatment system was not operating between January and November 2012, and therefore quarterly inspections and semi-annual discharge monitoring were not conducted. The ECs were inspected by MACTEC in November 2012 in accordance with the SMP. These controls are in place; however as noted during the November site inspection, fencing repairs are needed for the chain-link fence. The treatment system began operations during this inspection after being turned off for improvements and appeared to be functioning properly. A discharge monitoring effluent sample was also collected during this inspection.

Restrictions are imposed pursuant to the SMP and include:

- Allow access to the Site for operation of the groundwater treatment system (GWTS).
- Groundwater extraction, for anything other than treatment at the GWTS, is prohibited.
- Animal production for human consumption is prohibited
- Vegetable gardens are prohibited onsite unless planted in gardens where soil achieves the residential use soil clean-up objectives.
- Site use is limited to industrial uses only.
- Site owner(s) must follow the requirements of this SMP.
- Excavation on the property is prohibited without written permission from the NYSDEC.

Based on the inspection conducted in November 2012, there has not been a change in property use and the Site is in compliance with these ICs.

2.2 LONG TERM MONITORING PLAN

The requirement for the groundwater monitoring program in the SMP includes groundwater elevation monitoring, monitoring well inventory and repair, and groundwater sampling and analysis. Monitoring locations have been sampled since 1999 and are currently scheduled for sampling at 15 month intervals. The Site monitoring locations are shown on Figure 2.1; Table 2.2 summarizes the LTM sampling and analysis plan. The last LTM sampling event was completed in December of 2011. Sampling is scheduled to be completed again in March 2013.

2.2.1 Groundwater Elevation Monitoring

Groundwater elevations were measured in December 2012 to help determine if restarting the groundwater treatment system had an effect on groundwater levels. The water levels measured in 2012 compared to measurements from 2011 are presented in Table 2.3. There was no noticeable difference in the water levels after the system began operating.

A cross section of the Site showing the groundwater elevations compared to the trench elevations and the downgradient house are shown on Figure 2.2. This shows that groundwater elevation is higher than the bottom of the house basement elevation.

Groundwater elevations will be obtained again during the 15-month sampling event scheduled in March 2013.

2.2.2 Monitoring Well Inventory and Repair

Monitoring well inspections are scheduled with the LTM sampling event scheduled for March 2013. LTM was not conducted during this reporting period; therefore the wells were not inspected. Observations noted in 2011 will be considered while conducting the next inspection.

2.2.3 LTM Sampling and Analysis

Environmental samples were not collected during the reporting period. LTM was conducted at the Site between 1999 and 2002 (Appendix A) and again in December 2011 by MACTEC (see Table

2.4). Results show a general decrease in contaminant concentrations since 1999; however, shallow groundwater contamination at concentrations exceeding Class GA standards was observed (see Figure 2.3).

2.2.4 Performance Monitoring

Discharge of effluent from the groundwater treatment system is permitted by the Oneida County Department of Water Quality & Water Pollution Control. Groundwater Remediation Discharge Permit No. GW-040 establishes semiannual monitoring requirements and discharge criteria. During the reporting period, effluent samples were analyzed by USEPA Methods: VOCs by 624; copper, nickel and zinc by 200.7, cyanide by 9012B, and pH by SM4500-H+. The following contaminants were detected; as shown none of the concentrations exceeded the discharge criteria.

POLLUTANT/PARAMETER	PERMITTED LIMIT	November 2012 results
Total Flow, gal/month	No Limit	
pH (units)	5.0-12.5	7.09
Cadmium, mg/L	1	ND (0.005)
Chromium, mg/L	5	ND (0.010)
Copper, mg/L	3	ND (0.020)
Lead, mg/L	5	ND (0.050)
Nickel, mg/L	2	0.043
Zinc, mg/L	4	ND (0.020)
Cyanide, mg/L	3	0.011
Total VOCs, mg/L	2.0*	0.758

*Total Volatile Organics is the sum of all detectable VOCs substances as determined using the EPA 624 Method.
ND= Not Detected; value represents quantitative limit.
mg/L = milligrams per liter

The treatment system was not operating while system improvements were conducted as described in Section 2.0. NYSDEC began operating the system during the November 6, 2012 quarterly inspection. Readings from the flow totalizer at start up and January were 147,325 gallons and 274,927 gallons respectively. This is approximately 125,742 gallons in 62 days.

2.3 O&M PLAN

According to the SMP, site wide inspections are to be conducted quarterly; these include the inspection and maintenance of the perimeter fence, on-site and off-site monitoring wells, and the Site treatment system.

An inspection was conducted upon approval in November 2012. As shown in Table 2.1, the Site's SMP requirements for the Site have been met with respect to content and the frequency at which the tasks are performed since the WA was issued. Inspection observations were recorded using Inspection Forms, photographic logs, and field notes included with the various reports. Findings are discussed in Section 2.1 above.

During a site visit in December 2012, the basket strainers were inspected and found to be clogged with fine particulate and organic matter. The strainers were cleaned and replaced.

A review of the system design revealed the purpose of the strainers is to remove particulate before the carbon filters. Particulates can clog the carbon thus requiring more frequent changes. Because the carbon filters are no longer used in the treatment process, the basket strainers are not necessary. MACTEC discussed the need for the strainers with the Oneida County Department of Water Quality & Pollution Control; the agency agreed that solids removal is not a condition of permit GW-040.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Current SM activities being conducted are in compliance with the requirements of the Site's Draft SMP. Based on a review of the data collected during this reporting period the remedy continues to be protective of public health and the environment and is in compliance with the ROD.

Sample analysis shows effluent from the groundwater treatment system met the requirements of the Oneida County Department of Water Quality & Pollution Control discharge permit at the time of sample collection. A site inspection conducted in November 2012 shows the treatment system is functioning properly and ICs are in place and effective.

Based on the findings presented in this PRR, the following recommendations are provided:

ICs/ECs Plan

- Conduct repairs to the fence to ensure site access is controlled.
- Remove the basket strainers from the groundwater treatment system.
- Reduce the inspection frequency to semi-annual once the basket strainers are removed.
- Continue to conduct inspections of the facility as required by the SMP to ensure the EC/ICs are in place and are effective.

Monitoring Plan

- Continue to conduct performance monitoring of the groundwater treatment system discharge as required by the POTW permit.
- Conduct LTM to evaluate the effectiveness of the groundwater treatment system as required by the SMP.

ROD Remedial Action Objectives:

Based on a review of available historical documentation, the following Remedial Action Objectives (RAOs) for the Site have been achieved:

- Reduce, control or eliminate the contamination present within the soils on site.
- Eliminate the threat to surface waters by eliminating any future contaminated surface water run-off from the contaminated soils on site, and any potential future discharge from site sewer lines to the Oneida County Sewer System.
- Prevent to the extent possible, migration of contaminants in the soils to groundwater.

Based on the findings presented herein, the SMP for the Site is effective in monitoring the status of the following RAOs:

- Eliminate the potential for direct human contact with the contaminated soils onsite.
- Mitigate the impacts of contaminated groundwater to the environment and to nearby residents.

Based on a review of available historical data the following RAOs have not been achieved:

- Provide for attainment of standards, criteria, and guidance values for groundwater quality at the limits of the area of concern.
- Remediate the Site and adjoining property to provide for future delisting and unrestricted use.

To meet these RAOs, the following is recommended:

- Collect soil samples onsite to evaluate if the current concentrations of site contaminants of concern meet the Soil Clean-up Objectives for unrestricted use.
- Evaluate contaminant of concern concentrations in groundwater relative to nearby receptors to determine if there is any exposure from groundwater or soil vapor intrusion.

4.0 REFERENCES

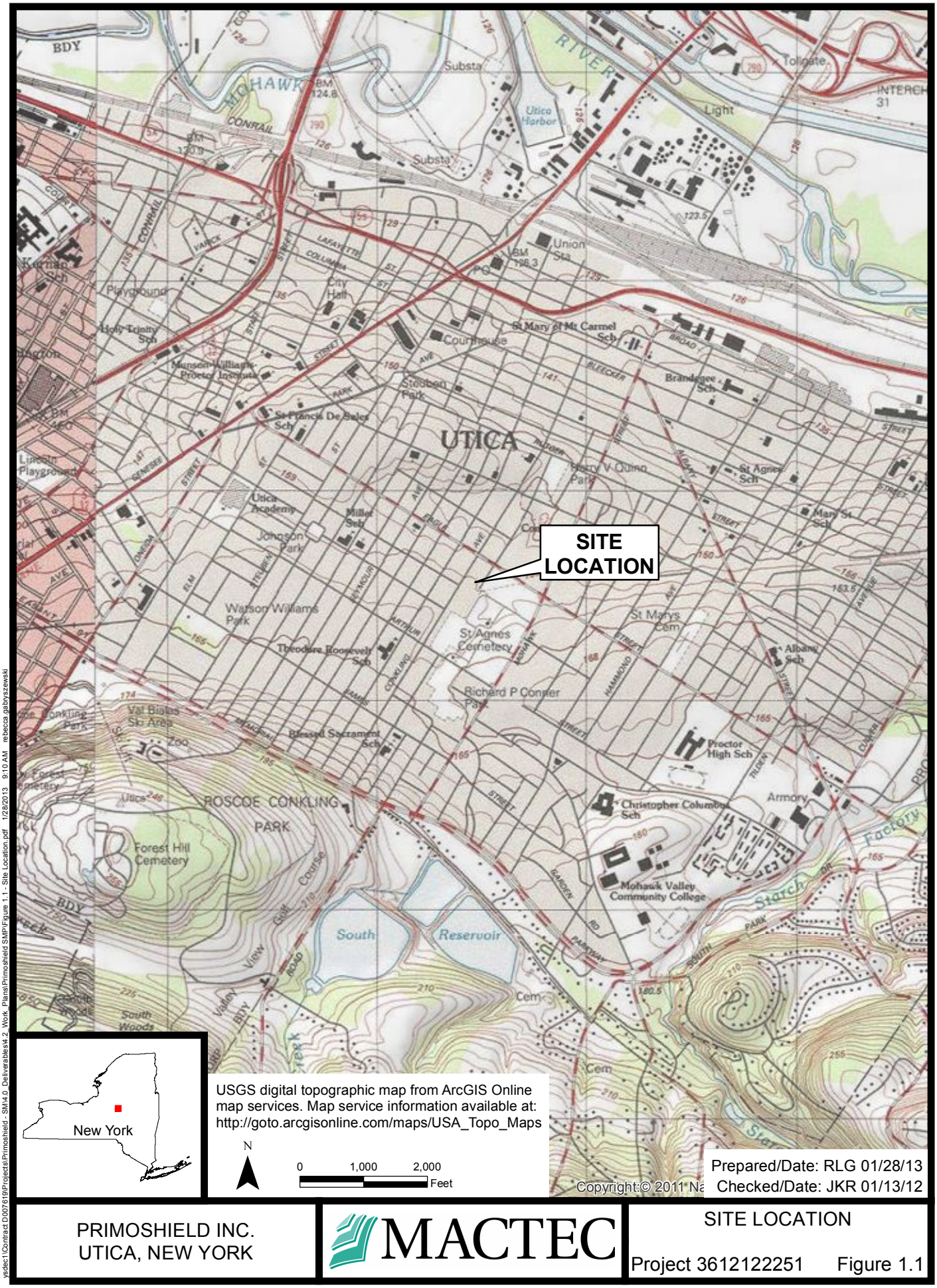
MACTEC Engineering and Consulting, P.C. (MACTEC), 2013. Site Inspection Report – January 2013.

MACTEC Engineering and Consulting, P.C. (MACTEC), 2012. Site Inspection and Discharge Monitoring Report – November 2012.

MACTEC Engineering and Consulting, P.C. (MACTEC), 2011. Trip Report – December 2011.

New York State Department of Environmental Conservation, 1995. Primoshield Plating Site, Site Number 633027, City of Utica Oneida County, New York, Record of Decision. March, 1995.

FIGURES



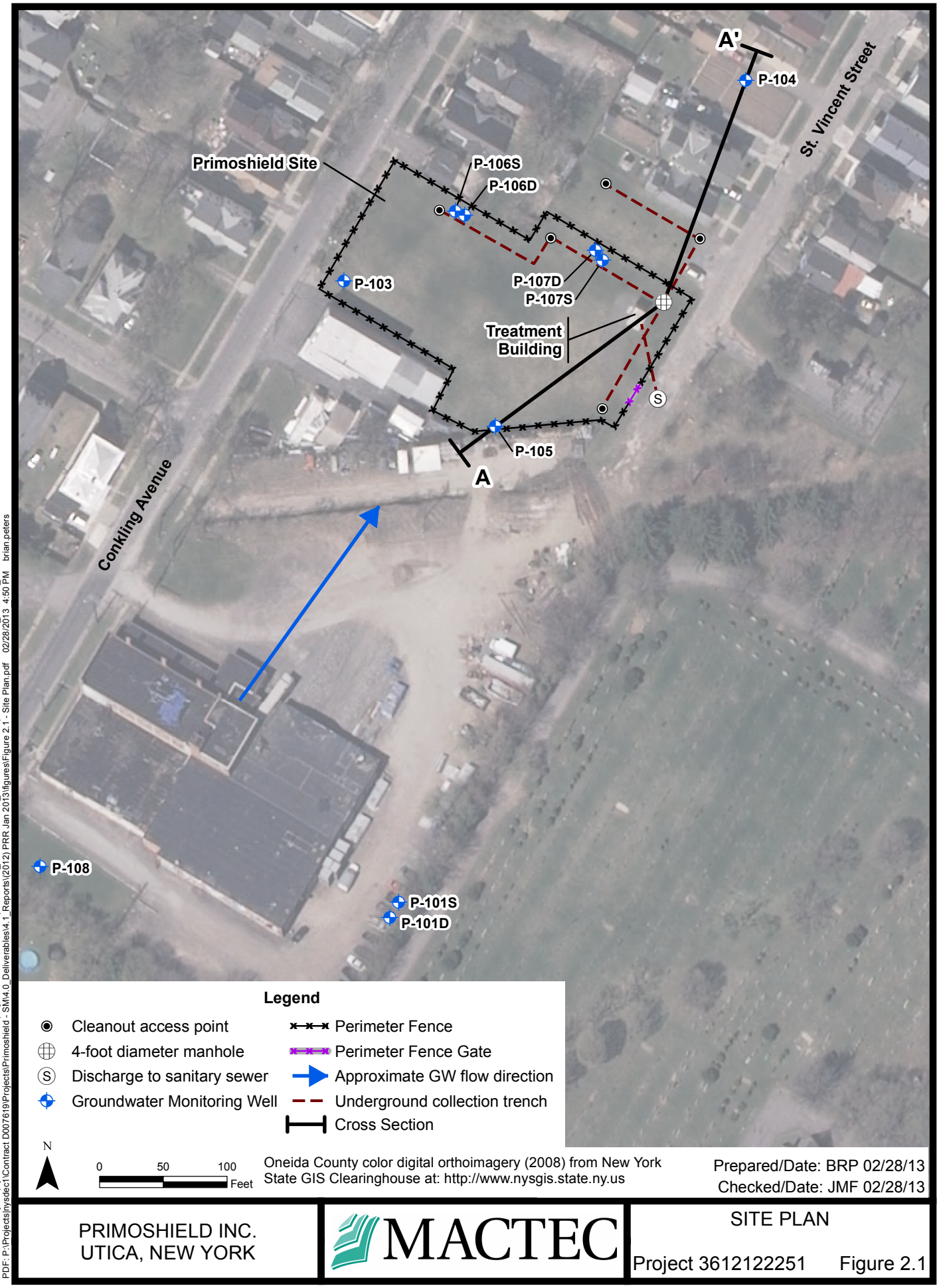
PRIMOSHIELD INC.
UTICA, NEW YORK

MACTEC

SITE LOCATION

Project 3612122251 Figure 1.1

Document: P:\Projects
ysdec1\Contracts D0004434 and D0044444\projects\Primoshield, Incorporated\4.0_Deliverables\4.5_Databases\GIS\MapDocuments\Primoshield_SiteLocation.mxd PDF: P:\Projects
ysdec1\Contract D007619\Projects\Primoshield - SM\4.0_Deliverables\4.2_Work_Plans\Primoshield SMP\Figure 1.1 - Site Location.pdf 1/28/2013 9:10 AM rebecca.gabryszewski



Oneida County color digital orthoimagery (2008) from New York State GIS Clearinghouse at: http://www.nysgis.state.ny.us

Prepared/Date: BRP 02/28/13
Checked/Date: JMF 02/28/13

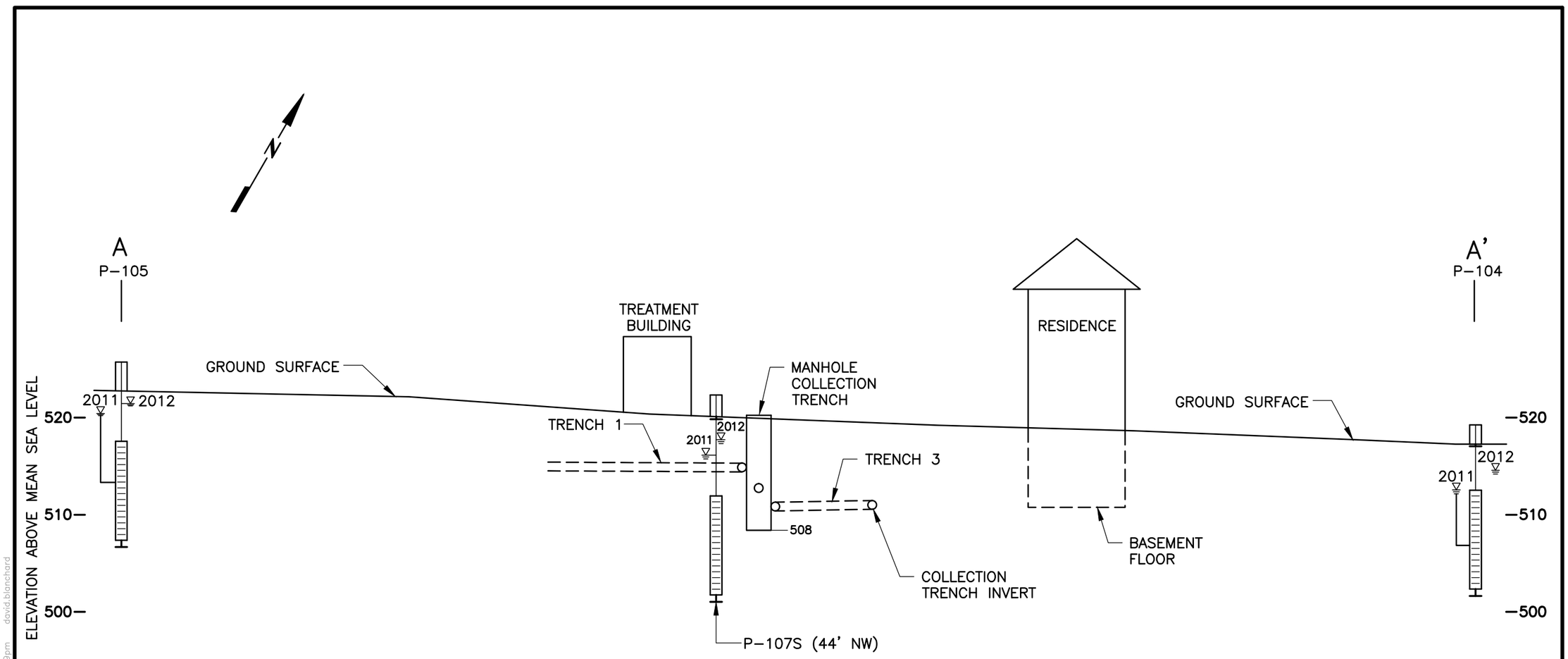
PRIMOSHIELD INC.
UTICA, NEW YORK

MACTEC

SITE PLAN

Project 3612122251 Figure 2.1

Document: P:\Projects\nysdec1\Contracts D004434 and D004444\projects\Primoshield_Incorporated\4.0_Deliverables\4.5_Databases\GIS\MapDocuments\Primoshield_SitePlan_8.5x11P.mxd
PDF: P:\Projects\nysdec1\Contract D007619\Projects\Primoshield - SM\4.0_Deliverables\4.1_Reports\(2012) PRR Jan 2013\figures\Figure 2.1 - Site Plan.pdf 02/28/2013 4:50 PM brian.peters



SECTION A–A'

LEGEND

– – – – INTERPRETED ELEVATION

NOT TO SCALE

▽ GROUNDWATER ELEVATION SHALLOW WELL

Prepared/Date: DAB 02/28/13
Checked/Date: JMF 02/28/13

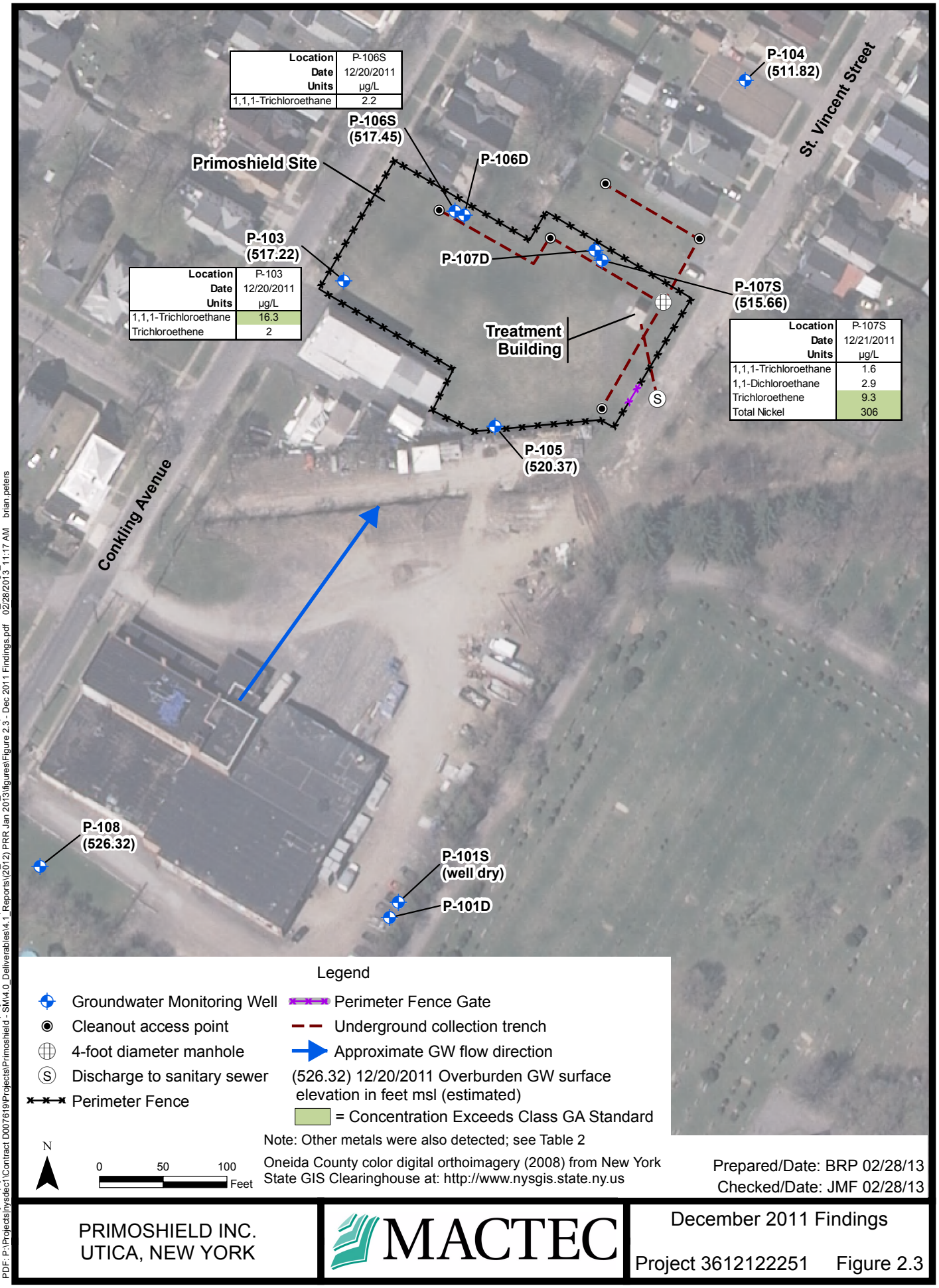
PRIMOSHIELD, INC.
Utica, NY

MACTEC

CROSS SECTION A-A'

Project 3612122251
Figure 2.2

T:\DAVE\Primoshield–Section A–A.dwg Thu, 28 Feb 2013 – 12:59pm david.blanchard



Note: Other metals were also detected; see Table 2

Oneida County color digital orthoimagery (2008) from New York State GIS Clearinghouse at: http://www.nysgis.state.ny.us

Prepared/Date: BRP 02/28/13
Checked/Date: JMF 02/28/13

PRIMOSHIELD INC.
UTICA, NEW YORK

MACTEC

December 2011 Findings

Project 3612122251 Figure 2.3

TABLES

Table 2.1: Site Management Plan Requirements
(Inspection and Long Term Monitoring)

Component	Action	Required Frequency
TREATMENT SYSTEM		
Treatment System	Conducted inspection in November 2012	Quarterly
Effluent	Collected grab sample in November 2012	Semi-annually in spring and summer
ENVIRONMENTAL MONITORING		
Groundwater Monitoring Program		
10 monitoring locations	Not conducted during the reporting period	Every 15 months[1]
Groundwater Monitoring System	Not conducted during the reporting period	Every 15 months

1 - 15 month monitoring commenced in December 2011. Next monitoring event is March 2013.

Table 2.2: Sampling and Analysis Plan

Performance Monitoring - Semi-Annual		
Sample Locations	**pH (150.1) Metals (200.7)* Cyanide (9010)**	**VOC (624)**
Effluent	X	X
Monitoring Wells - 15 Month**		
Sample Locations	**Metals (6010B)**	**VOC (8260B)**
P-103	X	X
P-104	X	X
P-105	X	X
P-106S	X	X
P-106D	X	X
P-107S	X	X
P-107D	X	X
P-108	X	X
P-101S	X	X
P-101D	X	X

Notes:
*- Cadmium, chromium, copper, lead, nickel and zinc.
An 'X' marked in a column indicates the analysis to be performed for that sample location.
VOCs = Volatile Organic Compounds

**-Samples collected in December 2011; next monitoring event is March 2013.

Table 2.3: Summary of Monitoring Well Measurements
Primoshield Site 1212 St Vincent Street, Utica, NY.

Well ID	Ground Elevation (feet msl)	Estimated Measurement Point Elevation (feet msl)	Stickup on Casing (feet)	TOC to TOR (feet)	12/20/2011 Depth to BOW (feet TOR)	12/20/2011 Water Level (feet TOR)	12/11/2012 Water Level (feet TOR)	12/20/2011 Water Elevation (feet msl)	12/11/2012 Water Elevation (feet msl)
P-101-S	525.0	Unknown	NM	NM	18.5	>18.45 (DRY)		NM	
P-101-D	525.0	527.2	2.6	0.39	86.9	28.18	28.48	499.03	498.73
P-103	521.8	524.3	2.8	0.34	18.1	7.04	6.74	517.22	517.52
P-104	516.1	518.0	2.2	0.33	17.4	6.15	4.25	511.82	513.72
P-105	522.7	525.1	2.9	0.48	18.2	4.75	3.85	520.37	521.27
P-106-S	521.1	524.8	4.0	0.27	18.5	7.38	5.81	517.45	519.02
P-106-D	520.8	524.3	3.9	0.39	77.6	28.81	29.11	495.50	495.20
P-107-S	519.4	522.1	2.9	0.21	17.2	6.43	4.89	515.66	517.20
P-107-D	519.3	522.0	3.2	0.50	77.7	29.28	29.57	492.72	492.43
P-108	530.0	532.2	2.5	0.27	18.7	5.91	5.96	526.32	526.27

Notes:
1) Ground Elevation from monitoring well logs included in Monitoring Plan for Primoshield Plating January 2004.
2) Measurement Point Elevation calculated using the ground elevation and field measurements of casing stickup and the distance from the top of riser to the top of casing; therefore, the water elevations are approximate
3) NM = Not measured

Created By: JMF 2/27/2013
Reviewed By: JPC 2/27/2013

Table 2.4: Summary of Compounds Detected - December 2011

		Location	P-101D		P-103		P-104		P-104		P-105	
		Sample ID	633027MW101DXX		633027MW103XX		633027MW104XD		633027MW104XX		633027MW105XX	
		Sample Date	12/21/2011		12/20/2011		12/20/2011		12/20/2011		12/21/2011	
		Qc Code	FS		FS		FD		FS		FS	
Parameter	**GA**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs - 8260B												
1,1,1-Trichloroethane	5	µg/L	1	U	**16.3**		1	U	1	U	1	U
1,1-Dichloroethane	5	µg/L	1	U	1	U	1	U	1	U	1	U
Trichloroethene	5	µg/L	1	U	2		1	U	1	U	1	U
Metals (Total) 6010C												
Aluminum	NS	µg/L	200	U	200	U	200	U	200	U	200	U
Barium	1000	µg/L	501		58.6		50	U	50	U	50.2	
Calcium	NS	µg/L	34800		90200		62300		59700		72500	
Iron	300	µg/L	**806**		100	U	193		156		100	U
Lead	25	µg/L	5	U	5	U	5	U	5	U	5	U
Magnesium	35000	µg/L	11100		33900		**36100**		34400		**72500**	
Manganese	300	µg/L	56.1		15	U	15	U	15	U	15.4	
Nickel	100	µg/L	40	U	40	U	40	U	40	U	40	U
Potassium	NS	µg/L	10300		5000	U	5000	U	5000	U	5000	U
Sodium	20000	µg/L	**195000**		13700		**20800**		**20000**		16400	
Vanadium	NS	µg/L	10	U	10	U	10	U	10	U	10	U
Zinc	2000	µg/L	20	U	20	U	20	U	20	U	20	U
Metals (Dissolved) 6010C												
Aluminum	NS	µg/L										
Barium	1000	µg/L										
Calcium	NS	µg/L										
Iron	300	µg/L										
Lead	25	µg/L										
Magnesium	35000	µg/L										
Manganese	300	µg/L										
Nickel	100	µg/L										
Potassium	NS	µg/L										
Sodium	20000	µg/L										
Vanadium	NS	µg/L										
Zinc	2000	µg/L										

Notes:

GA = NYS Class GA groundwater quality standard, Part 703.

Shaded/Bold = Results exceeds GA standard.
NS = No standard available.
U = not detected
ug/L = micrograms per liter

Table 2.4: Summary of Compounds Detected - December 2011

		Location	P-106S		P-106D		P-107S		P-107D		P-108	
		Sample ID	633027MW106SXX		633027MW106DXX		633027MW107SXX		633027MW107DXX		633027MW108XX	
		Sample Date	12/20/2011		12/21/2011		12/21/2011		12/21/2011		12/20/2011	
		Qc Code	FS		FS		FS		FS		FS	
Parameter	**GA**	**Units**	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs - 8260B												
1,1,1-Trichloroethane	5	µg/L	2.2		1	U	1.6		1	U	1	U
1,1-Dichloroethane	5	µg/L	1	U	1	U	2.9		1	U	1	U
Trichloroethene	5	µg/L	1	U	1	U	**9.3**		1	U	1	U
Metals (Total) 6010C												
Aluminum	NS	µg/L	200	U	334		200	U	5340		200	U
Barium	1000	µg/L	50	U	60.5		58.1		121		59.6	
Calcium	NS	µg/L	102000		20300		171000		17700		76700	
Iron	300	µg/L	100	U	**508**		**520**		**8980**		100	U
Lead	25	µg/L	5	U	5	U	5	U	5.7		5	U
Magnesium	35000	µg/L	24200		5000	U	28000		5000		**61500**	
Manganese	300	µg/L	15	U	15	U	249		150		62	
Nickel	100	µg/L	40	U	40	U	**306**		40	U	40	U
Potassium	NS	µg/L	5000	U	5000	U	5000	U	6100		5000	U
Sodium	20000	µg/L	8010		**44000**		6820		**114000**		12000	
Vanadium	NS	µg/L	10	U	10	U	10	U	10.1		10	U
Zinc	2000	µg/L	20	U	33.8		35.3		29.6		20	U
Metals (Dissolved) 6010C												
Aluminum	NS	µg/L							247			
Barium	1000	µg/L							82.8			
Calcium	NS	µg/L							6320			
Iron	300	µg/L							**380**			
Lead	25	µg/L							5	U		
Magnesium	35000	µg/L							5000	U		
Manganese	300	µg/L							15	U		
Nickel	100	µg/L							40	U		
Potassium	NS	µg/L							5000	U		
Sodium	20000	µg/L							**118000**			
Vanadium	NS	µg/L							10	U		
Zinc	2000	µg/L							20	U		

Notes:

GA = NYS Class GA groundwater quality standard, Part 703.

Shaded/Bold = Results exceeds GA standard.
NS = No standard available.
U = not detected
ug/L = micrograms per liter

APPENDIX A

SUMMARY OF COMPOUNDS DETECTED IN SITE MEDIA (2012)

Department of Environmental Conservation
Division of Environmental Remediation
Room 248

Trends of Groundwater Samples Monitored from Primoshield, Inc., Project # 633027

Prepared for:

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Prepared by:

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January 17, 2003

TABLE OF CONTENTS

the LTM Plan

Introduction:

Primoshield, Inc was a metal electroplating facility that was located in Oneida County, New York and was abandoned in 1985. Due to the contamination of the groundwater at the site, groundwater remediation, involving pump and treat systems, is in operation. The confirmed hazardous wastes that contaminated the site are:

Cyanide salts
Hydrofluoric Acid
Corrosive liquids
Solvents

To monitor the site's groundwater, monitoring wells were drilled. These wells are currently sampled every five quarters by the department. The samples are taken to various laboratories where they are tested for its contents. The laboratories then submit a report to the division.

Problem Statement:

Are the hazardous compounds of concern diminishing in the monitoring wells? Compile the laboratory reports results and create graphs of the compounds. Analyze the data and determine if the hazardous compounds of concern are diminishing, if they are rising or if there are other concerns that the site has to address.

Assumptions:

- The hazardous compounds of concern are: 1,1-Dichloroethane, 1,2-Dichloroethane, Trichloroethane, 1,1,2-Trichloroethane, Benzene, Toluene, Chromium, Copper, Nickel, Silver, and Zinc. Only these historically detected contaminants are included in this study.

- Any metals detected that are not listed as contaminants of concern at this site, but appear in the wells in excess of the New York State Groundwater Standards, are assumed to be naturally occurring at those levels on site.

- Assume that the detection limit of the instruments used for VOA is 10ug/L, as dictated by EPA Method 624 prescribed for this analysis. Note that New York State Groundwater Standards for all VOC contaminants tested by the aforementioned method are less than 10ug/L.

- Contaminents of concern that have been consistently below the New York State Part 703 Groundwater Standards are not plotted, as the remedial goals for these contaminents have been met, and thus the compounds no longer present a reason

for concern. Compounds that fit this description, will be listed in this section of the report. (As of 1/17/03, there are no compounds that have been consistenly below the New York State Part 703 Groundwater Standards.)

Procedure:

The laboratory reports were ordered in ascending dates sampled. Lab reports for the most recent round of sampling were obtained from the DER Lab, which tested for VOC concentrations, and Columbia Analytical Services, which tested for inorganic metals concentrations. Laboratory results from years prior to 2002 were previously tabulated by Aric Rider. A spreadsheet for each monitoring well was updated with the current information. The laboratory results were entered into the spreadsheet:

Date of sample
Sample number
Well number
Concentration of Volatile Organic Compounds
Concentration of Inorganic Compounds

Results from the labs were then compared to existing DEC Groundwater Standards and graphed to show any changes in concentration levels over time.

Results:

The spreadsheets show that there are some contaminents of concern that are present in the monitoring wells in levels that exceed the DEC standards. Contaminants of concern that were present in one or more of the monitoring wells in the last round of sampling (8/1/02) and are in excess of DEC Groundwater Standards are:
Zinc (concentration= 637 ug/L vs. GW Standard= 66 ug/L) (See Figure 3.),Chromium (concentration= 409 ug/L vs. GW Standard=100 ug/L) (See Figure 4.), Nickel (concentration= 429 ug/L vs. GW Standard= 200 ug/L) (See Figure 5.), and TCE (concentrations= 16 ug/L, 6.1 ug/L, and 17 ug/L vs. GW Standard= 5 ug/L) (See Figures 7, 11, and 13.).

Furthermore, not all contaminants of concern show a decreasing trend in concentration levels over time. 1, 1, 1Trichloroethane shows a slight increasing trend over time in MW 103 (See Figure 7.) ; TCE concentration has increased over time in MW 107S (See Figure 13.); chromium, zinc, and nickel levels are increasing in MW 101D (See Figures 3, 4, and 5.), and zinc shows an increasing trend over time in MW 106D (See Figure 3.).

Conclusions:

Due to the fact that the detection limit of the instruments used for VOA is greater than the New York State Groundwater Standards for all VOC contaminants tested, the results obtained for the 8/02 round of sampling are inconclusive. Although many of the contaminants tested for were undetected by labs, it is still possible for these contaminants to exceed DEC Groundwater Standards. It is recommended that sampling be continued and that any samples sent to the labs for VOC analysis be tested using EPA Method 524, which has a detection limit of 0.5 ug/L, instead of EPA Method 624, which has a detection limit of 10 ug/L, and has yielded inconclusive results for past rounds of sampling.

Furthermore, additional rounds of sampling and investigation are advised due to the fact that TCE and 1,1,1-Trichloroethane, nickel, zinc, and chromium are showing an increasing trend above the groundwater standards in some wells. (See figures 3, 4, 5, 7, 11, and 13.)

In addition to these recommendations, it is also advised that ground water contours be added to the monitoring well location maps so that ground water flow, and thus possible contaminent flow, can be tracked.

Recommendations:

It is recommended that different test methods be used for future sampling events to yield more accurate results. At this particular site, VOC's have been analyzed under DEC method 624, which has been proven inconclusive. DEC method 524 is another option for analyzing volatiles; under this method the detection limit is 0.5 ug/L, which should yield more detailed results than with method 624. Another option we recommend is A.S.P. 10/95 method 8260-B; this method has a large target compound list (TCL), and yields results for volatiles with the option of indicating the presence of TIC's. Other methods are available, however those mentioned above are recommended since other methods are newer and less familiar.

There are no test methods that simultaneously account for volatiles, PCB's, and metals. For metal detection, there are several methods available, depending on the level of deliverables (i.e., simple, or complex). The most current method (under Category B—i.e., complex—deliverables) is the ICP method that is able to test for 23 metals simultaneously; the preferred method is 200.7 CLP-*M (where "*M" stands for "modified").

Testing for PCB's is also dependent on the level of deliverables (categorized into the "A" and "B" levels, depending on complexity). Both methods undergo the same test; however, the "B" protocol is recommended since it denotes more detailed results; neither method, however, accounts for TIC's. The recommended test method is 8082 (under SW 846, a solid waste test method). Again, this method does not account for TIC's, however it is deemed the most accurate method available for PCB analysis.

Appendix A:
A1- Well Location Map
A2- Boring Logs

A1- Well Location Map

A2- Boring Logs

Appendix B:
Health and Safety Plan

"PRIMO"

Primoshield # 633027 MW 101D

		1000	1000	1000	1000	1000	1000
Sample :		**916602**	**916610**	**916606**	**916603**	**916607**	**916602**
Well :		**MW-101D**	**MW-101D**	**MW-101D**	**MW-101D**	**MW-101D**	**MW-101D**
Date :	**DEC GW Standar**	**4/30/99**	**7/30/99**	**10/30/99**	**2/7/00**	**11/30/00**	**8/1/02**
Aluminum	2000	27400	18200	61400	54800	28700	216000
Antimony	6	1.9	5	5	11.4	5.3	2.8
Arsenic	50	7.9	8.7	36.9	39.6	16.9	82.4
Barium	1000	461	460	1120	952	636	2170
Beryllium	NA	1	1.3	3.8	4.8	1.7	8.6
Cadmium	10	0.3	1	1	3	0.4	4.1
Calcium	NA	30400	36700	117000	97900	60300	245000
Chromium *	100	105	53.8	117	189	62	409
Cobalt	NA	23.5	17.1	56.7	60.5	28.1	131
Copper *	1000	48.7	59.2	172	145	71	344
Iron	600	419000	42900	140000	119000	61300	272000
Lead	50	16.7	16.2	51.4	53.2	38.2	132
Magnesium	NA	15300	17300	49000	41900	24900	103000
Manganese	600	698	607	1990	1920	948	4610
Mecury	1.4	0.13	0.2	0.2	1.5	0.2	0.28
Nickel *	200	88	58.7	170	221	88.3	429
Potassium	NA	27700	26700	36200	30000	43300	69400
Selenium	20	4.7	5	5	8.3	7.9	3.5
Silver *	50	1.4	1	1	4.5	0.6	0.94
Sodium	20000	67700	79300	106000	565000	174000	124000
Thallium	NA	3.8	7	7	11.3	4.8	3.1
Vanadium	NA	54	37.6	114	108	54	407
Zinc *	5000	91.1	194	341	356	180	637
Cyanide	200	NA	NA	NA	NA	NA	NA

Above DEC Part 703 Standards

Primoshield # 633027 MW 106D

Sample :		916601	916604	916603	916604	916603	916603
Well :		MW-106D	MW-106D	MW-106D	MW-106D	MW-106D	MW-106D
Date :	DEC GW Standar	4/30/99	7/30/99	10/30/99	2/7/00	11/30/00	8/1/02
Aluminum	2000	1890	1610	1020	385	1710	238
Antimony	6	2.8	1.9	5	5	7.8	5.3
Arsenic	50	1.8	2.3	6	6	7.8	5.2
Barium	1000	75.5	102	55.6	46.1	65.5	48.8
Beryllium	NA	0.19	0.1	1	1	1.5	0.1
Cadmium	10	0.27	0.3	1	1	1	0.4
Calcium	NA	80000	73900	15300	7720	38400	12100
Chromium *	100	4.4	5.1	23.3	3.8	19.9	9.8
Cobalt	NA	2.7	4.9	2	1	5.2	0.5
Copper *	1000	5.1	4.5	20.9	19.9	7.7	0.7
Iron	600	1620	424	2440	768	2780	301
Lead	50	2.4	2.9	6.3	2.5	5.2	1.6
Magnesium	NA	33000	361	2170	1290	1480	1520
Manganese	600	82	5	48.8	16.4	62	13
Mecury	1.4	0.02	0.1	0.2	0.2	0.32	0.2
Nickel *	200	18.4	5.5	18	2.6	15.5	11.4
Potassium	NA	1790	40300	5530	4530	14200	6340
Selenium	20	2	4.7	5	5	5	3.8
Silver *	50	0.94	1.4	1	1	2	0.6
Sodium	20000	40900	44600	71400	68400	51400	115000
Thallium	NA	1.6	3.7	7	7	7	4.8
Vanadium	NA	3.5	1.9	2	2	3.4	1.6
Zinc *	5000	6.9	30.3	84.5	67.6	167	65
Cyanide	200	NA	NA	NA	NA	NA	NA

Above DEC Part 703 Standards

Primoshield # 633027 MW 107D

Sample :		916603	916601	916601	916601	916601	916601
Well :		MW-107D	MW-107D	MW-107D	MW-107D	MW-107D	MW 107D
Date :	DEC GW Standar	4/30/99	7/30/99	10/30/99	2/7/00	11/30/00	8/1/02
Aluminum	2000	3950	447	606	123	2250	275
Antimony	6	1.9	5	5	4.3	5.3	2.8
Arsenic	50	3.1	6	6	6	3.7	1.8
Barium	1000	90.4	57	63	13.6	54.3	76.8
Beryllium	NA	0.1	1	1	1	0.18	0.19
Cadmium	10	1.1	1	1	1	0.4	0.27
Calcium	NA	21200	7140	7350	1310	80200	6430
Chromium *	100	88.5	3.8	2.1	2	3.7	0.51
Cobalt	NA	3.5	2	1	3	2.4	2.7
Copper *	1000	12.2	17.1	20.1	1.5	4.6	5.1
Iron	600	7780	1110	1440	181	2630	262
Lead	50	7.6	7.5	8.6	3	1.4	1.1
Magnesium	NA	5350	2040	2100	366	36200	1990
Manganese	600	216	21.7	26.3	4.6	175	5.5
Mecury	1.4	0.1	0.2	0.2	0.33	0.2	0.01
Nickel *	200	62.2	2.8	2.6	2	19.4	2.1
Potassium	NA	5390	3320	3340	868	2740	3530
Selenium	20	4.7	5	5	5	3.8	2
Silver *	50	1.4	1	1	2	0.6	0.94
Sodium	20000	83700	72000	74300	22300	39700	120000
Thallium	NA	3.5	7	7	7	4.8	1.6
Vanadium	NA	9.3	2	2	1	2.5	1.9
Zinc *	5000	156	25.8	30	7.5	35	6.9
Cyanide	200	NA	NA	NA	NA	NA	NA

Above DEC Part 703 Standards

Primoshield # 633027 MW 107S

Sample :		916604	916602	916605	916602	916602	916602
Well :		MW-107S	MW-107S	MW-107S	MW-107S	MW-107S	MW-107S
Date :	DEC GW Standar	4/30/99	7/30/99	10/30/99	2/7/00	11/30/00	8/1/02
Aluminum	2000	197	149	NA	256	124	1270
Antimony	6	1.9	5	NA	6.8	5.3	2.8
Arsenic	50	2.3	6	NA	6	3.7	1.9
Barium	1000	32.8	37.6	NA	25.3	38.2	46.3
Beryllium	NA	0.1	1	NA	1.5	0.1	0.19
Cadmium	10	0.44	1	NA	1	0.4	2.2
Calcium	NA	133000	122000	NA	101000	119000	126000
Chromium *	100	2.5	1	NA	2	0.5	3.6
Cobalt	NA	3.6	2.1	NA	3	1.5	2.7
Copper *	1000	7.1	24	NA	6.5	2.7	5.1
Iron	600	774	304	NA	376	35.1	1530
Lead	50	2.9	4.7	NA	4.8	1.4	2.1
Magnesium	NA	27000	23600	NA	20500	23200	21000
Manganese	600	2370	1810	NA	1070	542	1440
Mecury	1.4	0.1	0.2	NA	0.47	0.2	0.01
Nickel *	200	100	85.2	NA	71.9	64.5	349
Potassium	NA	4410	4760	NA	3790	4490	3790
Selenium	20	4.7	5	NA	7.2	3.8	2
Silver *	50	1.4	1.1	NA	2	0.6	0.94
Sodium	20000	59100	44900	NA	34300	35700	20800
Thallium	NA	3.5	7	NA	7	6.1	1.6
Vanadium	NA	0.8	2	NA	1.2	0.6	2.5
Zinc *	5000	3.6	18.5	NA	20	26.8	11.9
Cyanide	200	NA	NA	NA	NA	NA	NA

Above DEC Part 703 Standards

Primoshield # 633027 MW 106

Sample :		916605	916603	916602	916605	916604	916604
Well :		MW-106S	MW-106S	MW-106S	MW-106S	MW-106S	MW-106S
Date :	DEC GW Standar	4/30/99	7/30/99	10/30/99	2/7/00	11/30/00	8/1/02
Aluminum	2000	193	530	347	212	192	876
Antimony	6	1.9	5	5	5.7	5.3	2.8
Arsenic	50	2.3	6	6	6	3.7	1.8
Barium	1000	40.7	46.2	39.1	38.1	43	50.7
Beryllium	NA	0.1	1	1	1.4	0.1	0.19
Cadmium	10	0.3	1	1	1	0.4	0.67
Calcium	NA	86400	84100	77100	81200	79800	83200
Chromium *	100	3.3	2	1.9	2	1.5	4.1
Cobalt	NA	1.7	2	1.2	3	1.1	2.7
Copper *	1000	3.5	20.5	22.1	3.6	0.7	5.1
Iron	600	244	1090	691	197	326	956
Lead	50	2.9	3.7	10.5	5.7	1.4	1.7
Magnesium	NA	24000	31100	22100	25100	20500	20300
Manganese	600	173	251	108	29.7	106	253
Mecury	1.4	0.1	0.2	0.2	0.18	0.2	0.01
Nickel *	200	26.8	37.4	18.7	23	10.4	9.5
Potassium	NA	2290	3460	2370	2360	1870	1930
Selenium	20	4.7	5	5	5	3.8	
Silver *	50	1.4	1	1	2	0.6	0.94
Sodium	20000	31000	36200	25900	27300	15300	12400
Thallium	NA	3.5	7	7	7	4.8	1.6
Vanadium	NA	0.8	2	2	1	0.6	1.9
Zinc *	5000	1.1	16.2	30	19.2	24.6	6.9
Cyanide	200		NA	NA	NA	NA	NA

Above DEC Part 703 Standards

Primoshield # 633027 MW 103

Sample :		916606	916605	916604	916606	916605	916606
Well :		MW-103	MW-103	MW-103	MW-103	MW-103	MW-103
Date :	DEC GW Standar	4/30/99	7/30/99	10/30/99	2/7/00	11/30/00	8/1/02
Aluminum	2000	1250	1740	6370	394	806	1890
Antimony	6	1.9	5	5.4	5.4	5.3	2.8
Arsenic	50	2.3	6	7.6	6	3.7	1.8
Barium	1000	44.9	44.8	86.9	35.7	68.3	75.5
Beryllium	NA	0.1	1	1	1.3	0.1	0.19
Cadmium	10	0.3	1	1	1	0.4	0.27
Calcium	NA	92900	86100	103000	75100	9460	80000
Chromium *	100	3.3	2.6	9.9	2	3.7	4.4
Cobalt	NA	1.1	2	9.4	3	1	2.7
Copper *	1000	5	28.1	55.7	3.2	0.7	5.1
Iron	600	1770	3930	14900	577	852	1620
Lead	50	2.9	3.5	8.4	4.1	1.4	2.4
Magnesium	NA	49600	48300	46200	35800	2400	33000
Manganese	600	93.1	238	690	16.9	36.5	82
Mecury	1.4	0.1	0.2	0.2	2	0.2	0.02
Nickel *	200	23.7	19.3	28.8	14.6	3.1	18.4
Potassium	NA	2860	3780	3980	1480	4940	1790
Selenium	20	4.7	5	5	8.7	3.8	2
Silver *	50	1.4	1	11	2	0.6	0.94
Sodium	20000	54100	47200	46500	40200	122000	40900
Thallium	NA	3.5	7	7	7	4.8	1.6
Vanadium	NA	2.2	2	9	1	2.6	3.5
Zinc *	5000	5.3	24.3	59.1	17.8	30	6.9
Cyanide	200	NA	NA	NA	NA	NA	NA

Above DEC Part 703 Standards

Primoshield # 633027 MW 105

Sample :		916607	916606	NA	916608	916606	916607
Well :		MW-105	MW-105	MW-105	MW-105	MW-105	MW-105
Date :	DEC GW Standar	4/30/99	7/30/99	10/30/99	2/7/00	11/30/00	8/1/02
Aluminum	2000	604	327	NA	295	1070	2860
Antimony	6	1.9	5	NA	5.7	5.3	2.8
Arsenic	50	9.7	11.2	NA	11.9	6.8	14.6
Barium	1000	39.8	41.5	NA	35.8	35.9	55.1
Beryllium	NA	0.1	1	NA	1.4	0.14	0.19
Cadmium	10	0.3	1	NA	1	0.4	0.27
Calcium	NA	75300	76000	NA	66600	54500	73200
Chromium *	100	3.6	1	NA	2	2.1	9.5
Cobalt	NA	0.82	2	NA	3	1.9	2.9
Copper *	1000	3.7	18.7	NA	3	3.5	5.1
Iron	600	1100	935	NA	540	1510	3720
Lead	50	2.9	4.9	NA	3.5	1.4	2.8
Magnesium	NA	84900	84200	NA	79100	55800	82500
Manganese	600	273	300	NA	133	350	512
Mecury	1.4	0.1	0.2	NA	0.28	0.2	0.01
Nickel *	200	2.4	2	NA	2	3	4.3
Potassium	NA	4290	4360	NA	4030	3290	5000
Selenium	20	4.7	5	NA	6	3.8	2
Silver *	50	1.4	1.4	NA	2	0.6	0.94
Sodium	20000	19200	21000	NA	18100	13100	20900
Thallium	NA	3.5	7	NA	7	4.8	436
Vanadium	NA	0.8	2	NA	1.3	0.74	5.8
Zinc *	66	2.7	13.3	NA	19.2	24.1	8.4
Cyanide	200	NA	NA	NA	NA	NA	NA

Above DEC Part 703 Standards

Primoshield # 633027 MW 104

Sample		916608	916611	916607	916607	916608	N/A
Well :		MW-104	MW-104	MW-104	MW-104	MW-104	MW 104
Date :	DEC GW Standar	4/30/99	7/30/99	10/30/99	2/7/00	11/30/00	8/1/02
Aluminum	2000	218	98.2	222	328	1550	NA
Antimony	6	1.9	5	5	4.8	5.3	NA
Arsenic	50	2.3	6	6	6	3.7	NA
Barium	1000	51.2	62.4	69.2	52.2	66	NA
Beryllium	NA	0.1	1	1	1.5	0.12	NA
Cadmium	10	0.3	1	1	1	0.4	NA
Calcium	NA	63700	69200	73100	62200	69400	NA
Chromium *	100	1.8	1	1	2	6.1	NA
Cobalt	NA	0.7	2	1	3	2.3	NA
Copper *	1000	3.3	20.1	37.3	3.6	1.8	NA
Iron	600	334	120	100	480	1880	NA
Lead	50	2.9	3	4.4	7	1.4	NA
Magnesium	NA	41900	43600	48600	43000	45900	NA
Manganese	600	7	3.6	3.1	14.3	97	NA
Mecury	1.4	0.1	0.2	0.2	0.78	0.2	NA
Nickel *	200	3.3	2.2	2.6	4.8	7.9	NA
Potassium	NA	1100	1310	1340	1270	1770	NA
Selenium	20	4.7	5	5	10.7	3.8	NA
Silver *	50	1.4	1	1	2	0.6	NA
Sodium	20000	16700	20000	22300	16800	18500	NA
Thallium	NA	3.5	7	7	7	4.8	NA
Vanadium	NA	0.8	2	2	1	1.1	NA
Zinc *	5000	4.9	12.6	18.3	17.8	25.5	NA
Cyanide	200	NA	NA	NA	NA	NA	NA

Above DEC Part 703 Standards

"Sheet 1"

Primoshield # 633027 VOC Sampling Results

Sample :		916602	916610	916606
Well :		MW-101D	MW-101D	MW-101D
Date :		4/30/99	7/30/99	10/30/99
Volatile Organic Compounds	DEC GW Standards	Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)
Chloromethane	NA	10	10	10
Bromomethane	5	10	10	10
Vinyl Chloride	2	10	10	10
Chloroethane	5	10	10	10
Methylene Chloride	5	5	1.8	10
Acetone	NA	5	10	10
Carbon Disulfide	NA	10	10	10
1,1-Dichloroethene	5	10	10	10
1,1-Dichloroethane *	5	10	10	10
1,2-Dichloroethene (total)	5	10	NA	NA
Chloroform	7	10	10	10
1,2-Dichloroethane *	0.6	10	10	10
2-Butanone	NA	10	10	10
1,1,1-Trichloroethane *	5	10	10	10
Carbon Tetrachloride	NA	10	10	10
Bromodichloromethane	NA	10	10	10
1,2-Dichloropropane	1	10	10	10
Trichloroethene *	5	10	10	10
Dibromochloromethane	5	10	10	10
1,1,2-Trichloroethane *	1	10	10	10
Benzene *	1	10	10	10
Trans-1,3-Dichloropropene	0.4	10	10	10
Bromoform	NA	10	10	10
4-Methyl-2-pentanone	NA	10	10	10
2-Hexanone	NA	10	10	10
Tetrachloroethene	5	10	10	10
1,1,2,2-Tetrachloroethane	5	10	10	10
Toluene *	5	10	10	10
Chlorobenzene	5	10	10	10
Ethylbenzene	5	10	10	10
Styrene	5	10	10	10
Xylene (total)	5	10	NA	NA
Trans-1,3-Dichloroethene		NA	10	10
cis-1,2-Dichloroethene	5	NA	10	10
cis-1,3-Dichloropropene	0.4	NA	10	10
m + p-Xylenes	5	NA	10	10
o-xylene	5	NA	10	10

* Contaminant

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Primoshield # 633027 VOC Sampling Results

Sample :		916601	916604	916603
Well :		MW-106D	MW-106D	MW-106D
Date :		4/30/99	7/30/99	10/30/99
Volatile Organic Compounds	DEC GW Standards	Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)

Chloromethane	NA	10	10	NA
Bromomethane	5	10	10	NA
Vinyl Chloride	2	10	10	NA
Chloroethane	5	10	10	NA
Methylene Chloride	5	9	1.9	NA
Acetone	NA	10	10	NA
Carbon Disulfide	NA	10	10	NA
1,1-Dichloroethene	5	10	10	NA
1,1-Dichloroethane *	5	10	10	NA
1,2-Dichloroethene (total)	5	10	10	NA
Chloroform	7	10	10	NA
1,2-Dichloroethane *	0.6	10	10	NA
2-Butanone	NA	10	10	NA
1,1,1-Trichloroethane *	5	10	10	NA
Carbon Tetrachloride	NA	10	10	NA
Bromodichloromethane	NA	10	10	NA
1,2-Dichloropropane	1	10	10	NA
Trichloroethene *	5	10	10	NA
Dibromochloromethane	5	10	10	NA
1,1,2-Trichloroethane *	1	10	10	NA
Benzene *	1	10	10	NA
Trans-1,3-Dichloropropene	0.4	10	10	NA
Bromoform	NA	10	10	NA
4-Methyl-2-pentanone	NA	10	10	NA
2-Hexanone	NA	10	10	NA
Tetrachloroethene	5	10	10	NA
1,1,2,2-Tetrachloroethane	5	10	10	NA
Toluene *	5	8	na	NA
Chlorobenzene	5	10	10	NA
Ethylbenzene	5	10	10	NA
Styrene	5	10	10	NA
Xylene (total)	5	10	NA	NA
Trans-1,3-Dichloroethene		NA	10	NA
cis-1,2-Dichloroethene	5	NA	10	NA
cis-1,3-Dichloropropene	0.4	NA	10	NA
m + p-Xylenes	5	NA	10	NA
o-xylene	5	NA	10	NA

* Contaminant

Primoshield # 633027 VOC Sampling Results

Sample :		916603	916601	916601
Well :		MW-107D	MW-107D	MW-107D
Date :		4/30/99	7/30/99	10/30/99
Volatile Organic Compounds	DEC GW Standards	Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)
Chloromethane	NA	10	10	10
Bromomethane	5	10	10	10
Vinyl Chloride	2	10	10	10
Chloroethane	5	10	10	10
Methylene Chloride	5	5	1.6	10

Acetone	NA	10	10	10
Carbon Disulfide	NA	10	10	10
1,1-Dichloroethene	5	10	10	10
1,1-Dichloroethane *	5	10	10	10
1,2-Dichloroethene (total)	5	10	NA	NA
Chloroform	7	10	10	10
1,2-Dichloroethane *	0.6	10	10	10
2-Butanone	NA	10	10	10
1,1,1-Trichloroethane *	5	10	10	10
Carbon Tetrachloride	NA	10	10	10
Bromodichloromethane	NA	10	10	10
1,2-Dichloropropane	1	10	10	10
Trichloroethene *	5	10	10	10
Dibromochloromethane	5	10	10	10
1,1,2-Trichloroethane *	1	10	10	10
Benzene *	1	10	10	10
Trans-1,3-Dichloropropene	0.4	10	10	10
Bromoform	NA	10	10	10
4-Methyl-2-pentanone	NA	10	10	10
2-Hexanone	NA	10	10	10
Tetrachloroethene	5	10	10	10
1,1,2,2-Tetrachloroethane	5	10	10	10
Toluene *	5	10	10	10
Chlorobenzene	5	10	10	10
Ethylbenzene	5	10	10	10
Styrene	5	10	10	10
Xylene (total)	5	10	NA	NA
Trans-1,3-Dichloroethene		NA	10	10
cis-1,2-Dichloroethene	5	NA	10	10
cis-1,3-Dichloropropene	0.4	NA	10	10
m + p-Xylenes	5	NA	10	10
o-xylene	5	NA	10	10

* Contaminant

Primoshield # 633027 VOC Sampling Results

Sample :		916604	916602	916605
Well :		MW-107S	MW-107S	MW-107S
Date :		4/30/99	7/30/99	10/30/99
Volatile Organic Compounds	DEC GW Standards	Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)
Chloromethane	NA	10	10	10
Bromomethane	5	10	10	10
Vinyl Chloride	2	10	10	10
Chloroethane	5	10	10	10
Methylene Chloride	5	5	1.5	10
Acetone	NA	6	10	10
Carbon Disulfide	NA	10	10	10
1,1-Dichloroethene	5	10	10	10
1,1-Dichloroethane *	5	8	6.8	7.9
1,2-Dichloroethene (total)	5	10	NA	NA
Chloroform	7	10	10	10

1,2-Dichloroethane *	0.6	10	10	10
2-Butanone	NA	10	10	10
1,1,1-Trichloroethane *	5	3	2.4	4.5
Carbon Tetrachloride	NA	10	10	10
Bromodichloromethane	NA	10	10	10
1,2-Dichloropropane	1	10	10	10
Trichloroethene *	5	3	5.3	14
Dibromochloromethane	5	10	10	10
1,1,2-Trichloroethane *	1	10	10	10
Benzene *	1	10	10	10
Trans-1,3-Dichloropropene	0.4	10	10	10
Bromoform	NA	10	10	10
4-Methyl-2-pentanone	NA	10	10	10
2-Hexanone	NA	10	10	10
Tetrachloroethene	5	10	10	10
1,1,2,2-Tetrachloroethane	5	10	10	10
Toluene *	5	10	10	10
Chlorobenzene	5	10	10	10
Ethylbenzene	5	10	10	10
Styrene	5	10	10	10
Xylene (total)	5	10	NA	NA
Trans-1,3-Dichloroethene		NA	10	10
cis-1,2-Dichloroethene	5	NA	10	10
cis-1,3-Dichloropropene	0.4	NA	10	10
m + p-Xylenes	5	NA	10	10
o-xylene	5	NA	10	10

* Contaminant

Primoshield # 633027 VOC Sampling Results

Sample :		916605	916603	916602
Well :		MW-106S	MW-106S	MW-106S
Date :		4/30/99	7/30/99	10/30/99
Volatile Organic Compounds	DEC GW Standards	Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)
Chloromethane	NA	10	10	10
Bromomethane	5	10	10	10
Vinyl Chloride	2	10	10	10
Chloroethane	5	10	10	10
Methylene Chloride	5	4	2	10
Acetone	NA	10	10	10
Carbon Disulfide	NA	10	10	10
1,1-Dichloroethene	5	10	10	10
1,1-Dichloroethane *	5	10	10	10
1,2-Dichloroethene (total)	5	10	NA	NA
Chloroform	7	10	10	10
1,2-Dichloroethane *	0.6	10	10	10
2-Butanone	NA	10	10	10
1,1,1-Trichloroethane *	5	9	9.3	7.4
Carbon Tetrachloride	NA	10	10	10
Bromodichloromethane	NA	10	10	10
1,2-Dichloropropane	1	10	10	10

Trichloroethene *	5	7	7.1	6.5
Dibromochloromethane	5	10	10	10
1,1,2-Trichloroethane *	1	NA	NA	NA
Benzene *	1	10	10	10
Trans-1,3-Dichloropropene	0.4	10	10	10
Bromoform	NA	10	10	10
4-Methyl-2-pentanone	NA	10	10	10
2-Hexanone	NA	10	10	10
Tetrachloroethene	5	10	10	10
1,1,2,2-Tetrachloroethane	5	10	10	10
Toluene *	5	10	10	10
Chlorobenzene	5	10	10	10
Ethylbenzene	5	10	10	10
Styrene	5	10	10	10
Xylene (total)	5	10	NA	NA
Trans-1,3-Dichloroethene		NA	10	10
cis-1,2-Dichloroethene	5	NA	10	10
cis-1,3-Dichloropropene	0.4	NA	10	10
m + p-Xylenes	5	NA	10	10
o-xylene	5	NA	10	10

* Contaminant

Primoshield # 633027 VOC Sampling Results

Sample :		916606	916605	916604
Well :		MW-103	MW-103	MW-103
Date :		36280	36371	36463
Volatile Organic Compounds	DEC GW Standards	Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)
Chloromethane	NA	10	10	10
Bromomethane	5	10	10	10
Vinyl Chloride	2	10	10	10
Chloroethane	5	10	10	10
Methylene Chloride	5	5	10	10
Acetone	NA	5	10	10
Carbon Disulfide	NA	10	10	10
1,1-Dichloroethene	5	10	10	10
1,1-Dichloroethane *	5	2	10	3.1
1,2-Dichloroethene (total)	5	10	NA	NA
Chloroform	7	10	10	10
1,2-Dichloroethane *	0.6	5	10	10
2-Butanone	NA	10	10	10
1,1,1-Trichloroethane *	5	19	4.4	22
Carbon Tetrachloride	NA	10	10	10
Bromodichloromethane	NA	10	10	10
1,2-Dichloropropane	1	10	10	10
Trichloroethene *	5	10	10	10
Dibromochloromethane	5	10	10	10
1,1,2-Trichloroethane *	1	10	10	10
Benzene *	1	27	10	4.33
Trans-1,3-Dichloropropene	0.4	10	10	10
Bromoform	NA	10	10	10

4-Methyl-2-pentanone	NA	10	10	10
2-Hexanone	NA	10	10	10
Tetrachloroethene	5	10	10	10
1,1,2,2-Tetrachloroethane	5	10	10	10
Toluene *	5	10	10	10
Chlorobenzene	5	10	10	10
Ethylbenzene	5	10	10	10
Styrene	5	10	10	10
Xylene (total)	5	10	NA	NA
Trans-1,3-Dichloroethene		NA	10	10
cis-1,2-Dichloroethene	5	NA	10	10
cis-1,3-Dichloropropene	0.4	NA	10	10
m + p-Xylenes	5	NA	10	10
o-xylene	5	NA	10	10

* Contaminant

Primoshield # 633027 VOC Sampling Results

Sample :		916607	916606	NA
Well :		MW-105	MW-105	MW-105
Date :		4/30/99	7/30/99	10/30/99
Volatile Organic Compounds	DEC GW Standards	Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)
Chloromethane	NA	10	10	NA
Bromomethane	5	10	10	NA
Vinyl Chloride	2	10	10	NA
Chloroethane	5	10	10	NA
Methylene Chloride	5	5	1.6	NA
Acetone	NA	6	10	NA
Carbon Disulfide	NA	10	10	NA
1,1-Dichloroethene	5	10	10	NA
1,1-Dichloroethane *	5	10	10	NA
1,2-Dichloroethene (total)	5	10	NA	NA
Chloroform	7	10	10	NA
1,2-Dichloroethane *	0.6	10	10	NA
2-Butanone	NA	10	10	NA
1,1,1-Trichloroethane *	5	10	10	NA
Carbon Tetrachloride	NA	10	10	NA
Bromodichloromethane	NA	10	10	NA
1,2-Dichloropropane	1	10	10	NA
Trichloroethene *	5	10	10	NA
Dibromochloromethane	5	10	10	NA
1,1,2-Trichloroethane *	1	10	10	NA
Benzene *	1	10	10	NA
Trans-1,3-Dichloropropene	0.4	10	10	NA
Bromoform	NA	10	10	NA
4-Methyl-2-pentanone	NA	10	10	NA
2-Hexanone	NA	10	10	NA
Tetrachloroethene	5	10	10	NA
1,1,2,2-Tetrachloroethane	5	10	10	NA
Toluene *	5	10	10	NA
Chlorobenzene	5	10	10	NA

Ethylbenzene	5	10	10	NA
Styrene	5	10	10	NA
Xylene (total)	5	10	NA	NA
Trans-1,3-Dichloroethene		NA	10	NA
cis-1,2-Dichloroethene	5	NA	10	NA
cis-1,3-Dichloropropene	0.4	NA	10	NA
m + p-Xylenes	5	NA	10	NA
o-xylene	5	NA	10	NA

* Contaminant

1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

916603	916607	916602
MW-101D	MW-101D	MW-101D
2/7/00	11/30/00	8/1/02
Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
NA	NA	NA
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	-0
10	10	-0
10	10	-0
10	10	-0
10	10	-0
10	10	-0
10	10	-0
10	10	-0
10	10	-0
10	10	-0
10	10	-0
10	10	-0
10	10	-0
10	10	-0
NA	NA	-0
10	10	-0
10	10	-0
10	10	-10
10	10	-10
10	10	-10

of Concern

1	1	1	
5	5	5	5

916604	916603	916603
MW-106D	MW-106D	MW-106D
2/7/00	11/30/00	8/9/02
Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)

10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
NA	NA	NA
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
1.7	NA	NA
10	10	10
10	10	10
10	10	10
NA	NA	NA
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10

of Concern

916601	916601	916601
MW-107D	MW-107D	MW-107D
2/7/00	11/30/00	8/9/02
Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10

10	10	10
10	10	10
10	10	10
10	10	10
NA	NA	NA
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
NA	NA	NA
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10

of Concern

916602	916602	916602
MW-107S	MW-107S	MW-107S
2/7/00	11/30/00	8/9/02
Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
5.4	9.3	6
NA	NA	NA
10	10	10

10	10	10
10	10	10
2.6	10	10
10	10	10
10	10	10
10	10	10
4.9	8.7	17
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
NA	NA	NA
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10

of Concern

916605	916604	916604
MW-106S	MW-106S	MW-106S
2/7/00	11/30/00	8/9/02
Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
NA	NA	NA
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10

10	6.1	10
10	10	10
5.3	NA	NA
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
3.6	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
NA	NA	NA
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10

of Concern

916606	916605	916606
MW-103	MW-103	MW-103
36563	36860	37469
Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
NA	NA	NA
10	10	10
10	10	10
10	10	10
15	21	16
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
3.4	10	4
10	10	10
10	10	10

10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
NA	NA	NA
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10

of Concern

916608	916606	916607
MW-105	MW-105	MW-105
2/7/00	11/30/00	8/1/02
Concentration (UG/L)	Concentration (UG/L)	Concentration (UG/L)
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
NA	NA	NA
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10

10	10	10
10	10	10
NA	NA	NA
10	10	10
10	10	10
10	10	10
10	10	10
10	10	10

of Concern

"Sheet 5"

Primoshield Plating - Quarterly Groundwater Monitoring Trends

Project # - 633027 MW 101D

KEY: U = Undetected B = Below Detection Limit NA = Not Available * - Compuund of Concern

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date:
Volatile Organic Compounds	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)
Chloromethane	10	U	10	U	10	U	10	U	10	U	NA
Bromomethane	10	U	10	U	10	U	10	U	10	U	NA
Vinyl Chloride	10	U	10	U	10	U	10	U	10	U	NA
Chloroethane	10	U	10	U	10	U	10	U	10	U	NA
Methylene Chloride	5	JB	1.8	U	10	U	10	U	10	U	NA
Acetone	5	JB	10	U	10	U	10	U	10	U	NA
Carbon Disulfide	10	U	10	U	10	U	10	U	10	U	NA
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U	NA
1,1-Dichloroethane *	10	U	10	U	10	U	10	U	10	U	NA
1,2-Dichloroethene (total)	10	U	NA		NA		NA		NA		NA
Chloroform	10	U	10	U	10	U	10	U	10	U	NA
1,2-Dichloroethane *	10	U	10	U	10	U	10	U	10	U	NA
2-Butanone	10	U	10	U	10	U	10	U	10	U	NA
1,1,1-Trichloroethane *	10	U	10	U	10	U	10	U	10	U	NA
Carbon Tetrachloride	10	U	10	U	10	U	10	U	10	U	NA
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U	NA
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	NA
Trichloroethene *	10	U	10	U	10	U	10	U	10	U	NA
Dibromochloromethane	10	U	10	U	10	U	10	U	10	U	NA
1,1,2-Trichloroethane *	10	U	10	U	10	U	10	U	10	U	NA
Benzene *	10	U	10	U	10	U	10	U	10	U	NA
Trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	NA
Bromoform	10	U	10	U	10	U	10	U	10	U	NA
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U	NA
2-Hexanone	10	U	10	U	10	U	10	U	10	U	NA
Tetrachloroethene	10	U	10	U	10	U	10	U	10	U	NA
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U	NA
Toluene *	10	U	10	U	10	U	10	U	10	U	NA
Chlorobenzene	10	U	10	U	10	U	10	U	10	U	NA
Ethylbenzene	10	U	10	U	10	U	10	U	10	U	NA
Styrene	10	U	10	U	10	U	10	U	10	U	NA

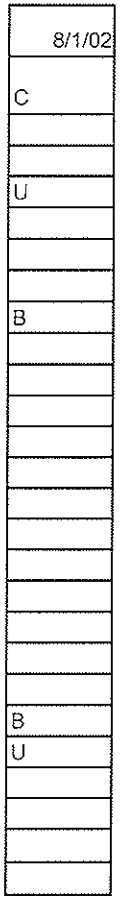
Xylene (total)	10	U	NA		NA		NA		NA		NA
Trans-1,3-Dichloroethene	NA		10	U	10	U	10	U	10	U	NA
cis-1,2-Dichloroethene	NA		10	U	10	U	10	U	10	U	NA
cis-1,3-Dichloropropene	NA		10	U	10	U	10	U	10	U	NA
m + p-Xylenes	NA		10	U	10	U	10	U	10	U	NA

Primoshield Plating - Quarterly Groundwater Monitoring Trends

MW 101 Cont...

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date :
Inorganic Compounds	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)
Aluminum	27400		18200		61400		54800		28700		216000
Antimony	1.9	U	5	U	5	U	11.4	B	5.3	U	2.8
Arsenic	7.9	B	8.7	B	36.9		39.6		16.9		82.4
Barium	461		460		1120		952		636		2170
Beryllium	1	B	1.3	B	3.8	B	4.8	B	1.7	B	8.6
Cadmium	0.3	U	1	U	1	U	3	B	0.4	U	4.1
Calcium	30400		36700		117000		97900		60300		245000
Chromium *	105		53.8		117		189		62		409
Cobalt	23.5	B	17.1	B	56.7		60.5		28.1	B	131
Copper *	48.7		59.2		172		145		71		344
Iron	419000		42900		140000		119000		61300		272000
Lead	16.7		16.2		51.4		53.2		38.2		132
Magnesium	15300		17300		49000		41900		24900		103000
Manganese	698		607		1990		1920		948		4610
Mecury	0.13	B	0.2	U	0.2	U	1.5		0.2	U	0.28
Nickel *	88		58.7		170		221		88.3		429
Potassium	27700		26700		36200		30000		43300		69400
Selenium	4.7	U	5	U	5	U	8.3		7.9		3.5
Silver *	1.4	U	1	U	1	U	4.5	B	0.6	U	0.94
Sodium	67700		79300		106000		565000		174000		124000
Thallium	3.8	B	7	U	7	U	11.3		4.8	U	3.1
Vanadium	54		37.6	B	114		108		54		407
Zinc *	91.1		194		341		356		180		637
Cyanide	NA		NA		NA		NA		NA		

8/9/02
Q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U
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"Sheet 1"

Primoshield Plating - Quarterly Groundwater Monitoring Trends

Project # - 633027 MW 103

KEY: U = Undetected B = Below Detection Limit NA = Not Available * - Compuund of Concern

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date:	8/9/02
Volatile Organic Compounds	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q
Chloromethane	10	U	10	U	10	U	10	U	10	U	NA	
Bromomethane	10	U	10	U	10	U	10	U	10	U	NA	
Vinyl Chloride	10	U	10	U	10	U	10	U	10	U	NA	
Chloroethane	10	U	10	U	10	U	10	U	10	U	NA	
Methylene Chloride	5	JB	10	U	10	U	10	U	10	U	NA	
Acetone	5	JB	10	U	10	U	10	U	10	U	NA	
Carbon Disulfide	10	U	10	U	10	U	10	U	10	U	NA	
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U	NA	
1,1-Dichloroethane *	2	JB	10	J	3.1	J	10	U	10	U	NA	
1,2-Dichloroethene (total)	10	U	NA		NA		NA		NA		NA	
Chloroform	10	U	10	U	10	U	10	U	10	U	NA	
1,2-Dichloroethane *	5	J	10	U	10	U	10	U	10	U	NA	
2-Butanone	10	U	10	U	10	U	10	U	10	U	NA	
1,1,1-Trichloroethane *	19		4.4	J	22		15		21		NA	
Carbon Tetrachloride	10	U	10	U	10	U	10	U	10	U	NA	
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U	NA	
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	NA	
Trichloroethene *	10	U	10	U	10	U	10	U	10	U	NA	
Dibromochloromethane	10	U	10	U	10	U	10	U	10	U	NA	
1,1,2-Trichloroethane *	10	U	10	U	10	U	10	U	10	U	NA	
Benzene *	27		10	J	4.3	J	3.4	J	10	U	NA	
Trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	NA	
Bromoform	10	U	10	U	10	U	10	U	10	U	NA	
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U	NA	
2-Hexanone	10	U	10	U	10	U	10	U	10	U	NA	
Tetrachloroethene	10	U	10	U	10	U	10	U	10	U	NA	
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U	NA	
Toluene *	10	U	10	U	10	U	10	U	10	U	NA	
Chlorobenzene	10	U	10	U	10	U	10	U	10	U	NA	
Ethylbenzene	10	U	10	U	10	U	10	U	10	U	NA	
Styrene	10	U	10	U	10	U	10	U	10	U	NA	
Xylene (total)	10	U	NA	U	NA	U	NA		NA		NA	
Trans-1,3-Dichloroethene	NA		10	U	10	U	10	U	10	U	NA	
cis-1,2-Dichloroethene	NA		10	U	10	U	10	U	10	U	NA	
cis-1,3-Dichloropropene	NA		10	U	10	U	10	U	10	U	NA	
m + p-Xylenes	NA		10	U	10	U	10	U	10	U	NA	

Primoshield Plating - Quarterly Groundwater Monitoring Trends

MW 103 Cont...

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date :	8/1/02
Inorganic Compounds	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C
Aluminum	1250		1740		6370		394		806		1890	
Antimony	1.9	U	5	U	5.4	B	5.4	B	5.3	U	2.8	U
Arsenic	2.3	U	6	U	7.6	B	6	U	3.7	U	1.8	U
Barium	44.9	B	44.8	B	86.9	B	35.7	B	68.3	B	75.5	B
Beryllium	0.1	U	1	U	1	U	1.3	B	0.1	U	0.19	U
Cadmium	0.3	U	1	U	1	U	1	U	0.4	U	0.27	U
Calcium	92900		86100		103000		75100		9460		80000	
Chromium *	3.3	B	2.6	B	9.9	B	2	U	3.7	B	4.4	B
Cobalt	1.1	B	2	U	9.4	B	3	U	1	B	2.7	U
Copper *	5	B	28.1		55.7		3.2	B	0.7	U	5.1	U
Iron	1770		3930		14900		577		852		1620	
Lead	2.9	U	3.5		8.4		4.1		1.4	U	2.4	B
Magnesium	49600		48300		46200		35800		2400	B	33000	
Manganese	93.1		238		690		16.9	B	36.5		82	
Mecury	0.1	U	0.2	U	0.2	U	2		0.2	U	0.02	B
Nickel *	23.7	B	19.3	B	28.8	B	14.6	B	3.1	B	18.4	B
Potassium	2860	B	3780	B	3980	B	1480	B	4940	B	1790	B
Selenium	4.7	U	5	U	5	U	8.7		3.8	U	2	U
Silver *	1.4	U	1	U	11	U	2	U	0.6	U	0.94	U
Sodium	54100		47200		46500		40200		122000		40900	
Thallium	3.5	U	7	U	7	U	7	U	4.8	U	1.6	U
Vanadium	2.2	B	2	U	9	B	1	U	2.6	B	3.5	B
Zinc *	5.3	B	24.3		59.1		17.8	B	30		6.9	U
Cyanide	NA		NA		NA		NA		NA			

"Sheet 3"

Primoshield Plating - Quarterly Groundwater Monitoring Trends

Project # - 633027 MW 104

KEY: U = Undetected B = Below Detection Limit NA = Not Available * - Compuund of Concern

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date:	8/9/02
Volatile Organic Compounds	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q
Chloromethane	10	U	10	U	10	U	10	U	10	U	NA	
Bromomethane	10	U	10	U	10	U	10	U	10	U	NA	
Vinyl Chloride	10	U	10	U	10	U	10	U	10	U	NA	
Chloroethane	10	U	10	U	10	U	10	U	10	U	NA	
Methylene Chloride	4	JB	1.6	U	10	U	10	U	10	U	NA	
Acetone	10	U	10	U	10	U	10	U	10	U	NA	
Carbon Disulfide	10	U	10	U	10	U	10	U	10	U	NA	
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U	NA	
1,1-Dichloroethane *	10	U	10	U	10	U	10	U	10	U	NA	
1,2-Dichloroethene (total)	10	U	NA		NA		NA		NA		NA	
Chloroform	10	U	10	U	10	U	10	U	10	U	NA	
1,2-Dichloroethane *	10	U	10	U	10	U	10	U	10	U	NA	
2-Butanone	10	U	10	U	10	U	10	U	10	U	NA	
1,1,1-Trichloroethane *	10	U	10	U	10	U	10	U	10	U	NA	
Carbon Tetrachloride	10	U	10	U	10	U	10	U	10	U	NA	
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U	NA	
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	NA	
Trichloroethene *	10	U	10	U	10	U	10	U	10	U	NA	
Dibromochloromethane	10	U	10	U	10	U	10	U	10	U	NA	
1,1,2-Trichloroethane *	10	U	10	U	10	U	10	U	10	U	NA	
Benzene *	10	U	10	U	10	U	10	U	10	U	NA	
Trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	NA	
Bromoform	10	U	10	U	10	U	10	U	10	U	NA	
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U	NA	
2-Hexanone	10	U	10	U	10	U	10	U	10	U	NA	
Tetrachloroethene	10	U	10	U	10	U	10	U	10	U	NA	
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U	NA	
Toluene *	10	U	10	U	10	U	10	U	10	U	NA	
Chlorobenzene	10	U	10	U	10	U	10	U	10	U	NA	
Ethylbenzene	10	U	10	U	10	U	10	U	10	U	NA	
Styrene	10	U	10	U	10	U	10	U	10	U	NA	
Xylene (total)	10	U	NA		NA		NA		NA		NA	
Trans-1,3-Dichloroethene	NA		10	U	10	U	10	U	10	U	NA	
cis-1,2-Dichloroethene	NA		10	U	10	U	10	U	10	U	NA	
cis-1,3-Dichloropropene	NA		10	U	10	U	10	U	10	U	NA	
m + p-Xylenes	NA		10	U	10	U	10	U	10	U	NA	

Primoshield Plating - Quarterly Groundwater Monitoring Trends

MW 104 Cont...

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date :	8/1/02
Inorganic Compounds	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C
Aluminum	218		98.2	B	222		328		1550			
Antimony	1.9	U	5	U	5	U	4.8	B	5.3	U		
Arsenic	2.3	U	6	U	6	U	6	U	3.7	U		
Barium	51.2	B	62.4	B	69.2	B	52.2	B	66	B		
Beryllium	0.1	U	1	U	1	U	1.5	B	0.12	B		
Cadmium	0.3	U	1	U	1	U	1	U	0.4	U		
Calcium	63700		69200		73100		62200		69400			
Chromium *	1.8	B	1	U	1	U	2	U	6.1	B		
Cobalt	0.7	U	2	U	1	U	3	U	2.3	B		
Copper *	3.3	B	20.1	B	37.3		3.6	B	1.8	B		
Iron	334		120		100		480		1880			
Lead	2.9	U	3	U	4.4		7		1.4	U		
Magnesium	41900		43600		48600		43000		45900			
Manganese	7	B	3.6	B	3.1	B	14.3	B	97			
Mecury	0.1	U	0.2	U	0.2	U	0.78		0.2	U		
Nickel *	3.3	B	2.2	B	2.6	B	4.8	B	7.9	B		
Potassium	1100	B	1310	B	1340	B	1270	B	1770	B		
Selenium	4.7	U	5	U	5	U	10.7		3.8	U		
Silver *	1.4	U	1	U	1	U	2	U	0.6	U		
Sodium	16700		20000		22300		16800		18500			
Thallium	3.5	U	7	U	7	U	7	U	4.8	U		
Vanadium	0.8	U	2	U	2	U	1	U	1.1	B		
Zinc *	4.9	B	12.6	B	18.3	B	17.8	B	25.5			
Cyanide	NA		NA		NA		NA		NA			

"Sheet 2"

Primoshield Plating - Quarterly Groundwater Monitoring Trends

Project # - 633027 MW 105

KEY: U = Undetected B = Below Detection Limit NA = Not Available * - Compuund of Concern

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date:	8/9/02
Volatile Organic Compounds	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q
Chloromethane	10	U	10	U	NA		10	U	10	U	NA	
Bromomethane	10	U	10	U	NA		10	U	10	U	NA	
Vinyl Chloride	10	U	10	U	NA		10	U	10	U	NA	
Chloroethane	10	U	10	U	NA		10	U	10	U	NA	
Methylene Chloride	5	JB	1.6	U	NA		10	U	10	U	NA	
Acetone	6	JB	10	U	NA		10	U	10	U	NA	
Carbon Disulfide	10	U	10	U	NA		10	U	10	U	NA	
1,1-Dichloroethene	10	U	10	U	NA		10	U	10	U	NA	
1,1-Dichloroethane *	10	U	10	U	NA		10	U	10	U	NA	
1,2-Dichloroethene (total)	10	U	NA		NA		NA		NA		NA	
Chloroform	10	U	10	U	NA		10	U	10	U	NA	
1,2-Dichloroethane *	10	U	10	U	NA		10	U	10	U	NA	
2-Butanone	10	U	10	U	NA		10	U	10	U	NA	
1,1,1-Trichloroethane *	10	U	10	U	NA		10	U	10	U	NA	
Carbon Tetrachloride	10	U	10	U	NA		10	U	10	U	NA	
Bromodichloromethane	10	U	10	U	NA		10	U	10	U	NA	
1,2-Dichloropropane	10	U	10	U	NA		10	U	10	U	NA	
Trichloroethene *	10	U	10	U	NA		10	U	10	U	NA	
Dibromochloromethane	10	U	10	U	NA		10	U	10	U	NA	
1,1,2-Trichloroethane *	10	U	10	U	NA		10	U	10	U	NA	
Benzene *	10	U	10	U	NA		10	U	10	U	NA	
Trans-1,3-Dichloropropene	10	U	10	U	NA		10	U	10	U	NA	
Bromoform	10	U	10	U	NA		10	U	10	U	NA	
4-Methyl-2-pentanone	10	U	10	U	NA		10	U	10	U	NA	
2-Hexanone	10	U	10	U	NA		10	U	10	U	NA	
Tetrachloroethene	10	U	10	U	NA		10	U	10	U	NA	
1,1,2,2-Tetrachloroethane	10	U	10	U	NA		10	U	10	U	NA	
Toluene *	10	U	10	U	NA		10	U	10	U	NA	
Chlorobenzene	10	U	10	U	NA		10	U	10	U	NA	
Ethylbenzene	10	U	10	U	NA		10	U	10	U	NA	
Styrene	10	U	10	U	NA		10	U	10	U	NA	
Xylene (total)	10	U	NA		NA		NA		NA		NA	
Trans-1,3-Dichloroethene	NA		10	U	NA		10	U	10	U	NA	
cis-1,2-Dichloroethene	NA		10	U	NA		10	U	10	U	NA	
cis-1,3-Dichloropropene	NA		10	U	NA		10	U	10	U	NA	
m + p-Xylenes	NA		10	U	NA		10	U	10	U	NA	

Primoshield Plating - Quarterly Groundwater Monitoring Trends

MW 105 Cont...

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date :	8/1/02
Inorganic Compounds	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C
Aluminum	604		327		NA		295		1070		2860	
Antimony	1.9	U	5	U	NA		5.7	B	5.3	U	2.8	U
Arsenic	9.7	B	11.2		NA		11.9		6.8	B	14.6	
Barium	39.8	B	41.5	B	NA		35.8	B	35.9	B	55.1	B
Beryllium	0.1	U	1	U	NA		1.4	B	0.14	B	0.19	U
Cadmium	0.3	U	1	U	NA		1	U	0.4	U	0.27	U
Calcium	75300		76000		NA		66600		54500		73200	
Chromium *	3.6	B	1	U	NA		2	U	2.1	B	9.5	B
Cobalt	0.82	B	2	U	NA		3	U	1.9	B	2.9	B
Copper *	3.7	B	18.7	B	NA		3	B	3.5	B	5.1	U
Iron	1100		935		NA		540		1510		3720	
Lead	2.9	U	4.9		NA		3.5		1.4	U	2.8	B
Magnesium	84900		84200		NA		79100		55800		82500	
Manganese	273		300		NA		133		350		512	
Mecury	0.1	U	0.2	U	NA		0.28		0.2	U	0.01	U
Nickel *	2.4	B	2	U	NA		2	U	3	B	4.3	B
Potassium	4290	B	4360	B	NA		4030	B	3290	B	5000	B
Selenium	4.7	U	5	U	NA		6		3.8	U	2	U
Silver *	1.4	U	1.4	B	NA		2	U	0.6	U	0.94	U
Sodium	19200		21000		NA		18100		13100		20900	
Thallium	3.5	U	7	U	NA		7	U	4.8	U	436	U
Vanadium	0.8	U	2	U	NA		1.3	B	0.74	B	5.8	B
Zinc *	2.7	B	13.3	B	NA		19.2	B	24.1		8.4	B
Cyanide	NA		NA		NA		NA		NA			

"Sheet 9"

Primoshield Plating - Quarterly Groundwater Monitoring Trends

Project # - 633027 MW 106D

KEY: U = Undetected B = Below Detection Limit NA = Not Available * - Compuund of Concern

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date:
Volatile Organic Compounds	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)
Chloromethane	10	U	10	U	NA		10	U	10	U	NA
Bromomethane	10	U	10	U	NA		10	U	10	U	NA
Vinyl Chloride	10	U	10	U	NA		10	U	10	U	NA
Chloroethane	10	U	10	U	NA		10	U	10	U	NA
Methylene Chloride	9	JB	1.9	U	NA		10	U	10	U	NA
Acetone	10	U	10	U	NA		10	U	10	U	NA
Carbon Disulfide	10	U	10	U	NA		10	U	10	U	NA
1,1-Dichloroethene	10	U	10	U	NA		10	U	10	U	NA
1,1-Dichloroethane *	10	U	10	U	NA		10	U	10	U	NA
1,2-Dichloroethene (total)	10	U	NA		NA		NA		NA		NA
Chloroform	10	U	10	U	NA		10	U	10	U	NA
1,2-Dichloroethane *	10	U	10	U	NA		10	U	10	U	NA
2-Butanone	10	U	10	U	NA		10	U	10	U	NA
1,1,1-Trichloroethane *	10	U	10	U	NA		10	U	10	U	NA
Carbon Tetrachloride	10	U	10	U	NA		10	U	10	U	NA
Bromodichloromethane	10	U	10	U	NA		10	U	10	U	NA
1,2-Dichloropropane	10	U	10	U	NA		10	U	10	U	NA
Trichloroethene *	10	U	10	U	NA		10	U	10	U	NA
Dibromochloromethane	10	U	10	U	NA		10	U	10	U	NA
1,1,2-Trichloroethane *	10	U	10	U	NA		10	U	10	U	NA
Benzene *	10	U	10	U	NA		10	U	10	U	NA
Trans-1,3-Dichloropropene	10	U	10	U	NA		10	U	10	U	NA
Bromoform	10	U	10	U	NA		10	U	10	U	NA
4-Methyl-2-pentanone	10	U	10	U	NA		10	U	10	U	NA
2-Hexanone	10	U	10	U	NA		10	U	10	U	NA
Tetrachloroethene	10	U	10	U	NA		10	U	10	U	NA
1,1,2,2-Tetrachloroethane	10	U	10	U	NA		10	U	10	U	NA
Toluene *	8	J	10	U	NA		1.7	J	10	U	NA
Chlorobenzene	10	U	10	U	NA		10	U	10	U	NA
Ethylbenzene	10	U	10	U	NA		10	U	10	U	NA
Styrene	10	U	10	U	NA		10	U	10	U	NA

Xylene (total)	10	U	NA		NA		NA		NA		NA
Trans-1,3-Dichloroethene	NA		10	U	NA		10	U	10	U	NA
cis-1,2-Dichloroethene	NA		10	U	NA		10	U	10	U	NA
cis-1,3-Dichloropropene	NA		10	U	NA		10	U	10	U	NA
m + p-Xylenes	NA		10	U	NA		10	U	10	U	NA

Primoshield Plating - Quarterly Groundwater Monitoring Trends

MW 106D Cont...

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date :
Inorganic Compounds	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)
Aluminum	1610		1020		385		1710		238		1890
Antimony	1.9	U	5	U	5	U	7.8	B	5.3	U	2.8
Arsenic	2.3	U	6	U	6	U	7.8	B	5.2	B	1.8
Barium	102	B	55.6	B	46.1	U	65.5	B	48.8	B	75.5
Beryllium	0.1	U	1	U	1	U	1.5	B	0.1	U	0.19
Cadmium	0.3	U	1	U	1	U	1	U	0.4	U	0.27
Calcium	73900		15300		7720		38400		12100		80000
Chromium *	5.1	B	23.3		3.8	B	19.9		9.8	B	4.4
Cobalt	4.9	B	2	U	1	U	5.2	B	0.5	U	2.7
Copper *	4.5	B	20.9	B	19.9	B	7.7	B	0.7	U	5.1
Iron	424		2440		768		2780		301		1620
Lead	2.9	U	6.3		2.5	B	5.2		1.6	B	2.4
Magnesium	361	B	2170	B	1290	B	1480	B	1520	B	33000
Manganese	5	B	48.8		16.4		62		13	B	82
Mecury	0.1	U	0.2	U	0.2	U	0.32		0.2	U	0.02
Nickel *	5.5	B	18	B	2.6	B	15.5	B	11.4	B	18.4
Potassium	40300		5530		4530	B	14200		6340		1790
Selenium	4.7	U	5	U	5	U	5	U	3.8	U	2
Silver *	1.4	U	1	U	1	U	2	U	0.6	U	0.94
Sodium	44600		71400		68400		51400		115000		40900
Thallium	3.7	B	7	U	7	U	7	U	4.8	U	1.6
Vanadium	1.9	B	2	U	2	U	3.4	B	1.6	B	3.5
Zinc *	30.3		84.5		67.6		167		65		6.9
Cyanide	NA		NA		NA		NA		NA		

8/9/02

Q

8/1/02
C
U
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U

"Sheet 6"

Primoshield Plating - Quarterly Groundwater Monitoring Trends

Project # - 633027 MW 107D

KEY: U = Undetected B = Below Detection Limit NA = Not Available * - Compuund of Concern

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date:	8/9/02
Volatile Organic Compounds	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q
Chloromethane	10	U	10	U	10	U	10	U	10	U	NA	
Bromomethane	10	U	10	U	10	U	10	U	10	U	NA	
Vinyl Chloride	10	U	10	U	10	U	10	U	10	U	NA	
Chloroethane	10	U	10	U	10	U	10	U	10	U	NA	
Methylene Chloride	5	JB	1.6	J	10	U	10	U	10	U	NA	
Acetone	10	U	10	U	10	U	10	U	10	U	NA	
Carbon Disulfide	10	U	10	U	10	U	10	U	10	U	NA	
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U	NA	
1,1-Dichloroethane *	10	U	10	U	10	U	10	U	10	U	NA	
1,2-Dichloroethene (total)	10	U	NA		NA		NA		NA		NA	
Chloroform	10	U	10	U	10	U	10	U	10	U	NA	
1,2-Dichloroethane *	10	U	10	U	10	U	10	U	10	U	NA	
2-Butanone	10	U	10	U	10	U	10	U	10	U	NA	
1,1,1-Trichloroethane *	10	U	10	U	10	U	10	U	10	U	NA	
Carbon Tetrachloride	10	U	10	U	10	U	10	U	10	U	NA	
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U	NA	
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	NA	
Trichloroethene *	10	U	10	U	10	U	10	U	10	U	NA	
Dibromochloromethane	10	U	10	U	10	U	10	U	10	U	NA	
1,1,2-Trichloroethane *	10	U	10	U	10	U	10	U	10	U	NA	
Benzene *	10	U	10	U	10	U	10	U	10	U	NA	
Trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	NA	
Bromoform	10	U	10	U	10	U	10	U	10	U	NA	
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U	NA	
2-Hexanone	10	U	10	U	10	U	10	U	10	U	NA	
Tetrachloroethene	10	U	10	U	10	U	10	U	10	U	NA	
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U	NA	
Toluene *	10	U	10	U	10	U	10	U	10	U	NA	
Chlorobenzene	10	U	10	U	10	U	10	U	10	U	NA	
Ethylbenzene	10	U	10	U	10	U	10	U	10	U	NA	
Styrene	10	U	10	U	10	U	10	U	10	U	NA	
Xylene (total)	10	U	NA		NA		NA		NA		NA	
Trans-1,3-Dichloroethene	NA		10	U	10	U	10	U	10	U	NA	
cis-1,2-Dichloroethene	NA		10	U	10	U	10	U	10	U	NA	
cis-1,3-Dichloropropene	NA		10	U	10	U	10	U	10	U	NA	
m + p-Xylenes	NA		10	U	10	U	10	U	10	U	NA	

Primoshield Plating - Quarterly Groundwater Monitoring Trends

MW 107D Cont...

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date :	8/1/02
Inorganic Compounds	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C
Aluminum	3950		447		606		123	B	2250		NA	
Antimony	1.9	U	5	U	5	U	4.3	B	5.3	U	NA	
Arsenic	3.1	B	6	U	6	U	6	U	3.7	U	NA	
Barium	90.4	B	57	B	63	B	13.6	B	54.3	B	NA	
Beryllium	0.1	U	1	U	1	U	1	U	0.18	B	NA	
Cadmium	1.1	B	1	U	1	U	1	U	0.4	U	NA	
Calcium	21200		7140		7350		1310	B	80200		NA	
Chromium *	88.5		3.8	B	2.1	B	2	U	3.7	B	NA	
Cobalt	3.5	B	2	U	1	U	3	U	2.4	B	NA	
Copper *	12.2	B	17.1	B	20.1	B	1.5	B	4.6	B	NA	
Iron	7780		1110		1440		181		2630		NA	
Lead	7.6		7.5		8.6		3	U	1.4	U	NA	
Magnesium	5350		2040	B	2100	B	366	B	36200		NA	
Manganese	216		21.7		26.3		4.6	B	175		NA	
Mecury	0.1	U	0.2	U	0.2	U	0.33		0.2	U	NA	
Nickel *	62.2		2.8	B	2.6	B	2	U	19.4	B	NA	
Potassium	5390		3320	B	3340	B	868	B	2740	B	NA	
Selenium	4.7	U	5	U	5	U	5	U	3.8	U	NA	
Silver *	1.4	U	1	U	1	U	2	U	0.6	U	NA	
Sodium	83700		72000		74300		22300		39700		NA	
Thallium	3.5	U	7	U	7	U	7	U	4.8	U	NA	
Vanadium	9.3	B	2	U	2	U	1	U	2.5	B	NA	
Zinc *	156		25.8		30		7.5	B	35		NA	
Cyanide	NA		NA		NA		NA		NA		NA	

"Sheet 7"

Primoshield Plating - Quarterly Groundwater Monitoring Trends

Project # - 633027 MW 107S

KEY: U = Undetected B = Below Detection Limit NA = Not Available * - Compuund of Concern

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date:	8/9/02
Volatile Organic Compounds	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q
Chloromethane	10	U	10	U	10	U	10	U	10	U		
Bromomethane	10	U	10	U	10	U	10	U	10	U		
Vinyl Chloride	10	U	10	U	10	U	10	U	10	U		
Chloroethane	10	U	10	U	10	U	10	U	10	U		
Methylene Chloride	5	JB	1.5	U	10	U	10	U	10	U		
Acetone	6	JB	10	U	10	U	10	U	10	U		
Carbon Disulfide	10	U	10	U	10	U	10	U	10	U		
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U		
1,1-Dichloroethane *	8	J	6.8	J	7.9	J	5.4	J	9.3	J		
1,2-Dichloroethene (total)	10	U	NA		NA		NA		NA			
Chloroform	10	U	10	U	10	U	10	U	10	U		
1,2-Dichloroethane *	10	U	10	U	10	U	10	U	10	U		
2-Butanone	10	U	10	U	10	U	10	U	10	U		
1,1,1-Trichloroethane *	3	J	2.4	J	4.5	J	2.6	J	10	U		
Carbon Tetrachloride	10	U	10	U	10	U	10	U	10	U		
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U		
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U		
Trichloroethene *	3	J	5.3		14		4.9		8.7	J		
Dibromochloromethane	10	U	10	U	10	U	10	U	10	U		
1,1,2-Trichloroethane *	10	U	10	U	10	U	10	U	10	U		
Benzene *	10	U	10	U	10	U	10	U	10	U		
Trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U		
Bromoform	10	U	10	U	10	U	10	U	10	U		
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U		
2-Hexanone	10	U	10	U	10	U	10	U	10	U		
Tetrachloroethene	10	U	10	U	10	U	10	U	10	U		
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U		
Toluene *	10	U	10	U	10	U	10	U	10	U		
Chlorobenzene	10	U	10	U	10	U	10	U	10	U		
Ethylbenzene	10	U	10	U	10	U	10	U	10	U		
Styrene	10	U	10	U	10	U	10	U	10	U		
Xylene (total)	10	U	NA		NA		NA		NA			
Trans-1,3-Dichloroethene	NA		10	U	10	U	10	U	10	U		
cis-1,2-Dichloroethene	NA		10	U	10	U	10	U	10	U		
cis-1,3-Dichloropropene	NA		10	U	10	U	10	U	10	U		
m + p-Xylenes	NA		10	U	10	U	10	U	10	U		

Primoshield Plating - Quarterly Groundwater Monitoring Trends

MW 107S Cont...

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date :	8/1/02
Inorganic Compounds	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C
Aluminum	197	B	149	B	NA		256		124	B		
Antimony	1.9	U	5	U	NA		6.8	B	5.3	U		
Arsenic	2.3	U	6	U	NA		6	U	3.7	U		
Barium	32.8	B	37.6	B	NA		25.3	B	38.2	B		
Beryllium	0.1	U	1	U	NA		1.5	B	0.1	U		
Cadmium	0.44	B	1	U	NA		1	U	0.4	U		
Calcium	133000		122000		NA		101000		119000			
Chromium *	2.5	B	1	U	NA		2	U	0.5	U		
Cobalt	3.6	B	2.1	B	NA		3	U	1.5	B		
Copper *	7.1	B	24	B	NA		6.5	B	2.7	B		
Iron	774		304		NA		376		35.1	B		
Lead	2.9	U	4.7		NA		4.8		1.4	U		
Magnesium	27000		23600		NA		20500		23200			
Manganese	2370		1810		NA		1070		542			
Mecury	0.1	U	0.2	U	NA		0.47		0.2	U		
Nickel *	100		85.2		NA		71.9		64.5			
Potassium	4410	B	4760	B	NA		3790	B	4490	B		
Selenium	4.7	U	5	U	NA		7.2		3.8	U		
Silver *	1.4	U	1.1	B	NA		2	U	0.6	U		
Sodium	59100		44900		NA		34300		35700			
Thallium	3.5	U	7	U	NA		7	U	6.1	B		
Vanadium	0.8	U	2	U	NA		1.2	B	0.6	U		
Zinc *	3.6	B	18.5	B	NA		20		26.8			
Cyanide	NA		NA		NA		NA		NA			

"Sheet 8"

Primoshield Plating - Quarterly Groundwater Monitoring Trends

Project # - 633027 MW 106S

KEY: U = Undetected B = Below Detection Limit NA = Not Available * - Compuund of Concern

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date:	8/9/02
Volatile Organic Compounds	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q
Chloromethane	10	U	10	U	10	U	10	U	10	U		
Bromomethane	10	U	10	U	10	U	10	U	10	U		
Vinyl Chloride	10	U	10	U	10	U	10	U	10	U		
Chloroethane	10	U	10	U	10	U	10	U	10	U		
Methylene Chloride	4	JB	2	U	10	U	10	U	10	U		
Acetone	10	U	10	U	10	U	10	U	10	U		
Carbon Disulfide	10	U	10	U	10	U	10	U	10	U		
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U		
1,1-Dichloroethane *	10	U	10	U	10	U	10	U	10	U		
1,2-Dichloroethene (total)	10	U	NA		NA		NA		NA			
Chloroform	10	U	10	U	10	U	10	U	10	U		
1,2-Dichloroethane *	10	U	10	U	10	U	10	U	10	U		
2-Butanone	10	U	10	U	10	U	10	U	10	U		
1,1,1-Trichloroethane *	9	J	9.3	J	7.4	J	10	U	10	U		
Carbon Tetrachloride	10	U	10	U	10	U	10	U	10	U		
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U		
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U		
Trichloroethene *	7	J	7.1	J	6.5	J	10	U	6.1	J		
Dibromochloromethane	10	U	10	U	10	U	10	U	10	U		
1,1,2-Trichloroethane *	10	U	10	U	10	U	5.3	J	10	U		
Benzene *	10	U	10	U	10	U	10	U	10	U		
Trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U		
Bromoform	10	U	10	U	10	U	10	U	10	U		
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U		
2-Hexanone	10	U	10	U	10	U	10	U	10	U		
Tetrachloroethene	10	U	10	U	10	U	3.6	J	10	U		
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U		
Toluene *	10	U	10	U	10	U	10	U	10	U		
Chlorobenzene	10	U	10	U	10	U	10	U	10	U		
Ethylbenzene	10	U	10	U	10	U	10	U	10	U		
Styrene	10	U	10	U	10	U	10	U	10	U		
Xylene (total)	10	U	NA		NA		NA		NA			
Trans-1,3-Dichloroethene	NA		10	U	10	U	10	U	10	U		
cis-1,2-Dichloroethene	NA		10	U	10	U	10	U	10	U		
cis-1,3-Dichloropropene	NA		10	U	10	U	10	U	10	U		
m + p-Xylenes	NA		10	U	10	U	10	U	10	U		

Primoshield Plating - Quarterly Groundwater Monitoring Trends

MW 106S Cont...

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date :	8/1/02
Inorganic Compounds	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C
Aluminum	193	B	530		347		212		192	B		
Antimony	1.9	U	5	U	5	U	5.7	B	5.3	U		
Arsenic	2.3	U	6	U	6	U	6	U	3.7	U		
Barium	40.7	B	46.2	B	39.1	B	38.1	B	43	B		
Beryllium	0.1	U	1	U	1	U	1.4	B	0.1	U		
Cadmium	0.3	U	1	U	1	U	1	U	0.4	U		
Calcium	86400		84100		77100		81200		79800			
Chromium *	3.3	B	2	B	1.9	B	2	U	1.5	B		
Cobalt	1.7	B	2	U	1.2	B	3	U	1.1	B		
Copper *	3.5	B	20.5	B	22.1	B	3.6	B	0.7	U		
Iron	244		1090		691		197		326			
Lead	2.9	U	3.7		10.5		5.7		1.4	U		
Magnesium	24000		31100		22100		25100		20500			
Manganese	173		251		108		29.7	B	106			
Mecury	0.1	U	0.2	U	0.2	U	0.18	B	0.2	U		
Nickel *	26.8	B	37.4	B	18.7	B	23	B	10.4	B		
Potassium	2290	B	3460	B	2370	B	2360	B	1870	B		
Selenium	4.7	U	5	U	5	U	5	U	3.8	U		
Silver *	1.4	U	1	U	1	U	2	U	0.6	U		
Sodium	31000		36200		25900		27300		15300			
Thallium	3.5	U	7	U	7	U	7	U	4.8	U		
Vanadium	0.8	U	2	U	2	U	1	U	0.6	U		
Zinc *	1.1	B	16.2	B	30		19.2	B	24.6			
Cyanide			NA		NA		NA		NA			

"Sheet 4"

Primoshield Plating - Quarterly Groundwater Monitoring Trends

Project # - 633027 MW 108

KEY: U = Undetected B = Below Detection Limit NA = Not Available * - Compuund of Concern

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date:	8/9/02
Volatile Organic Compounds	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q	Concentration (UG/L)	Q
Chloromethane	10	U	NA		NA		10	U	NA		NA	
Bromomethane	10	U	NA		NA		10	U	NA		NA	
Vinyl Chloride	10	U	NA		NA		10	U	NA		NA	
Chloroethane	10	U	NA		NA		10	U	NA		NA	
Methylene Chloride	5	JB	NA		NA		10	U	NA		NA	
Acetone	10	U	NA		NA		10	U	NA		NA	
Carbon Disulfide	10	U	NA		NA		10	U	NA		NA	
1,1-Dichloroethene	10	U	NA		NA		10	U	NA		NA	
1,1-Dichloroethane *	10	U	NA		NA		10	U	NA		NA	
1,2-Dichloroethene (total)	10	U	NA		NA		NA		NA		NA	
Chloroform	10	U	NA		NA		10	U	NA		NA	
1,2-Dichloroethane *	10	U	NA		NA		10	U	NA		NA	
2-Butanone	10	U	NA		NA		10	U	NA		NA	
1,1,1-Trichloroethane *	10	U	NA		NA		10	U	NA		NA	
Carbon Tetrachloride	10	U	NA		NA		10	U	NA		NA	
Bromodichloromethane	10	U	NA		NA		10	U	NA		NA	
1,2-Dichloropropane	10	U	NA		NA		10	U	NA		NA	
Trichloroethene *	10	U	NA		NA		10	U	NA		NA	
Dibromochloromethane	10	U	NA		NA		10	U	NA		NA	
1,1,2-Trichloroethane *	10	U	NA		NA		10	U	NA		NA	
Benzene *	10	U	NA		NA		10	U	NA		NA	
Trans-1,3-Dichloropropene	10	U	NA		NA		10	U	NA		NA	
Bromoform	10	U	NA		NA		10	U	NA		NA	
4-Methyl-2-pentanone	10	U	NA		NA		10	U	NA		NA	
2-Hexanone	10	U	NA		NA		10	U	NA		NA	
Tetrachloroethene	10	U	NA		NA		10	U	NA		NA	
1,1,2,2-Tetrachloroethane	10	U	NA		NA		10	U	NA		NA	
Toluene *	10	U	NA		NA		10	U	NA		NA	
Chlorobenzene	10	U	NA		NA		10	U	NA		NA	
Ethylbenzene	10	U	NA		NA		10	U	NA		NA	
Styrene	10	U	NA		NA		10	U	NA		NA	
Xylene (total)	10	U	NA		NA		NA		NA		NA	
Trans-1,3-Dichloroethene	NA		NA		NA		10	U	NA		NA	
cis-1,2-Dichloroethene	NA		NA		NA		10	U	NA		NA	
cis-1,3-Dichloropropene	NA		NA		NA		10	U	NA		NA	
m + p-Xylenes	NA		NA		NA		10	U	NA		NA	

Primoshield Plating - Quarterly Groundwater Monitoring Trends

MW 108 Cont...

	Date :	4/30/99	Date :	7/30/99	Date :	10/30/99	Date :	2/7/00	Date :	11/30/00	Date :	8/1/02
Inorganic Compounds	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C	Concentration (UG/L)	C
Aluminum	1200		NA		NA		NA		NA		NA	
Antimony	1.9	U	NA		NA		NA		NA		NA	
Arsenic	2.3	U	NA		NA		NA		NA		NA	
Barium	43.6	B	NA		NA		NA		NA		NA	
Beryllium	0.1	U	NA		NA		NA		NA		NA	
Cadmium	0.3	U	NA		NA		NA		NA		NA	
Calcium	67500		NA		NA		NA		NA		NA	
Chromium *	0.3	B	NA		NA		NA		NA		NA	
Cobalt	0.7	U	NA		NA		NA		NA		NA	
Copper *	4.2	B	NA		NA		NA		NA		NA	
Iron	1710		NA		NA		NA		NA		NA	
Lead	2.9	U	NA		NA		NA		NA		NA	
Magnesium	76800		NA		NA		NA		NA		NA	
Manganese	53.5		NA		NA		NA		NA		NA	
Mecury	0.1	U	NA		NA		NA		NA		NA	
Nickel *	2.7	B	NA		NA		NA		NA		NA	
Potassium	2230	B	NA		NA		NA		NA		NA	
Selenium	4.7	U	NA		NA		NA		NA		NA	
Silver *	1.4	U	NA		NA		NA		NA		NA	
Sodium	9720		NA		NA		NA		NA		NA	
Thallium	3.5	U	NA		NA		NA		NA		NA	
Vanadium	2.4	B	NA		NA		NA		NA		NA	
Zinc *	3	B	NA		NA		NA		NA		NA	
Cyanide	NA		NA		NA		NA		NA		NA	

PRIMOSHIELD WATER SAMPLING PLAN

The sampling consists of two discrete sources:

Samples from groundwater monitoring wells; and
Samples from the Primoshield treatment system

The groundwater monitoring wells have two salient characteristics, and each primary well can be a mixture of both:

On-site or Off-site;
Shallow or deep.

The treatment system samples include both the treated effluent and the untreated influent.

GROUNDWATER MONITORING WELL SAMPLES

1. **During the First Year these samples will be taken QUARTERLY.**
   Tbe samples will be tested for VARIOUS HEAVY METALS & VOCS
   FOR THE YEAR 1 SAMPLING PARAMETERS WILL BE TOTAL VOCS AND METALS.
   METALS WILL MEAN UNFILTERED TARGET ANALYTES, APPENDIX A OF TAGM #4046.
   VOC's can be either 95-1 or Method 8260.
   Reporting will be standard; no data package required.
   The initial groundwater monitoring scope is 11 WELLS, BOTH ON-SITE & OFF-SITE

IF AT LEAST TWO (2) SAMPLING EVENTS SHOW THAT THERE HAS BEEN NO SIGNIFICANT CHANGE FROM SAMPLING EVENT 1 TO SAMPLING EVENT 2, THEN THAT WELL MAY BE REMOVED FROM FURTHER SAMPLING.

AT END OF FIRST YEAR SUMMARY REPORT OF GROUNDWATER QUALITY & FLOW DIRECTION WILL BE PROVIDED.

AT END OF FIRST YEAR SAMPLING THERE WILL BE A JOINT DECISION BY DEC & DOH ON SAMPLING FREQUENCY.

QUARTERLY REPORTS: LETTER FORM TO G. RIDER, D. SWEREDOSKI, AND HENRIETTA HAMEL, DOH, SYRACUSE. MUST INCLUDE:

DATA COLLECTED, IN LETTER FORM
FIELD ACTIVITIES, AND QA/QC, E.G, TRIP BLANKS, ETC.
COPIES OF FIELD SAMPLING LOG BOOK

QA/QC SAMPLES

ONE (1) DAILY TRIP BLANK; ANALYSIS, TOTAL METALS & TOTAL VOCS

ONE (1) FIELD DUPLICATE WILL BE COLLECTED; ANALYSIS, TOTAL METALS & TOTAL VOCS- Well P-107 Shallow will be used

ONE MATRIX SPIKE/MATRIX SPIKE DUPLICATE WILL BE COLLECTED; ANALYSIS, TOTAL METALS & TOTAL VOCS

Decontamination will be done with trisodium phosphate solution (TSP)

INSPECTIONS OF THE WELLS DURING THE SAMPLING EVENT:

Assess the condition of each well;
List all problems with each well
Ensure each well is labeled with a paint stick to aid crews in identifying the wells

CHECKLIST

PAINTING NEEDED
NEW LOCKS REQUIRED
NEW PROTECTIVE CASINGS REQUIRED
NEW WELL CAPS REQUIRED
OBSTRUCTIONS WITHIN THE WELL
WATER IN THE ANNULUS
NEW CONCRETE PADS NEEDED
PROTECTIVE POSTS NEEDED

MONITORING REPORT REQUIRED EACH GROUNDWATER SAMPLING EVENT

FILL OUT GROUNDWATER SAMPLING LOG SHEET, APP. B

TREATMENT SYSTEM OPERATION & MAINTENANCE

Maintenance time period: 1 month standard for change in filter

EACH GROUNDWATER SAMPLING EVENT CLEAN OUT THE TREATMENT SYSTEM BASKET FILTER AFTER THE GROUNDWATER INFLUENT & EFFLUENT SAMPLES HAVE BEEN TAKEN

EACH GROUNDWATER SAMPLING EVENT TWO TREATMENT SYSTEM PARAMETERS MUST BE MONITORED:

Pressure system
Flow rate-Maximum is 7.5 GPM
Flow rate controlled by downstream
Ball valve

RECORD FLOW RATE
RECORD CUMULATIVE

TREATMENT SYSTEM REQUIREMENTS

1. Record totalizer readings each month. Calculate total monthly effluent. If not done each month, can estimate.

2. TREATMENT SYSTEM REPORTS DUE MAY 31 & NOVEMBER 30, EACH YEAR-In addition to analytical data, monthly flow date are required to be reported

3. Analytical methods can be DEC methods since they are based upon 40 CFR 136 per Bart Malone, see above-NOTE THAT NOT ALL METALS ARE REQUIRED. However, TOTAL VOC's must be done by EPA Method 624 and summated-CHECK THAT 95-1 IS THE SAME AS EPA METHOD 624-Method 8260 subsumes within it EPA 624, but includes more compounds

4. FEES: $100 Permit Administrative Fee (Annual)
   $1.71 per 1,000 gallons, Monthly flows reported May 31 and November 30

5. ISSUES FOR MAY 31 REPORT
   Specify that purge water from the sampling wells was put through the treatment system
   Request that the metals be dropped from the required parameters based upon the influent values being less than the applicable permit standards

ANALYTICAL PARAMETERS FOR BOTH INFLUENT & EFFLUENT

Ph
Cadmium; chromium; copper; lead; nickel; zinc
Cyanide
Total VOC's

Methods: EPA 624 for Volatile Organics
EPA 200.7 for metals
SM 4500 for Cyanides
EPA 150.1 for pH

EACH VISIT COLLECT GRAB SAMPLES FROM THE DISCHARGE OF ACTIVATED CARBON UNIT #1 & ANALYSE FOR TOTAL VOC'S TO DETERMINE BREAKTHROUGH-NOTE THAT YOU WILL NEED TO COMPARE THE RESULT WITH THE INFLUENT

ANNUALLY: PUMP THE GROUNDWATER COLLECTION MANHOLE TO THE BOTTOM & VISUALLY INSPECT FOR PHYSICAL DAMAGE & SEDIMENT BUILDUP

Require for possible cleanout of 12 foot sump:

LEL/oxygen meter
Plastic shovel/metal shovel
Five gallon buckets with heavy rope
Blower, positive pressure, 110 line voltage
UL extension cord, 15 amp rating

IF GO DOWN INTO MANHOLE, LOOK AT TETHERING PUMP TO DISCHARGE PIPE SO THAT DRAWDOWN WILL BE AS HIGH AS POSSIBLE, BUT

CANNOT BE GREATER THAN 35 INCHES

ALWAYS WEAR RUBBER BOOTS WHEN ENTERING MANHOLE IN CASE OF ELECTRIC SHOCK

DETERMINE IF CHECK VALVE INSTALLED; LOOK FOR 1/8 INCH HOLE IN DISCHARGE PIPE BELOW THE CHECK VALVE TO BLEED AIR

November 20, 2012 Service Request No: R1207621

Ms. Jayme Connolly
AMEC Environmental & Infrastructure
511 Congress Street
Portland, ME 04112-7050

Laboratory Results for: NYSDEC Primoshield/3612122251

Dear Ms. Connolly:

Enclosed are the results of the sample(s) submitted to our laboratory on November 7, 2012. For your reference, these analyses have been assigned our service request number **R1207621**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

Columbia Analytical Services, Inc. dba ALS Environmental

Michael Perry
Laboratory Manager

Columbia Analytical Services℠
ADDRESS 1565 Jefferson Rd, Building 300, Suite 360, Rochester, NY 14623
PHONE 585-288-5380 | FAX 585-288-8475
Columbia Analytical Services, Inc.
Part of the ALS Group A Campbell Brothers Limited Company
Environmental | www.caslab.com ▪ www.alsglobal.com
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COLUMBIA ANALYTICAL SERVICES, INC.

Client:	AMEC	**Service Request No.:**	R1207621
Project:	NYSDEC Primoshield	**Project Number:**	361222251
Sample Matrix:	Water	**Date Received:**	11/07/12

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV, ASP-B deliverables. When appropriate to the method, method blank and LCS results have been reported with each analytical test.

Sample Receipt

AMEC water samples were collected on 11/06/12 and received at CAS in good condition at a cooler temperature of 4.0 °C as noted on the cooler receipt and preservation check form. The samples were stored in a refrigerator at 1 - 6 °C upon receipt at the laboratory. See the second page of the Case Narrative for a cross-reference between Client ID and CAS Job #.

Inorganic Analysis

One water sample was analyzed for TCN by EPA method 9012B and pH by method SM 4500-H+.

All blank spike recoveries (LCS) were within QC limits.

No analytical or QC problems were encountered.

Metals Analysis

One water sample was analyzed for a site list of metals by EPA method 200.7.

All blank spike recoveries (LCS) were within QC limits.

No analytical or QC problems were encountered.

Volatile Organic Analysis

One water sample was analyzed for the PPL list of volatiles by EPA method 624.

The initial and continuing calibration criteria were met for all analytes.

All surrogate standard recoveries were within acceptance.

All blank spike recoveries (LCS) were within QC limits.

All recoveries were within QC limits.

The laboratory blanks were free of contamination.

All samples were analyzed within the 14 day holding time as specified in the method.

No other analytical or QC problems were encountered.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package, has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

11/20/12

Michael K. Perry
Laboratory Manager

Date

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1207621

Lab ID	Client ID
R1207621-001	633027 Effluent

ALS Environmental

REPORT QUALIFIERS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.

ACCREDITED IN ACCORDANCE WITH nelac

Rochester Lab ID # for State Certifications[1]

NELAP Accredited	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Connecticut ID # PH0556	Nebraska Accredited	
Delaware Accredited	Nevada ID # NY-00032	North Carolina #676
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047		Virginia #460167

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to http://alsglobal.com/environmental/laboratories/rochester-environmental-lab.aspx

Client: AMEC Environmental & Infrustructure (Formerly MACTEC)
Project: NYSDEC Primoshield/3612122251
Sample Matrix: Water

Service Request: R1207621
Date Collected: 11/ 6/12 1135
Date Received: 11/ 7/12

Sample Name: 633027 Effluent
Lab Code: R1207621-001

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Cyanide, Total	9012B	**0.011**		mg/L	0.010	1	11/ 8/12	11/9/12 10:32	
pH	SM 4500-H+ B	7.09		pH Units		1	NA	11/7/12 15:31	H
Temperature of pH Analysis	SM 4500-H+ B	17.6		deg C		1	NA	11/7/12 15:31	H

Client: AMEC Environmental & Infrustructure (Formerly MACTEC)
Project: NYSDEC Primoshield/3612122251
Sample Matrix: Water

Service Request: R1207621
Date Collected: 11/ 6/12 1135
Date Received: 11/ 7/12

Sample Name: 633027 Effluent
Lab Code: R1207621-001

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Cadmium, Total	200.7	5.0	U	µg/L	5.0	1	11/12/12	11/16/12 09:37	
Chromium, Total	200.7	10	U	µg/L	10	1	11/12/12	11/16/12 09:37	
Copper, Total	200.7	20	U	µg/L	20	1	11/12/12	11/16/12 09:37	
Lead, Total	200.7	50	U	µg/L	50	1	11/12/12	11/16/12 09:37	
Nickel, Total	200.7	43		µg/L	40	1	11/12/12	11/16/12 09:37	
Zinc, Total	200.7	20	U	µg/L	20	1	11/12/12	11/16/12 09:37	

Client:	AMEC Environmental & Infrustructure (Formerly MACTEC)	**Service Request:**	R1207621
Project:	NYSDEC Primoshield/3612122251	**Date Collected:**	11/ 6/12 1135
Sample Matrix:	Water	**Date Received:**	11/ 7/12
		Date Analyzed:	11/16/12 03:49
Sample Name:	633027 Effluent	**Units:**	µg/L
Lab Code:	R1207621-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	624	**Analysis Lot:**	318698
Data File Name:	I:\ACQUDATA\MSVOA5\DATA\111512\M1977.D\	**Instrument Name:**	R-MS-05
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	**19**		1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	**2.3**		1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	**1.5**		1.0	
107-06-2	1,2-Dichloroethane	1.0	U	1.0	
78-87-5	1,2-Dichloropropane	1.0	U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	10	U	10	
107-02-8	Acrolein	10	U	10	
107-13-1	Acrylonitrile	10	U	10	
71-43-2	Benzene	1.0	U	1.0	
75-27-4	Bromodichloromethane	1.0	U	1.0	
75-25-2	Bromoform	1.0	U	1.0	
74-83-9	Bromomethane	1.0	U	1.0	
56-23-5	Carbon Tetrachloride	1.0	U	1.0	
108-90-7	Chlorobenzene	1.0	U	1.0	
75-00-3	Chloroethane	1.0	U	1.0	
67-66-3	Chloroform	1.0	U	1.0	
74-87-3	Chloromethane	1.0	U	1.0	
124-48-1	Dibromochloromethane	1.0	U	1.0	
75-09-2	Methylene Chloride	1.0	U	1.0	
100-41-4	Ethylbenzene	1.0	U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0	U	1.0	
108-88-3	Toluene	1.0	U	1.0	
79-01-6	Trichloroethene (TCE)	**53**		1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0	U	1.0	
75-01-4	Vinyl Chloride	1.0	U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
95-47-6	o-Xylene	1.0	U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	

Client:	AMEC Environmental & Infrustructure (Formerly MACTEC)	**Service Request:**	R1207621
Project:	NYSDEC Primoshield/3612122251	**Date Collected:**	11/ 6/12 1135
Sample Matrix:	Water	**Date Received:**	11/ 7/12
		Date Analyzed:	11/16/12 03:49
Sample Name:	633027 Effluent	**Units:**	Percent
Lab Code:	R1207621-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	624	**Analysis Lot:**	318698
Data File Name:	I:\ACQUDATA\MSVOA5\DATA\111512\M1977.D\	**Instrument Name:**	R-MS-05
		Dilution Factor:	1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	108	79-123	11/16/12 03:49	
4-Bromofluorobenzene	101	79-119	11/16/12 03:49	
Toluene-d8	99	83-120	11/16/12 03:49	

Client:	AMEC Environmental & Infrustructure (Formerly MACTEC)	**Service Request:**	R1207621
Project:	NYSDEC Primoshield/3612122251	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1207621-MB	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Cyanide, Total	9012B	0.010	U	mg/L	0.010	1	11/ 8/12	11/9/12 10:24	

Client: AMEC Environmental & Infrustructure (Formerly MACTEC)
Project: NYSDEC Primoshield/3612122251
Sample Matrix: Water

Service Request: R1207621
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: R1207621-MB

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Cadmium, Total	200.7	5.0	U	µg/L	5.0	1	11/12/12	11/16/12 08:46	
Chromium, Total	200.7	10	U	µg/L	10	1	11/12/12	11/14/12 18:34	
Copper, Total	200.7	20	U	µg/L	20	1	11/12/12	11/16/12 08:46	
Lead, Total	200.7	50	U	µg/L	50	1	11/12/12	11/16/12 08:46	
Nickel, Total	200.7	40	U	µg/L	40	1	11/12/12	11/16/12 08:46	
Zinc, Total	200.7	20	U	µg/L	20	1	11/12/12	11/14/12 18:34	

Client:	AMEC Environmental & Infrustructure (Formerly MACTEC)	**Service Request:**	R1207621
Project:	NYSDEC Primoshield/3612122251	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	11/15/12 22:35
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1214082-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	624	**Analysis Lot:**	318698
Data File Name:	I:\ACQUDATA\MSVOA5\DATA\111512\M1969.D\	**Instrument Name:**	R-MS-05
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.0	U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	1.0	
79-00-5	1,1,2-Trichloroethane	1.0	U	1.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	
107-06-2	1,2-Dichloroethane	1.0	U	1.0	
78-87-5	1,2-Dichloropropane	1.0	U	1.0	
110-75-8	2-Chloroethyl Vinyl Ether	10	U	10	
107-02-8	Acrolein	10	U	10	
107-13-1	Acrylonitrile	10	U	10	
71-43-2	Benzene	1.0	U	1.0	
75-27-4	Bromodichloromethane	1.0	U	1.0	
75-25-2	Bromoform	1.0	U	1.0	
74-83-9	Bromomethane	1.0	U	1.0	
56-23-5	Carbon Tetrachloride	1.0	U	1.0	
108-90-7	Chlorobenzene	1.0	U	1.0	
75-00-3	Chloroethane	1.0	U	1.0	
67-66-3	Chloroform	1.0	U	1.0	
74-87-3	Chloromethane	1.0	U	1.0	
124-48-1	Dibromochloromethane	1.0	U	1.0	
75-09-2	Methylene Chloride	1.0	U	1.0	
100-41-4	Ethylbenzene	1.0	U	1.0	
127-18-4	Tetrachloroethene (PCE)	1.0	U	1.0	
108-88-3	Toluene	1.0	U	1.0	
79-01-6	Trichloroethene (TCE)	1.0	U	1.0	
75-69-4	Trichlorofluoromethane (CFC 11)	1.0	U	1.0	
75-01-4	Vinyl Chloride	1.0	U	1.0	
10061-01-5	cis-1,3-Dichloropropene	1.0	U	1.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
95-47-6	o-Xylene	1.0	U	1.0	
156-60-5	trans-1,2-Dichloroethene	1.0	U	1.0	
10061-02-6	trans-1,3-Dichloropropene	1.0	U	1.0	

Client:	AMEC Environmental & Infrustructure (Formerly MACTEC)	**Service Request:**	R1207621
Project:	NYSDEC Primoshield/3612122251	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	11/15/12 22:35
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	RQ1214082-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	624	**Analysis Lot:**	318698
Data File Name:	I:\ACQUDATA\MSVOA5\DATA\111512\M1969.D\	**Instrument Name:**	R-MS-05
		Dilution Factor:	1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	115	79-123	11/15/12 22:35	
4-Bromofluorobenzene	105	79-119	11/15/12 22:35	
Toluene-d8	101	83-120	11/15/12 22:35	

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QA/QC Report

Client: AMEC Environmental & Infrustructure (Formerly MACTEC)
Project: NYSDEC Primoshield/3612122251
Sample Matrix: Water

Service Request: R1207621
Date Analyzed: 11/ 9/12

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1207621-LCS1 Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	9012B	0.0981	0.100	98	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: AMEC Environmental & Infrustructure (Formerly MACTEC)
Project: NYSDEC Primoshield/3612122251
Sample Matrix: Water

Service Request: R1207621
Date Analyzed: 11/ 9/12

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1207621-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	9012B	0.384	0.400	96	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: AMEC Environmental & Infrustructure (Formerly MACTEC)
Project: NYSDEC Primoshield/3612122251
Sample Matrix: Water

Service Request: R1207621
Date Analyzed: 11/14/12 - 11/16/12

Lab Control Sample Summary
Inorganic Parameters

Units: µg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1207621-LCS Result	Spike Amount	% Rec	% Rec Limits
Cadmium, Total	200.7	50.2	50.0	100	85 - 115
Chromium, Total	200.7	202	200	101	85 - 115
Copper, Total	200.7	267	250	107	85 - 115
Lead, Total	200.7	517	500	103	85 - 115
Nickel, Total	200.7	453	500	91	85 - 115
Zinc, Total	200.7	525	500	105	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client: AMEC Environmental & Infrustructure (Formerly MACTEC)
Project: NYSDEC Primoshield/3612122251
Sample Matrix: Water

Service Request: R1207621
Date Analyzed: 11/15/12

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 624

Units: µg/L
Basis: NA

Analysis Lot: 318698

Analyte Name	Lab Control Sample RQ1214082-03 Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	18.1	20.0	91	52 - 162
1,1,2,2-Tetrachloroethane	20.7	20.0	103	46 - 157
1,1,2-Trichloroethane	22.6	20.0	113	52 - 150
1,1-Dichloroethane (1,1-DCA)	19.4	20.0	97	59 - 155
1,1-Dichloroethene (1,1-DCE)	13.3	20.0	67	0 - 234
1,2-Dichloroethane	19.9	20.0	99	49 - 155
1,2-Dichloropropane	20.7	20.0	103	0 - 210
2-Chloroethyl Vinyl Ether	22.9	20.0	114	0 - 305
Acrolein	116	100	116	24 - 189
Acrylonitrile	127	100	127	77 - 135
Benzene	17.6	20.0	88	37 - 151
Bromodichloromethane	21.1	20.0	106	35 - 155
Bromoform	20.7	20.0	103	45 - 169
Bromomethane	12.8	20.0	64	0 - 242
Carbon Tetrachloride	18.3	20.0	92	70 - 140
Chlorobenzene	18.8	20.0	94	37 - 160
Chloroethane	14.6	20.0	73	14 - 230
Chloroform	20.8	20.0	104	51 - 138
Chloromethane	12.3	20.0	62	0 - 273
Dibromochloromethane	21.4	20.0	107	53 - 149
Methylene Chloride	15.5	20.0	77	0 - 221
Ethylbenzene	19.9	20.0	100	37 - 162
Tetrachloroethene (PCE)	18.6	20.0	93	64 - 148
Toluene	18.4	20.0	92	47 - 150
Trichloroethene (TCE)	18.5	20.0	92	71 - 157
Trichlorofluoromethane (CFC 11)	16.6	20.0	83	17 - 181
Vinyl Chloride	12.3	20.0	61	0 - 251
cis-1,3-Dichloropropene	19.6	20.0	98	0 - 227
m,p-Xylenes	39.1	40.0	98	83 - 122
o-Xylene	19.5	20.0	97	83 - 119
trans-1,2-Dichloroethene	13.8	20.0	69	54 - 156
trans-1,3-Dichloropropene	21.1	20.0	105	17 - 183

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Environmental
ACCUTEST LABORATORIES
1565 Jefferson Rd Bldg. 300 Suite 360 Rochester, NY 14623
~~Accutest Laboratories of New England~~
~~495 Technology Center West, Building One~~
~~TEL: 508-481-6200 FAX: 508-481-7753~~
www.accutest.com

CHAIN OF CUSTODY

PAGE 1 OF 1

FED-EX Tracking # 801551287294 | Bottle Order Control #
Accutest Quote # | Accutest Job #

Client / Reporting Information

Company Name: AMEC
Street Address: 511 Congress St.
City State Zip: Portland ME 04110
Project Contact E-mail: Jayme Connolly
Phone # Fax #: 207-775-5401 / 772-4762
Sampler(s) Name(s) Phone #: Jeri Kiburz 518-622-3014

Project Information

Project Name: Primoshield Plating, Inc.
Street: 1210 St. Vincent st.
City: Utica, NY
Project#: 36121222251
Client PO#:
Project Manager: Jayme Connolly

Billing Information (If different from Report to)

Company Name:
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	VOC (624)	Cyanide (9010)	pH (150.1)	Cadmium, chromium, copper, lead, nickel, zinc (200.7)	LAB USE ONLY
	633027 Effluent		11-6-12	1135	JK	GW	7	X	X	X		X					X	X	X	X	

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Contact - Mike Perry

R1207621 5
AMEC Environmental & Infrastructure
NYSDEC Primoshield

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Jeri L. K	11-6-12 1445	Amy Lentto 11/7/12 0950	2		2
3			3	4		4
5			5			

Custody Seal # | [ ] Intact [ ] Not Intact | Preserved where applicable [ ] | On Ice [ ] | Cooler Temp.

Cooler Receipt and Preservation Check Form

Project/Client AMEC Folder Number R12-7621.

Cooler received on 11/7/12 by: AHH **COURIER:** ALS UPS (FEDEX) VELOCITY CLIENT

1.	Were custody seals on outside of cooler?	(YES)	NO	
2.	Were custody papers properly filled out (ink, signed, etc.)?	(YES)	NO	
3.	Did all bottles arrive in good condition (unbroken)?	(YES)	NO	
4.	Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles?	YES	(NO)	N/A
5.	Were **Ice** or **Ice packs** present?	(YES)	NO	
6.	Where did the bottles originate?	ALS/ROC, (CLIENT)		
7.	Soil VOA samples received as:	Bulk Jar	Encore	TerraCore Lab5035set (N/A)
8.	Temperature of cooler(s) upon receipt:	4.0°		
	Is the temperature within 0° - 6° C?:	(Y) N	Y N	Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: 11/7/12 1017

Thermometer ID: (IR GUN#3) / IR GUN#4 Reading From: Temp Blank / (Sample Bottle)

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location R-002 by AHH on 11/7/12 at 1019

5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: MVP

Cooler Breakdown: Date: 11/7/12 Time: 1337 by: AHH

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO	
2.	Did all bottle labels and tags agree with custody papers?	(YES)	NO	
3.	Were correct containers used for the tests indicated?	(YES)	NO	
4.	Air Samples: Cassettes / Tubes Intact	Canisters Pressurized	Tedlar® Bags Inflated	(N/A)

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp
≥12	NaOH	X		Client	
≤2	HNO_3	X		Client	
≤2	H_2SO_4				
<4	$NaHSO_4$				
Residual Chlorine (-)	For TCN Phenol and 522	X		If present, contact PM to add ascorbic acid Or sodium sulfite (522)	
	$Na_2S_2O_3$	-	-		
	Zn Aceta	-	-		
	HCl	*	*		

Sample ID	Vol. Added	Lot Added	Final pH

*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

Bottle lot numbers: Client

Other Comments:

PC Secondary Review: MVP

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter