MACTEC

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August 14, 2019

Mr. Payson Long
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7013

Subject: **Semiannual Discharge Monitoring and Site Inspection Report – June 2019**
Primoshield Incorporated Site, Site No. 633027
MACTEC Engineering & Consulting, P.C., Project No. 3612122251

Dear Mr. Long:

MACTEC Engineering and Consulting, P.C., (MACTEC), under contract to the New York State Department of Environmental Conservation (NYSDEC) is submitting this letter report describing the June 2019 semiannual site management (SM) activities completed, and observations noted at the Primoshield Incorporated Site (Site), NYSDEC Site # 633027, located in Utica, New York.

The Primoshield site is a former metal electroplating facility located at 1212 St. Vincent Street. The Site is approximately 2.4 acres in size and is bordered by Conkling Avenue on the Northwest and St. Vincent Street on the South and East, and has a Classification Code of 4 (SM). Figure 1 shows the Site location and Figure 2 depicts the Site features.

The Site's Record of Decision required a groundwater treatment system to remediate contaminated groundwater by carbon filtration; treated effluent was then discharged to the Publicly Owned Treatment Works (POTW). The remedial system was initially installed for treatment of trichloroethene, 1,1,1-trichloroethane, 1,1-dichloroethane, and chromium in groundwater. However, since 2001 concentrations have been below discharge permit levels and treatment no longer warrants the use of

carbon filtration. Currently, water gravity feeds to a collection sump and is then pumped and discharged directly to the POTW.

SM activities include long term monitoring consisting of groundwater monitoring every 15 months, semi-annual discharge monitoring, and spring and fall Site inspections (MACTEC, 2017). The long-term monitoring event, which included sampling for the presence or absence of PFAS compounds and 1,4-dioxane, coincided with this spring inspection and will be discussed in the annual Periodic Review Report for 2019. This report presents the findings of the semiannual Site inspection and discharge monitoring performed on June 17, 2019.

Site Inspection

The semiannual Site inspection includes the following activities:

- Inspecting the treatment system operation;
- Inspecting the physical conditions of the Site; and
- Carrying out maintenance or repairs as needed.

The June 2019 inspection also included monitoring well inspection. The Inspection Forms and photo documentation of the inspection are provided in Attachment 1.

Treatment System

The treatment system was observed to be set in automatic (standby) mode upon arrival and was pumping intermittently in response to the float switch in the collection manhole. The pump was switched to manual (hand) mode to perform discharge sampling. The flow meter/totalizer reading was 5,132,155 gallons (see Attachment 1 Photo #1). The manhole was opened during the inspection and, although the high water and light contrast made visual examination difficult, the pump assembly appeared to be in good condition (Photo #2).

Site Conditions

The physical condition of the Site was inspected to evaluate compliance with the requirements of the Site Management Plan and to document changes in Site conditions since the last site inspection was conducted (November 2018). Although more vegetated, conditions at the Site were observed to be

generally consistent with previous inspections. Observations noted and documented during the June 2018 Site inspection were consistent with past observations, are provided in Attachment 1, and include:

- The northernmost cleanout (Trench #2, Cleanout #5) was repaired by trimming the cleanout piping to accommodate the settlement of the protective roadbox (Photo #4);
- The fence-posts supporting the St Vincent Street gate are starting to tilt, but the gate is still fully functional (Photo #9);
- The top rail of fence is unattached along the north-central Site area where the fence changes in height (see Photo #3);
- Monitoring wells P-107S, P-107D, P-106S, and P-106D previously noted to have loose concrete collars around the protective casing were repaired during this event;
- Loose and/or damaged barb wire was observed in two areas of the fencing (Photo # 6); and
- Vegetation is encroaching on the perimeter fence in several locations (Photo #s 3, 5 and 8).

Maintenance or Repairs

Repairs were made to the northernmost cleanout (Trench #2, Cleanout #5) and monitoring wells P-107S, P-107D, P-106S, and P-106D. No other repairs were made during the June 2019 Inspection.

Semiannual Discharge Monitoring

A sample of the treatment system effluent was collected on June 17, 2019 and submitted to ALS Laboratory for the following analysis: volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) method 624, metals (cadmium, chromium, copper, nickel, lead, and zinc) by USEPA method 200.7, cyanide by USEPA method 9012B and pH by method 4500. The field data record collection form, laboratory report of analysis and chain of custody record are included in Attachment 2. Laboratory results are presented in the following table and demonstrate that concentrations remain below the POTW discharge criteria.

Semiannual Discharge Analytical Results June 2019

POLLUTANT/PARAMETER	POTW Limit	Results
Total Flow, gal/day	No Limit	3,417**
pH	5.0-12.5	7.13
Cadmium, mg/L	1	0.005 U
Chromium, mg/L	5	0.01 U
Copper, mg/L	3	0.02 U
Lead, mg/L	5	0.05 U
Nickel, mg/L	2	0.04 U
Zinc, mg/L	4	0.02 U
Cyanide, mg/L	3	0.005 U
Total VOCs, mg/L	2.0*	**0.0208**

mg/L = milligrams per liter.
*Total Volatile Organics is the sum of detected VOCs.
Bold results indicate the parameter was detected.
U = not detected; value represents the sample quantitation limit.
** = Average flow based on totalizer reading and days between measurements.

Summary

The Site's groundwater collection system was observed to be in operational condition at the time of the June 2019 inspection event. A semiannual discharge sample was collected and results indicate detectable levels of total VOCs; however, results were below the POTW allowable limits of the permit.

The perimeter fence and gate condition is consistent with past observations, minor damage was noted that does not require immediate repair. Repairs were made to the northernmost cleanout (Trench #2, Cleanout #5) and monitoring wells P-107S, P-107D, P-106S, and P-106D. MACTEC will continue to monitor the perimeter fence damage and vegetation growth during future inspections.

Please feel free to contact us if you have any questions at 207-775-5401.

Sincerely,

MACTEC Engineering & Consulting, P.C.

Nate Vogan, P.G.
Site Manager

Jean Firth, P.G.
Project Manager

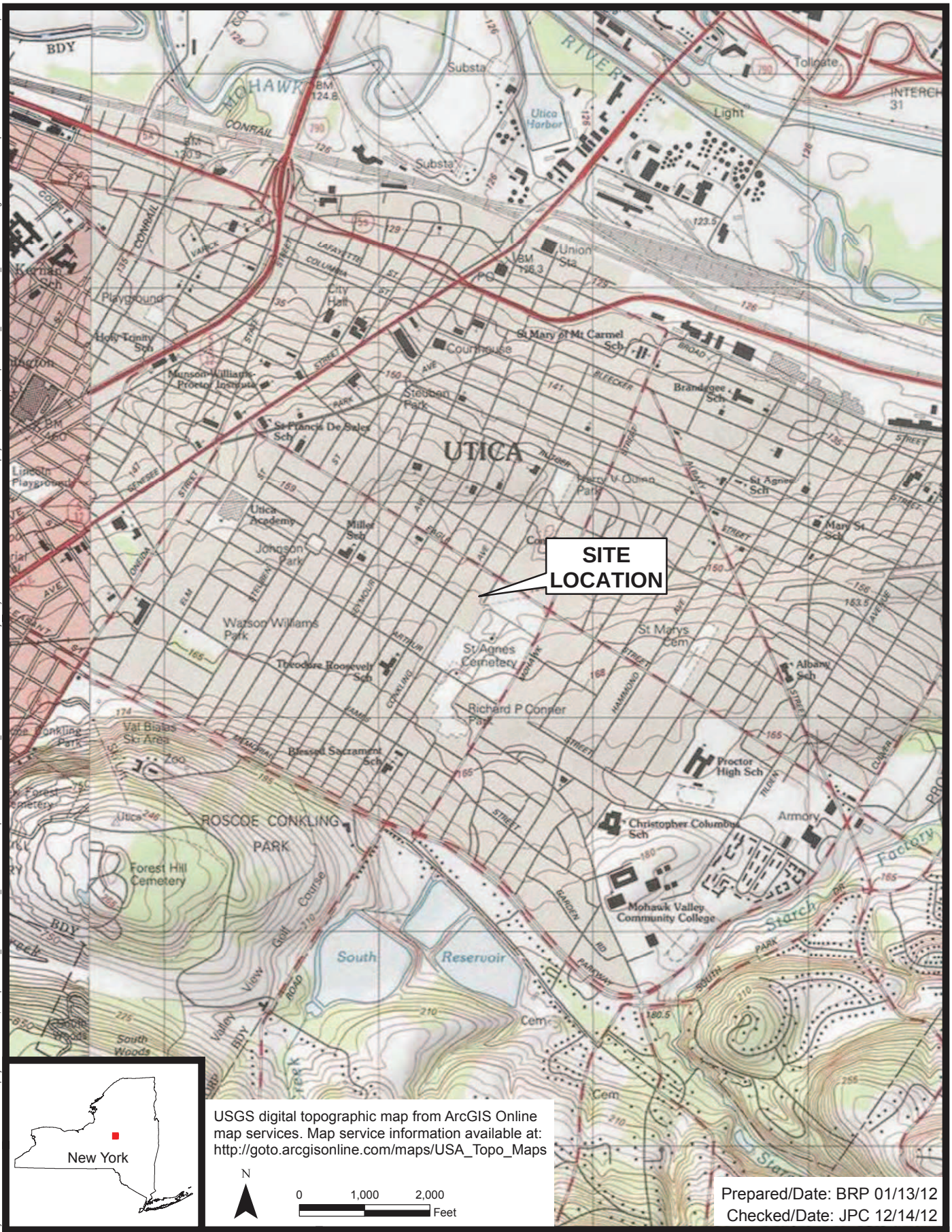
Enclosures

Attachment 1: Inspection Forms & Photos

Attachment 2: Field Data Records, Chain of Custody, and Laboratory Analytical Results

REFERENCES

MACTEC Engineering and Consulting, P.C., 2017. Site Management Plan Revision 1, Primoshield, Incorporated Site No.: 633027, March 2017.



USGS digital topographic map from ArcGIS Online map services. Map service information available at: http://goto.arcgisonline.com/maps/USA_Topo_Maps

Prepared/Date: BRP 01/13/12
Checked/Date: JPC 12/14/12

PRIMOSHIELD INC.
UTICA, NEW YORK

MACTEC

SITE LOCATION

Project 3612-12-2251 Figure 1

Legend

- Cleanout Access Point
- 4-foot diameter manhole
- Discharge to sanitary sewer
- Groundwater Monitoring Well
- Perimeter Fence
- Perimeter Fence Gate
- Approximate GW flow direction
- Underground collection trench
- Site Boundary

N

0 50 100 Feet

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

Prepared/Date: BRP 05/19/17
Checked/Date: JMF 05/19/17

PRIMOSHIELD INC.
UTICA, NEW YORK

MACTEC

SITE FEATURES

Project 3612122251 Figure 2

ATTACHMENT 1

INSPECTION FORMS & PHOTOS

checked by: NV 6/21/19

New York Department of Environmental Conservation
Inactive Hazardous Waste Site
Inspection Form-Treatment Systems

Site Name: *Primoshield Inc.*	**NYSDEC Site Number:** *633027*	**NYSDEC PM:** Payson Long
Site Location: *1212 St. Vincent Street, Utica, NY*	**Site Classification # :** 4	**Primary Site Contact:** *Payson Long*
Site Inspection Date: 06/17/19	**Purpose of Inspection:** *Semi-annual inspection - Spring 2019*	

Name of Inspector: Alex Howe	**Title:** geologist	**Agency/Company:** MACTEC/Amec Foster Wheeler	**Address:** *511 Congress Street, Suite 200 Portland, ME 04101*
Phone Number: (860) 257-5536			

Treatment Systems

System Status				General Observations:
System in operation during visit?	(Yes)	No		on automatic
Manned on a fulltime basis?		(No)		
Pump working?	(Yes)	No		
Initial flow rate (gpm):	unknown			
Totalizer reading (gallons)	513155			1420 pm 061919
Discharge Monitoring				
Discharge to the POTW?	*Oneida County Sewer District Permit GW-040*			
Was permit performance monitoring conducted?	(Yes)	No		
Condition of Operational Controls				
Condition of gauges?	(Good)	Poor	NE	
Condition of flow meters	Good	Poor	(NE)	
Condition of system alarms?	Good	Poor	(NE)	unknown
Condition of flow pipes and hoses?	(Good)	Poor	NE	
Pipes labeled with direction of flow and contents?	No		NE	
Condition of valves?	(Good)	Poor	NE	
Evidence of leaking?	Yes	(No)	NE	
Condition of extraction/sump pump?	Good	Poor	NE	
Lighting in Work Areas Adequate?	(Yes)	No	NE	
Collection Vault and Pump				
Vault condition - ground surface	(Good)	Poor	NE	
Vault condition - inside (visual observation from ground level)?	(Good)	Poor	NE	
Collection/Discharge Trenches				
Condition of clean-out covers?	(Good)	Poor	NE	clean out covers at end of NE trench fixed by driller 061719.
Evidence of sedimentation?	Yes	(No)	NE	not visible

Site Features

Site Security and Fence				General Observations:
Condition of the access gates and locks?	(Good)	(Poor)	NE	no pad lock on gate when arrived. lawn care company opened gate.
Condition building?	(Good)	Poor	NE	
Condition of the perimeter fence	(Good)	Poor	NE	gates at both sides of site are saggy somewhat no post to keep them sqwayy.
Is vegetation infringing on the fence?	(Yes)	No	NE	
Was a monitoring well inspection completed?	(Yes - see attached)		No	

NE- not evaluated, provide explanation

Additional Observation Notes:

- grass was mowed on 06/17/19.
- Repairs to P-106 S/D and P-107 S/D were completed on 06/17/19 - new concrete pads.
- repairs were made to clean out at end of trench 2 cap now sits flush.

New York Department of Environmental Conservation
Inactive Hazardous Waste Site
Inspection Form-Treatment Systems

Previously observed: Review and comment as to status (include photo documentation)

1. Is there vegetation infringing on the perimeter fence? Remove infringing vegetation that can be removed without the use of power tools.

yes, vegetation has infringed in multiple locations. Power tools are required at this point for removal.

2. What is the condition of the protective casings on P-107 and P-106?

wells were repaired during this event. Driller reset the stand pipe with new concrete pad. PVC riser of P-107S has kink at ground surface.

3. What is the condition of the northernmost intake/access port in Trench 2? Was it repaired?

intake port was fixed at same time as P-107 S/D. ☐ yes

4. What is the condition of the metal rail in the north-central area of the fence where the fence height changes?

good unmanaged condition.

5. What is the condition of the loose and/or damaged barbed wire along the fencing previously noted?

no change from previous events

6. What is the condition of the fence posts supporting the St Vincent Street gate?

good to unmanaged condition.

Photograph Log:

Photograph 1	Flow meter / totalizer in treatment building
Photograph 2	interior of manhole
Photograph 3	end of top rail where fence height changes (west of P-107 S/D)
Photograph 4	NW end of Trench 2, sits flush after being fixed by drillers.
Photograph 5	North fence near P-106 S/D new tree growth, requires power tools
Photograph 6	SW corner of Cortlieg Ave tree branch pulled away.
Photograph 7	not visible due to tree and plant growth damaged barbed wire.
Photograph 8	new tree growth near P-105
Photograph 9	st vincent street gate entrance.
Photograph 10	Effluent sample port.

Performance Monitoring

Were check samples collected during this visit? (Yes) No

Sample type collected *(circle or write in other)* : (Groundwater) (Effluent)

List Parameters/Methods Collected Per Media:

(LTM) - VOCs (8260), TAL metals (Cd, Cr, Cu, Pb, Ni, Zn) note: P-107D and GW-01 field filtered due to high turbidity.

effluent - VOCs (624), metals (Cd, Cr, Cu, Pb, Ni, Zn), Arsenic, PH.

Analytical Laboratory/Location:

ALS laboratories 1565 Jefferson Road, BLDG 300, suite 360, Rochester NY 14623

Sample Observations:

none.

Monitoring Well Inspection Form

Inspector(s): Alex Howe
Date: 06/17/2019 **Reviewed by:** NV 6/21/19

Well ID	Ground Elevation[1] (feet msl)	Estimated Measurement Point Elevation[2] (feet msl)	Water Level (feet TOR)	Stickup on Casing (feet)	TOC to TOR (feet)	Depth to BOW (feet TOR)	Well ID Clearly Labeled (Y/N)	Well Lock (Y/N)	Cap on Well Riser (G/P/F)	Cap on Protective Casing (G/F/P)	Protective Casing (G/F/P)	Concrete Pad (G/F/P)	Comments
P-103	521.8	524.3	6.70	2.84	0.32	18.05	Y	Y	G	G	G	G	no visible pad
P-105	522.7	525.1	4.14	2.93	0.46	18.17	Y	Y	G	G	G	G	no visible pad
P-106S	521.1	524.8	7.81	3.98	0.29	18.46	Y	Y	G	G	G	G	Fixed by Drillers on 06/17/19
P-106D	520.8	524.3	28.63	3.79	0.40	77.41	Y	Y	G	G	G	G	" "
P-107S	519.4	522.1	8.47	3.15	0.22	17.1	Y	Y	G	G	G	G	" "
P-107D	519.3	522.0	29.10	3.14	0.48	77.9	Y	Y	G	G	G	G	" "
GW-01[3]	NA	NA	5.56	NA	0.41	17.4	Y	N	G	G	G	G	Road box

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) GW-01 not surveyed as of 12/14/2016.

NM = Not measured
msl = mean sea level
TOC = top of casing
TOR = top of riser
BOW = bottom of well

F = Fair
G = Good
N = No
P = Poor
Y = yes

Attachment 1 –Photographic Log

Client:	NYSDEC	***Project Number:***	3612122251
Site Name:	Primoshield, Inc.	***Site Location:***	Utica, New York.

Photographer: Alex Howe ***Date:*** 6/17/2019 ***Photograph:*** 1 ***Direction:*** n/a ***Description:*** Flow meter/totalizer reading	
Photographer: Alex Howe ***Date:*** 6/17/2019 ***Photograph:*** 2 ***Direction:*** n/a ***Description:*** View in Manhole	

Attachment 1 –Photographic Log

Client: NYSDEC ***Project Number:*** 3612122251

Site Name: Primoshield, Inc. ***Site Location:*** Utica, New York.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 3

Direction:
WNW

Description:
End of top rail where fence height changes.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 4

Direction:
n/a

Description:
Northwest end collection trench #2 cleanout lid repaired 6/17/19.

Attachment 1 –Photographic Log

Client:	NYSDEC	***Project Number:***	3612122251
Site Name:	Primoshield, Inc.	***Site Location:***	Utica, New York.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 5

Direction:
West

Description:
Trees, vines, and other vegetation growing on north fence near P-106 well pair.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 6

Direction:
SSW

Description:
Southwest corner, slightly damaged barbed wire.

Attachment 1 –Photographic Log

Client:	NYSDEC	***Project Number:***	3612122251
Site Name:	Primoshield, Inc.	***Site Location:***	Utica, New York.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 7

Direction:
ESE

Description:
Heavy vegetation on south fence line near adjacent building.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 8

Direction:
SE

Description:
Vegetation along fence east of P-105.

Attachment 1 –Photographic Log

Client:	NYSDEC	***Project Number:***	3612122251
Site Name:	Primoshield, Inc.	***Site Location:***	Utica, New York.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 9

Direction:
South

Description:
St Vincent Street gate. Gate posts are tilting slightly, but the gate is functional.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 10

Direction:
n/a

Description:
Effluent sample port inside treatment building.

ATTACHMENT 2

FIELD DATA RECORDS, CHAIN OF CUSTODY, AND LABORATORY ANALYTICAL RESULTS

EFFLUENT SAMPLING RECORD

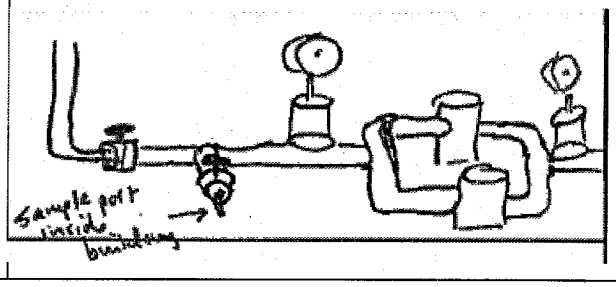
PROJECT NAME	**Primoshield Inc.**
PROJECT NUMBER	3612122251.03
SAMPLER NAME	Alex Howe
SAMPLER SIGNATURE	Alex Howe
CHECKED BY: AE	**DATE:** 6-19-19

Monitoring Location: Collection System Effluent

Sample ID: 633027-Effluent

Sample Date/Time: 06/17/2019 @ 1600

SKETCH/NOTES:



ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED
X	VOCs	624	none	3 x 40mL
X	Metals*	200.7	HNO	125mL
X	pH	150.1	none	100mL
X	Cyanide	9010	NAOH	125mL

MACTEC

511 Congress Street, Portland Maine 04101

*- cadmium, chromium, copper, lead, nickel and zinc

temp = 13.01
spec = 0.816
Do = 99.0%
= 10.34 mg/L

pH = 6.92

Turb = 3.92

July 10, 2019 Service Request No:R1905608

Ms. Becky Brosnan
AMEC Foster Wheeler Environment & Infrastructure Inc.
511 Congress Street, Suite 200
Portland, ME 04101

Laboratory Results for: NYSDEC Primoshield

Dear Ms.Brosnan,

Enclosed are the results of the sample(s) submitted to our laboratory June 18, 2019
For your reference, these analyses have been assigned our service request number **R1905608.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, 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), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

CC: Julie Ricardi

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental

Client: Wood E&IS - Portland ME
Project: NYSDEC Primoshield
Sample Matrix: Water

Service Request: R1905608
Date Received: 06/18/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Two water samples were received for analysis at ALS Environmental on 06/18/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

Method Kelada-01, 06/21/2019: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Volatiles by GC/MS:

No significant anomalies were noted with this analysis.

Approved by _____ Date 07/10/2019

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Wood E&IS - Portland ME **Service Request:**R1905608
Project: NYSDEC Primoshield/3612122251.03

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1905608-001	633027 - Effluent	6/17/2019	1600
R1905608-002	Trip Blank	6/17/2019	

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 57496

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: Primoshield	Project Number: 36121222551.03
Project Manager: Jean Firth	Report CC: Julie Ricardi
Company/Address: Wood PLC 511 Congress Str Portland, Me 04101	
Phone #: 207 775 5401	Email: alexander.howe@woodplc.com
Sampler's Signature:	Sampler's Printed Name: Alex Howe

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 0 2 4 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 8243 CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS: TOTAL (List in comments below)	METALS: DISSOLVED (List in comments below)	Cyanide / TCN	pH						REMARKS/ ALTERNATE DESCRIPTION
633027-Effluent		06/17/19	1600	GW	3						1		1	1						
TRIP BLANK		06/10/19	1210	W	3															

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals Cd, Cr, Cu, Pb, Ni, Zn

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED New York

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day ____ 5 day
____ Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE
per Quote

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
per Quote
Edata ____ Yes ____ No

INVOICE INFORMATION
PO # C0122O5718
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature:	Signature:	Signature	Signature	Signature	Signature
Printed Name: Alex Howe	Printed Name:	Printed Name	Printed Name	Printed Name	
Firm: WOOD PLC	Firm: ALS	Firm	Firm	Firm	
Date/Time: 06/19 1700	Date/Time: 6/18/19 0930	Date/Time	Date/Time	Date/Time	

R1905608 5
AMEC Foster Wheeler Environment & Infrastructu
NYSDEC Primoshield

Distribution: White - Lab Copy; Yellow - Return to Originator

R1905608 5
AMEC Foster Wheeler Environment & Infrastructu
NYSDEC Primeshield

Cooler Receipt and Preservation Check Form

Project/Client Woyel Folder Number .

Cooler received on 6/18/19 by: AD

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	(Y) N	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	(Y) N NA
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	(ALS/ROC) CLIENT
4	Circle: (Wet Ice) **Dry Ice Gel packs** present?	(Y) N	7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 6/18/19 Time: 0953 ID: IR#7 (IR#10) From: (Temp Blank) Sample Bottle

Observed Temp (°C)	3.8						
Correction Factor (°C)	+0.3						
Corrected Temp (°C)	4.1						
Temp from:Type of bottle	Cent tube						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by AD on 6/18/19 at 1000
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 6/18/19 Time: 1305 by: AD

9.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
10.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
11.	Were correct containers used for the tests indicated?	(YES)	NO
12.	Were 5035 vials acceptable (no extra labels, not leaking)?	YES	NO (N/A)
13.	Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized	Tedlar® Bags Inflated	(N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12	220617	NaOH	✓		196213					
≤2		HNO_3	✓		1118071					
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For (CN), Phenol, 625, 608pest, 522	✓		If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 19-05-07 8-039-001
Explain all Discrepancies/ Other Comments:

headspace: 3 vials headspace

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
(PH)	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: AD
PC Secondary Review: JMS 6/18/19 *significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

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REPORT QUALIFIERS AND DEFINITIONS

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 ñNotesò 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 ñimmediateò 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% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratoryôs 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 case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: Wood E&IS - Portland ME **Service Request:** R1905608
Project: NYSDEC Primoshield/3612122251.03

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
SM 4500-H+ B	Water	Temperature of pH Analysis
SM 4500-H+ B	Water	pH

Client:	Wood E&IS - Portland ME	**Service Request:**	R1905608
Project:	NYSDEC Primoshield/3612122251.03		

Sample Name:	633027 - Effluent	**Date Collected:**	06/17/19
Lab Code:	R1905608-001	**Date Received:**	06/18/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
200.7	AKONZEL	NMANSEN
624		DLIPANI
Kelada-01		CWOODS
SM 4500-H+ B		KMENGS

Sample Name:	Trip Blank	**Date Collected:**	06/17/19
Lab Code:	R1905608-002	**Date Received:**	06/18/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
624		DLIPANI

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

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Volatile Organic Compounds by GC/MS

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Analytical Report

Client:	Wood E&IS - Portland ME	**Service Request:**	R1905608
Project:	NYSDEC Primoshield/3612122251.03	**Date Collected:**	06/17/19 16:00
Sample Matrix:	Water	**Date Received:**	06/18/19 09:30
Sample Name:	633027 - Effluent	**Units:**	ug/L
Lab Code:	R1905608-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	**6.34**	1.00	0.210	1	06/20/19 18:31	
1,1,2,2-Tetrachloroethane	1.00 U	1.00	0.200	1	06/20/19 18:31	
1,1,2-Trichloroethane	1.00 U	1.00	0.200	1	06/20/19 18:31	
1,1-Dichloroethane (1,1-DCA)	**0.860 J**	1.00	0.200	1	06/20/19 18:31	
1,1-Dichloroethene (1,1-DCE)	**0.720 J**	1.00	0.250	1	06/20/19 18:31	
1,2-Dichlorobenzene	1.00 U	1.00	0.200	1	06/20/19 18:31	
1,2-Dichloroethane	1.00 U	1.00	0.200	1	06/20/19 18:31	
1,2-Dichloropropane	1.00 U	1.00	0.200	1	06/20/19 18:31	
1,3-Dichlorobenzene	1.00 U	1.00	0.200	1	06/20/19 18:31	
1,4-Dichlorobenzene	1.00 U	1.00	0.200	1	06/20/19 18:31	
2-Chloroethyl Vinyl Ether	10.0 U	10.0	0.530	1	06/20/19 18:31	
Acrylonitrile	10.0 U	10.0	0.900	1	06/20/19 18:31	
Benzene	1.00 U	1.00	0.200	1	06/20/19 18:31	
Bromodichloromethane	1.00 U	1.00	0.220	1	06/20/19 18:31	
Bromoform	1.00 U	1.00	0.250	1	06/20/19 18:31	
Bromomethane	1.00 U	1.00	0.700	1	06/20/19 18:31	
Carbon Tetrachloride	1.00 U	1.00	0.340	1	06/20/19 18:31	
Chlorobenzene	1.00 U	1.00	0.200	1	06/20/19 18:31	
Chloroethane	1.00 U	1.00	0.230	1	06/20/19 18:31	
Chloroform	1.00 U	1.00	0.240	1	06/20/19 18:31	
Chloromethane	1.00 U	1.00	0.280	1	06/20/19 18:31	
Dibromochloromethane	1.00 U	1.00	0.200	1	06/20/19 18:31	
Methylene Chloride	1.00 U	1.00	0.360	1	06/20/19 18:31	
Ethylbenzene	1.00 U	1.00	0.200	1	06/20/19 18:31	
Tetrachloroethene (PCE)	1.00 U	1.00	0.210	1	06/20/19 18:31	
Toluene	1.00 U	1.00	0.200	1	06/20/19 18:31	
Trichloroethene (TCE)	**11.3**	1.00	0.200	1	06/20/19 18:31	
Trichlorofluoromethane (CFC 11)	1.00 U	1.00	0.240	1	06/20/19 18:31	
Vinyl Chloride	1.00 U	1.00	0.200	1	06/20/19 18:31	
cis-1,2-Dichloroethene	**2.35**	1.00	0.230	1	06/20/19 18:31	
cis-1,3-Dichloropropene	1.00 U	1.00	0.200	1	06/20/19 18:31	
m,p-Xylenes	2.00 U	2.00	0.200	1	06/20/19 18:31	
o-Xylene	1.00 U	1.00	0.200	1	06/20/19 18:31	
trans-1,2-Dichloroethene	1.00 U	1.00	0.200	1	06/20/19 18:31	
trans-1,3-Dichloropropene	1.00 U	1.00	0.230	1	06/20/19 18:31	

Analytical Report

Client:	Wood E&IS - Portland ME	**Service Request:**	R1905608
Project:	NYSDEC Primoshield/3612122251.03	**Date Collected:**	06/17/19 16:00
Sample Matrix:	Water	**Date Received:**	06/18/19 09:30
Sample Name:	633027 - Effluent	**Units:**	ug/L
Lab Code:	R1905608-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	102	73 - 125	06/20/19 18:31	
4-Bromofluorobenzene	98	85 - 122	06/20/19 18:31	
Toluene-d8	102	87 - 121	06/20/19 18:31	

Analytical Report

Client:	Wood E&IS - Portland ME	**Service Request:**	R1905608
Project:	NYSDEC Primoshield/3612122251.03	**Date Collected:**	06/17/19
Sample Matrix:	Water	**Date Received:**	06/18/19 09:30
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R1905608-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1.00 U	1.00	0.210	1	06/20/19 18:53	
1,1,2,2-Tetrachloroethane	1.00 U	1.00	0.200	1	06/20/19 18:53	
1,1,2-Trichloroethane	1.00 U	1.00	0.200	1	06/20/19 18:53	
1,1-Dichloroethane (1,1-DCA)	1.00 U	1.00	0.200	1	06/20/19 18:53	
1,1-Dichloroethene (1,1-DCE)	1.00 U	1.00	0.250	1	06/20/19 18:53	
1,2-Dichlorobenzene	1.00 U	1.00	0.200	1	06/20/19 18:53	
1,2-Dichloroethane	1.00 U	1.00	0.200	1	06/20/19 18:53	
1,2-Dichloropropane	1.00 U	1.00	0.200	1	06/20/19 18:53	
1,3-Dichlorobenzene	1.00 U	1.00	0.200	1	06/20/19 18:53	
1,4-Dichlorobenzene	1.00 U	1.00	0.200	1	06/20/19 18:53	
2-Chloroethyl Vinyl Ether	10.0 U	10.0	0.530	1	06/20/19 18:53	
Acrylonitrile	10.0 U	10.0	0.900	1	06/20/19 18:53	
Benzene	1.00 U	1.00	0.200	1	06/20/19 18:53	
Bromodichloromethane	1.00 U	1.00	0.220	1	06/20/19 18:53	
Bromoform	1.00 U	1.00	0.250	1	06/20/19 18:53	
Bromomethane	1.00 U	1.00	0.700	1	06/20/19 18:53	
Carbon Tetrachloride	1.00 U	1.00	0.340	1	06/20/19 18:53	
Chlorobenzene	1.00 U	1.00	0.200	1	06/20/19 18:53	
Chloroethane	1.00 U	1.00	0.230	1	06/20/19 18:53	
Chloroform	1.00 U	1.00	0.240	1	06/20/19 18:53	
Chloromethane	1.00 U	1.00	0.280	1	06/20/19 18:53	
Dibromochloromethane	1.00 U	1.00	0.200	1	06/20/19 18:53	
Methylene Chloride	1.00 U	1.00	0.360	1	06/20/19 18:53	
Ethylbenzene	1.00 U	1.00	0.200	1	06/20/19 18:53	
Tetrachloroethene (PCE)	1.00 U	1.00	0.210	1	06/20/19 18:53	
Toluene	1.00 U	1.00	0.200	1	06/20/19 18:53	
Trichloroethene (TCE)	1.00 U	1.00	0.200	1	06/20/19 18:53	
Trichlorofluoromethane (CFC 11)	1.00 U	1.00	0.240	1	06/20/19 18:53	
Vinyl Chloride	1.00 U	1.00	0.200	1	06/20/19 18:53	
cis-1,2-Dichloroethene	1.00 U	1.00	0.230	1	06/20/19 18:53	
cis-1,3-Dichloropropene	1.00 U	1.00	0.200	1	06/20/19 18:53	
m,p-Xylenes	2.00 U	2.00	0.200	1	06/20/19 18:53	
o-Xylene	1.00 U	1.00	0.200	1	06/20/19 18:53	
trans-1,2-Dichloroethene	1.00 U	1.00	0.200	1	06/20/19 18:53	
trans-1,3-Dichloropropene	1.00 U	1.00	0.230	1	06/20/19 18:53	

Analytical Report

Client:	Wood E&IS - Portland ME	**Service Request:**	R1905608
Project:	NYSDEC Primoshield/3612122251.03	**Date Collected:**	06/17/19
Sample Matrix:	Water	**Date Received:**	06/18/19 09:30
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R1905608-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	95	73 - 125	06/20/19 18:53	
4-Bromofluorobenzene	97	85 - 122	06/20/19 18:53	
Toluene-d8	101	87 - 121	06/20/19 18:53	

Metals

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METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

633027 - Effluent

Contract: R1905608

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: 633027-Efflu

Matrix (soil/water): WATER Lab Sample ID: R1905608-001

Level (low/med): LOW Date Received: 6/18/2019

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-43-9	Cadmium	5.0	U		P
7440-47-3	Chromium	10.0	U		P
7440-50-8	Copper	20.0	U		P
7439-92-1	Lead	50.0	U		P
7440-02-0	Nickel	40.0	U		P
7440-66-6	Zinc	20.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

General Chemistry

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Analytical Report

Client:	Wood E&IS - Portland ME	**Service Request:**	R1905608
Project:	NYSDEC Primoshield/3612122251.03	**Date Collected:**	06/17/19 16:00
Sample Matrix:	Water	**Date Received:**	06/18/19 09:30
Sample Name:	633027 - Effluent	**Basis:**	NA
Lab Code:	R1905608-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	0.0050 U	mg/L	0.0050	1	06/21/19 19:07	
pH	SM 4500-H+ B	**7.13**	pH Units	-	1	06/18/19 14:00	H
Temperature of pH Analysis	SM 4500-H+ B	**20.6**	deg C	-	1	06/18/19 14:00	H

QC Summary Forms

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Volatile Organic Compounds by GC/MS

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Client: Wood E&IS - Portland ME **Service Request:** R1905608
Project: NYSDEC Primoshield/3612122251.03
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1
Extraction Method: EPA 5030C

Sample Name	Lab Code	1,2-Dichloroethane-d4 73-125	4-Bromofluorobenzene 85-122	Toluene-d8 87-121
633027 - Effluent	R1905608-001	102	98	102
Trip Blank	R1905608-002	95	97	101
Method Blank	RQ1906231-05	96	97	100
Lab Control Sample	RQ1906231-04	99	95	100

Analytical Report

Client:	Wood E&IS - Portland ME	**Service Request:**	R1905608
Project:	NYSDEC Primoshield/3612122251.03	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1906231-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1.00 U	1.00	0.210	1	06/20/19 11:36	
1,1,2,2-Tetrachloroethane	1.00 U	1.00	0.200	1	06/20/19 11:36	
1,1,2-Trichloroethane	1.00 U	1.00	0.200	1	06/20/19 11:36	
1,1-Dichloroethane (1,1-DCA)	1.00 U	1.00	0.200	1	06/20/19 11:36	
1,1-Dichloroethene (1,1-DCE)	1.00 U	1.00	0.250	1	06/20/19 11:36	
1,2-Dichlorobenzene	1.00 U	1.00	0.200	1	06/20/19 11:36	
1,2-Dichloroethane	1.00 U	1.00	0.200	1	06/20/19 11:36	
1,2-Dichloropropane	1.00 U	1.00	0.200	1	06/20/19 11:36	
1,3-Dichlorobenzene	1.00 U	1.00	0.200	1	06/20/19 11:36	
1,4-Dichlorobenzene	1.00 U	1.00	0.200	1	06/20/19 11:36	
2-Chloroethyl Vinyl Ether	10.0 U	10.0	0.530	1	06/20/19 11:36	
Acrylonitrile	10.0 U	10.0	0.900	1	06/20/19 11:36	
Benzene	1.00 U	1.00	0.200	1	06/20/19 11:36	
Bromodichloromethane	1.00 U	1.00	0.220	1	06/20/19 11:36	
Bromoform	1.00 U	1.00	0.250	1	06/20/19 11:36	
Bromomethane	1.00 U	1.00	0.700	1	06/20/19 11:36	
Carbon Tetrachloride	1.00 U	1.00	0.340	1	06/20/19 11:36	
Chlorobenzene	1.00 U	1.00	0.200	1	06/20/19 11:36	
Chloroethane	1.00 U	1.00	0.230	1	06/20/19 11:36	
Chloroform	1.00 U	1.00	0.240	1	06/20/19 11:36	
Chloromethane	1.00 U	1.00	0.280	1	06/20/19 11:36	
Dibromochloromethane	1.00 U	1.00	0.200	1	06/20/19 11:36	
Methylene Chloride	1.00 U	1.00	0.360	1	06/20/19 11:36	
Ethylbenzene	1.00 U	1.00	0.200	1	06/20/19 11:36	
Tetrachloroethene (PCE)	1.00 U	1.00	0.210	1	06/20/19 11:36	
Toluene	1.00 U	1.00	0.200	1	06/20/19 11:36	
Trichloroethene (TCE)	1.00 U	1.00	0.200	1	06/20/19 11:36	
Trichlorofluoromethane (CFC 11)	1.00 U	1.00	0.240	1	06/20/19 11:36	
Vinyl Chloride	1.00 U	1.00	0.200	1	06/20/19 11:36	
cis-1,2-Dichloroethene	1.00 U	1.00	0.230	1	06/20/19 11:36	
cis-1,3-Dichloropropene	1.00 U	1.00	0.200	1	06/20/19 11:36	
m,p-Xylenes	2.00 U	2.00	0.200	1	06/20/19 11:36	
o-Xylene	1.00 U	1.00	0.200	1	06/20/19 11:36	
trans-1,2-Dichloroethene	1.00 U	1.00	0.200	1	06/20/19 11:36	
trans-1,3-Dichloropropene	1.00 U	1.00	0.230	1	06/20/19 11:36	

Analytical Report

Client:	Wood E&IS - Portland ME	**Service Request:**	R1905608
Project:	NYSDEC Primoshield/3612122251.03	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1906231-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	96	73 - 125	06/20/19 11:36	
4-Bromofluorobenzene	97	85 - 122	06/20/19 11:36	
Toluene-d8	100	87 - 121	06/20/19 11:36	

Client: Wood E&IS - Portland ME
Project: NYSDEC Primoshield/3612122251.03
Sample Matrix: Water

Service Request: R1905608
Date Analyzed: 06/20/19

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS, Unpreserved

Units:ug/L
Basis:NA

Lab Control Sample
RQ1906231-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	624.1	19.5	20.0	98	70-130
1,1,2,2-Tetrachloroethane	624.1	19.5	20.0	97	60-140
1,1,2-Trichloroethane	624.1	18.2	20.0	91	70-130
1,1-Dichloroethane (1,1-DCA)	624.1	20.6	20.0	103	70-130
1,1-Dichloroethene (1,1-DCE)	624.1	20.1	20.0	101	50-150
1,2-Dichlorobenzene	624.1	18.3	20.0	92	65-135
1,2-Dichloroethane	624.1	19.2	20.0	96	70-130
1,2-Dichloropropane	624.1	19.5	20.0	98	35-165
1,3-Dichlorobenzene	624.1	19.0	20.0	95	70-130
1,4-Dichlorobenzene	624.1	19.7	20.0	98	65-135
2-Chloroethyl Vinyl Ether	624.1	17.2	20.0	86	1-225
Acrylonitrile	624.1	114	100	114	60-140
Benzene	624.1	19.6	20.0	98	65-135
Bromodichloromethane	624.1	18.9	20.0	94	65-135
Bromoform	624.1	18.4	20.0	92	70-130
Bromomethane	624.1	14.6	20.0	73	15-185
Carbon Tetrachloride	624.1	19.4	20.0	97	70-130
Chlorobenzene	624.1	19.3	20.0	97	65-135
Chloroethane	624.1	15.4	20.0	77	40-160
Chloroform	624.1	18.7	20.0	94	70-135
Chloromethane	624.1	14.2	20.0	71	1-205
Dibromochloromethane	624.1	18.3	20.0	92	70-135
Methylene Chloride	624.1	19.7	20.0	98	60-140
Ethylbenzene	624.1	19.5	20.0	97	60-140
Tetrachloroethene (PCE)	624.1	19.5	20.0	97	70-130
Toluene	624.1	19.2	20.0	96	70-130
Trichloroethene (TCE)	624.1	19.0	20.0	95	65-135
Trichlorofluoromethane (CFC 11)	624.1	20.4	20.0	102	50-150
Vinyl Chloride	624.1	17.9	20.0	90	5-195
cis-1,2-Dichloroethene	624.1	19.7	20.0	99	80-117
cis-1,3-Dichloropropene	624.1	20.4	20.0	102	25-175
m,p-Xylenes	624.1	39.0	40.0	98	80-126
o-Xylene	624.1	19.2	20.0	96	79-123

Client: Wood E&IS - Portland ME
Project: NYSDEC Primoshield/3612122251.03
Sample Matrix: Water

Service Request: R1905608
Date Analyzed: 06/20/19

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS, Unpreserved

Units:ug/L
Basis:NA

Lab Control Sample
RQ1906231-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
trans-1,2-Dichloroethene	624.1	21.7	20.0	109	70-130
trans-1,3-Dichloropropene	624.1	24.0	20.0	120	50-150

Metals

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

METALS

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BLANKS

Contract: R1905608

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: 633027-Efflu

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

Analyte	Initial Calib. Blank ug/L	C	Continuing Calibration Blank ug/L 1	C	2	C	3	C	Preparation Blank	C	M
Cadmium	5.00	U	5.00	U	5.00	U	5.00	U	5.000	U	P
Chromium	10.00	U	10.00	U	10.00	U	10.00	U	10.000	U	P
Copper	20.00	U	20.00	U	20.00	U	20.00	U	20.000	U	P
Lead	50.00	U	50.00	U	50.00	U	50.00	U	50.000	U	P
Nickel	40.00	U	40.00	U	40.00	U	40.00	U	40.000	U	P
Zinc	20.00	U	20.00	U	20.00	U	20.00	U	20.000	U	P

Comments:

METALS

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BLANKS

Contract: R1905608

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: 633027-Efflu

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

Analyte	Initial Calib. Blank ug/L	C	Continuing Calibration Blank ug/L 1	C	2	C	3	C	Preparation Blank	C	M
Cadmium			5.00	U	5.00	U	5.00	U			P
Chromium			10.00	U	10.00	U	10.00	U			P
Copper			20.00	U	20.00	U	20.00	U			P
Lead			50.00	U	50.00	U	50.00	U			P
Nickel			40.00	U	40.00	U	40.00	U			P
Zinc			20.00	U	20.00	U	20.00	U			P

Comments:

METALS

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SPIKE SAMPLE RECOVERY

SAMPLE NO.

633027 - EffluentS

Contract: R1905608

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: 633027-Efflu

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Cadmium	75 - 125	52.20		5.00	U	50.0	104		P
Chromium	75 - 125	210.00		10.00	U	200.0	105		P
Copper	75 - 125	246.00		20.00	U	250.0	98		P
Lead	75 - 125	517.00		50.00	U	500.0	103		P
Nickel	75 - 125	532.00		40.00	U	500.0	106		P
Zinc	75 - 125	514.00		20.00	U	500.0	103		P

Comments:

METALS

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

633027 - EffluentSD

Contract: R1905608

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: 633027-Efflu

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Cadmium	75 - 125	52.00		5.00	U	50.0	104		P
Chromium	75 - 125	208.00		10.00	U	200.0	104		P
Copper	75 - 125	244.00		20.00	U	250.0	98		P
Lead	75 - 125	512.00		50.00	U	500.0	102		P
Nickel	75 - 125	527.00		40.00	U	500.0	105		P
Zinc	75 - 125	507.00		20.00	U	500.0	101		P

Comments: _____

METALS
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DUPLICATES

SAMPLE NO.

633027 - EffluentSD

Contract: R1905608

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: 633027-Efflu

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Cadmium		52.20		52.00		0		P
Chromium		210.00		208.00		1		P
Copper		246.00		244.00		1		P
Lead		517.00		512.00		1		P
Nickel		532.00		527.00		1		P
Zinc		514.00		507.00		1		P

Comments:

METALS

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LABORATORY CONTROL SAMPLE

Contract: R1905608

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: 633027-Efflu

Solid LCS Source: _____

Aqueous LCS Source: CPI

Analyte	Aqueous (ug/L			Solid (mg/K				
	True	Found	%R	True	Found	C	Limits	%R
Cadmium	50	53	106					
Chromium	200	208	104					
Copper	250	241	96					
Lead	500	526	105					
Nickel	500	518	104					
Zinc	500	511	102					

Comments: _____

General Chemistry

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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	Wood E&IS - Portland ME	**Service Request:**	R1905608
Project:	NYSDEC Primoshield/3612122251.03	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1905608-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	0.0050 U	mg/L	0.0050	1	06/21/19 18:07	

Client: Wood E&IS - Portland ME
Project: NYSDEC Primoshield/3612122251.03
Sample Matrix: Water

Service Request: R1905608
Date Analyzed: 06/21/19

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1905608-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	Kelada-01	0.122	0.100	122 *	90-110