Periodic Review Report

Urbana Landfill Site
Urbana, New York
NYSDEC Site No. 8-51-007

July 2012 0001-001-300

Prepared By:

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

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PERIODIC REVIEW REPORT

URBANA LANDFILL SITE
NYSDEC SITE NO. 8-51-007
URBANA, NEW YORK

July 2012 0001-001-300

Prepared for:

Mercury Aircraft, Inc.
Hammondsport, New York

Prepared By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
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PERIODIC REVIEW REPORT

Urbana Landfill Site

Table of Contents

1.0 INTRODUCTION 1
- 1.1 Background 1
- 1.2 Compliance and Recommendations 2

2.0 SITE OVERVIEW 3
- 2.1 Landfill Cover System 4
- 2.2 Groundwater Recovery and Treatment System 4
- 2.3 Hot Spot 5 Remediation 5
- 2.4 Stream Bank Stabilization 5

3.0 POST REMEDIAL MONITORING COMPLIANCE 6
- 3.1 Groundwater Recovery and Treatment System 6
- 3.2 Groundwater Monitoring 6
- 3.3 Soil Vapor Extraction (SVE) System 7

4.0 OPERATION & MAINTENANCE COMPLIANCE 7
- 4.1 Groundwater Treatment System 7
- 4.2 Landfill Cover System 7
  - *4.2.1 PVC Gas Vent Riser Pipe 8*
  - *4.2.2 Landfill Site Inspection 8*
- 4.3 Stream Bank Stabilization 8

5.0 DOWN GRADIENT PROPERTIES 9

6.0 CONCLUSIONS AND RECOMMENDATIONS 10

7.0 DECLARATIONS AND LIMITATIONS 11

PERIODIC REVIEW REPORT
Urbana Landfill Site

Table of Contents

LIST OF TABLES

Table 1	Summary of Groundwater Treatment System Effluent Data

LIST OF FIGURES

Figure 1	Site Location and Vicinity Map
Figure 2	Site Plan

APPENDICES

Appendix A	IC/EC Certification Forms
Appendix B	Summary of Groundwater Analytical Results
Appendix C	Site Walkover Photo Log

1.0 INTRODUCTION

Benchmark Environmental Engineering and Science, PLLC (Benchmark), has prepared this Periodic Review Report (PRR) for the Urbana Landfill site (Site No.8-51-007) on behalf of Mercury Aircraft, Inc. This PRR documents implementation of post-remedial measures undertaken at the site during the reporting period of May 1, 2011 through May 30, 2012. This PRR has been prepared in accordance with the NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation (May 2010). NYSDEC's Institutional and Engineering Controls Certification Forms have been prepared for the Site as well.

1.1 Background

The Urbana Landfill is located on Crow's Nest road, approximately one mile northeast of the Village of Hammondsport, New York in Steuben County as shown on Figures 1 and 2. The landfill, which received municipal and industrial wastes, was classified by the New York State Department of Environmental Conservation (NYSDEC) as a Class 2 inactive hazardous waste disposal site (Site No. 8-51-007), indicating that it posed a significant threat to public health or the environment, and that remedial action was required. The landfill property encompasses an area of 20 acres, with approximately 13 acres dedicated to waste disposal. The property is currently owned by Steven and Tammi Perkins.

The New York State Department of Environmental Conservation (NYSDEC) performed a remedial investigation (RI) at the site in 1997 to determine the extent of contamination from past disposal practices. Industrial users of the landfill included Mercury Aircraft, Inc. who voluntarily reported the disposal of small quantities of chlorinated solvent still bottoms and paint sludge at the landfill. Mercury Aircraft subsequently retained Benchmark Environmental Engineering & Science, PLLC (Benchmark) to complete additional investigations at the site and to develop a Remedial Action Work Plan for the landfill. Mercury Aircraft executed an NYSDEC-issued Order on Consent covering design and construction of the remedial measures on June 21, 2000. Design plans and specifications were prepared by Benchmark and approved by NYSDEC in April 2001. Benchmark was retained by Mercury Aircraft to perform the remedial construction on a design-build basis. In accordance with the ROD, remedial measures implemented at the site included:

- Enhancement of the existing landfill cover;
- Collection and treatment of contaminated groundwater;
- Installation of a soil vapor extraction (SVE) system within "Hotspot 5" on the upper terrace of the landfill (SVE operations were deemed complete and terminated in 2004).
- Stream bank relocation/stabilization

1.2 Compliance and Recommendations

The groundwater collection and treatment system are operated and maintained by Mercury Aircraft in accordance with a draft "Post Remedial Operation and Maintenance Plan" (O&M Plan) dated May 2003. Monthly discharge sampling is performed as a component of that work. In addition, the Town of Urbana performs seasonal mowing and maintenance of the cover system and stream bank, and maintains site access roads.

As further described herein, the remedial measures appear to remain protective of human health and the environment, and no significant compliance issues have arisen related to the post-remedial measures undertaken to date. Accordingly, no recommended changes to the collection and treatment system operation, landfill engineering controls or reporting approach are recommended at this time.

2.0 SITE OVERVIEW

The Urbana Landfill encompasses an area of approximately 20 acres, of which approximately 13 acres were used for landfilling purposes. The Remedial Investigation (RI) and subsequent remedial action broke the site into sub-parcels based on elevation and topography. These sub-parcels, deemed the upper, middle lower and western terraces, were allegedly subject to various trench filling operations, with the middle and lower terraces used more extensively for disposal than other areas. The landfill was officially closed in September of 1978, at which point two feet of cover soil were placed over the Site.

In 1982 it was reported that the Site had improper final cover and uncontrolled access. It was subsequently added to the NYSDEC Registry of Inactive Hazardous Waste Sites as a Class 2a Site, meaning additional information was required before the NYSDEC could determine the significance of the threat posed by the site conditions. The NYSDEC and New York State Department of Health (NYSDOH) conducted sampling at the Site in 1988 and again in 1992. In 1994 it was classified as a Class 2 site, indicating that it posed a significant threat to human health and/or the environment and that remedial action is required.

The geology of the site is described as glacial till overlying fractured shale and sandstone. The till deposits consist of sandstone and shale. Soils occupying the stream valley along the west side of the site are comprised of till and recent fluvial deposits (sang, gravel and cobbles) in the upper part, and boulders and till with a veneer of stream deposits in the lower portion near Crow's Nest Road.

There are two aquifers at the site; the overburden aquifer and the bedrock aquifer. Depth to groundwater at the Urbana Landfill ranges from 4.5' below ground surface (fbgs) to 28' fbgs in the overburden. The bedrock/groundwater interface is generally the most productive zone of groundwater in the overburden. In general overburden and upper bedrock groundwater flow is to the southwest toward the stream valley near Crow's Nest Road. Groundwater velocity is estimated at 0.55 to 1.8 feet per day.

Prior to remedial activities groundwater impacts were detected in several of the onsite shallow and intermediate monitoring wells, primarily in the southwest area of the site and at MW-103S on the upper terrace. Contaminants of concern (COCs) were generally limited to chlorinated volatile organic compounds (VOCs) and to a lesser extent petroleum-based VOCs. Certain metals were also present above NY State Class GA Groundwater Quality

Standards and Guidance Values (GQSGVs) but were largely comprised of naturally-occurring minerals (iron, calcium, potassium, sodium, etc.). Soil gas and subsurface soil sampling indicated the presence of certain "hotspot" areas within the landfill as characterized by elevated chlorinated VOC data, with "Hotspot 5" on the upper terrace of the landfill characterized by the highest concentration of VOCs.

As indicated in Section 1.0, Mercury Aircraft, Inc. voluntarily agreed to implement remedial measures at the Site following completion of the RI/FS. The basis for the remedial approach and design are presented in detail in the May 2000 Remedial Action Work Plan and April 2001 Design Plans and Specifications prepared by Benchmark. A brief description of the remedial measures implemented at the site is provided below.

2.1 Landfill Cover System

Supplemental (pre-design) investigation work performed by Mercury Aircraft indicated that much of the existing landfill had sufficient cover thickness and low permeability to provide an effective hydraulic barrier against infiltration consistent with the substantive requirements of 6NYCRR Part 360. To preclude contact with the waste and limit leachate generation, areas of the site where sufficient cover soil was not already present were enhanced with soil cover to provide a minimum of 24 inches of soil cover. The supplemental cover placed consisted of up to 18 inches of low permeability barrier layer and 6 inches of topsoil, and was seeded to promote vegetative (grass) cover.

A gas venting system, which consisted of gas venting wells, was installed at approximately one per acre. The gas venting wells were constructed to fully penetrate the cover system and unsaturated fill material. Gas vents were completed with a perforated PVC pipe, backfilled with select granular fill, and a solid riser pipe extending a minimum of three feet above the final cover system.

2.2 Groundwater Recovery and Treatment System

Contaminated groundwater is currently recovered along the western perimeter of the landfill between Crow's Nest Road and monitoring well MW-107 using submersible pumps in three vertical recovery wells. The groundwater is pumped to treatment equipment housed in a pre-cast concrete building located near Crow's Nest Road.

The treatment process incorporates advanced oxidation technology (AOT). AOT is a destructive process incorporating ultraviolet light and hydrogen peroxide to form hydroxyl radicals, which are powerful oxidizers that convert chlorinated organics to carbon dioxide, water, and chloride salts. The groundwater treatment process also incorporates an influent day tank to temporarily store groundwater and facilitate batch process treatment. A filtration system (e.g., bag filters) installed ahead of the day tank mitigates solids build-up in the tank and increases AOT efficiency. Groundwater is pumped from the day tank through the AOT unit. A hydrogen peroxide feed system incorporating a storage tank, metering pump, and control panel is installed in-line with the AOT unit. The feed system delivers 50 percent hydrogen peroxide to the groundwater influent line upstream of the AOT unit. Treated groundwater is discharged via gravity to an infiltration chamber located downgradient of the recovery wells.

2.3 Hot Spot 5 Remediation

Hot Spot 5, located in the upper terrace of the landfill, was remediated through SVE remediation. The SVE system was comprised of a series of six vertical extraction wells piped to a trailer-mounted vapor extraction system. The SVE system was started in June 2002 and operated until June 2004, with temporary shutdown of the trailer during the period of November through March to mitigate potential freeze-up of the SVE equipment and collection wells. Post-treatment confirmation sampling confirmed that the system had achieved remedial goals, and the trailer and extraction wells were permanently decommissioned.

2.4 Stream Bank Stabilization

NYSDEC requested that 30 feet of separation be maintained between the landfill and an unnamed stream located to the west of the landfill. This was accomplished by regrading and consolidating portions of the waste along the west bank of the landfill and by relocating and stabilizing (with riprap) two sections of the stream away from the landfill.

3.0 POST REMEDIAL MONITORING COMPLIANCE

Components of the post remedial monitoring plan are described below.

3.1 Groundwater Recovery and Treatment System

Contaminated groundwater is recovered along the western perimeter of the landfill between Crow's Nest Road and MW-107 using submersible pumps in three vertical recovery wells. The groundwater is pumped to treatment equipment housed in a pre-cast concrete building located near Crow's Nest Road and treated via an Advanced Oxidation Technology (AOT) process as described in Section 2.2. Effluent samples and flow measurements are collected on a monthly basis. Effluent samples are analyzed for Target Compound List VOCs via Method 8260. In June 2011 the NYSDEC approved a reduced reporting frequency whereby monthly data is reported to the Department on a quarterly basis unless discharge concentrations exceed Class GA Groundwater Quality Standards & Guidance Values (GWQSGVs), in which case notification is required upon receipt of the non-conformant data. Table 1, attached, presents a summary of the effluent results for the period of April 2011 through May 2012. In general the results indicate non-detectable concentrations or only trace levels of residual VOCs below the associated GWQSGVs with the exception of the results for the February 7th 2012 event, which indicated slightly elevated concentrations of cis-1,2-DCE and TCE. The effluent was re-sampled later that month and all results fell below the GWQSGVs.

Results of monthly monitoring have indicated consistent compliance with Class GA Groundwater Standards. Over 9,879,980 gallons of water have been treated to date.

3.2 Groundwater Monitoring

Post remedial monitoring of all the site groundwater monitoring wells was performed in January 2009. The monitoring was performed as requested by the NYSDEC in consideration of potential reclassification of the site. Results are summarized in Appendix B of this report.

3.3 Soil Vapor Extraction (SVE) System

As indicated in Section 2.4 the SVE system was decommissioned in July 2004, and as such the SVE operation is not part of the post remedial monitoring program.

4.0 OPERATION & MAINTENANCE COMPLIANCE

Major components of the Operation and Maintenance Plan include the Groundwater Treatment System and the Landfill Cover System. Specific Operation & Maintenance (O&M) requirements are presented below.

4.1 Groundwater Treatment System

O&M activities of the Groundwater Treatment System include periodic maintenance of the treatment system equipment and monthly compliance effluent discharge monitoring. Periodic maintenance completed during this monitoring period include changing of the treatment system filtration bag filters, replacement of hydrogen peroxide feed pump fittings, and refilling of the hydrogen peroxide feed storage tank. A log sheet documenting these activities is maintained within the groundwater treatment system building. Monthly monitoring performed on the groundwater treatment system indicates it is achieving the design criteria for the site.

4.2 Landfill Cover System

O&M activities of the Landfill Cover System include the following:

- Monitoring well repair (as necessary)
- Cover system and stream riprap inspection
- Gas venting system inspection
- Semi-annual cover system mowing
- Minor cover system/riprap repairs (as necessary)

- Repair/replace poplar trees (as necessary)
- Maintain and plow access road and groundwater treatment system driveway as necessary
- Fencing/gate repair (as necessary)

4.2.1 PVC Gas Vent Riser Pipe

During the May 2011 site inspection, it was documented that a PVC gas vent riser pipe along the Western Terrance of the landfill was damaged. The gas vent riser was repaired in August 2011.

4.2.2 Landfill Site Inspection

An inspection of the landfill cover system was performed on June 11th 2012. Observations made during the inspection indicate the vegetative cover is well established, with no evidence of erosion. There were no indications of leachate breakouts and /or staining on the cover system. The site access road appears dry with no washouts or erosion.

Mowing of the cover system turf is expected in late summer 2012. O&M activities performed on the landfill cover system indicate compliance with the site design criteria. A photo log of the June 2012 site walkover is presented in Appendix C of this report.

4.3 Stream Bank Stabilization

Similar to the cover system, inspection of the stream bank stabilization was performed on June 11th 2012. The inspection indicated that vegetation has grown into the riprap and stone bedding (as expected), but no encroachment of the stream toward the landfill has occurred.

5.0 DOWN GRADIENT PROPERTIES

No development has occurred on down gradient properties proximate to the site during this reporting period. If development does occur, a Soil Vapor Intrusion (SVI) evaluation will be performed on the down gradient property. This SVI evaluation submittal will be reviewed and approved by NYSDOH and NYSDEC.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The subject property in compliance with current post-remedial Site Management requirements. No development of the property or changes in use that would result in increased human health exposure or fish and wildlife impact were observed. The institutional and engineering controls remain in effect. Components of the post-closure requirements have achieved the remedial action objectives for the site.

7.0 DECLARATIONS AND LIMITATIONS

Benchmark personnel conducted the IC/EC inspection for the property addressed as Town Of Urbana Landfill- Urbana, New York, according to generally accepted practices. This report complies with the scope of work provided to Mercury Aircraft Inc. by Benchmark.

This report has been prepared for the exclusive use of Mercury Aircraft, Inc. The contents of this report are limited to information available at the time of the site inspection. The findings herein may be relied upon only at the discretion of Mercury Aircraft, Inc. Use of or reliance upon this report or its findings by any other person or entity is prohibited without written permission of Benchmark Environmental Engineering and Science, PLLC.

TABLES

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 1

SUMMARY OF EFFLUENT GROUNDWATER TREATMENT SYSTEM RESULTS

TOWN OF URBANA LANDFILL
URBANA, NEW YORK

Effluent Sampling Event	Volume Data (Gal)		Volatile Organic Compounds (ug/L) [1]					
	Total Volume	Period Total	1,1, Dichloroethane	Acetone	Cis 1,2, Dichloroethene	Chloroethane	Trichloroethene	Total VOCs ug/1
April 2011	8,652,034	141,804	ND	26	ND	ND	ND	26
May 2011	8,830,840	178,806	0.57	23	ND	ND	ND	23.57
June 2011	8,970,540	139,700	ND	ND	ND	ND	ND	ND
July 2011	9,057,830	87,290	ND	24	ND	ND	ND	24
August 2011	9,115,490	57,660	ND	43	ND	ND	ND	43
September 2011	9,147,690	32,200	ND	20.9	ND	ND	ND	20.9
October 2011	9,202,510	54,820	ND	25	ND	ND	ND	25
November 2011	9,281,550	79,040	ND	ND	ND	ND	ND	ND
December 2011	9,369,080	87,530	ND	19	ND	ND	ND	19
January 2012	9,496,970	127,890	ND	ND	ND	ND	ND	ND
February 2012	9,605,170	108,200	ND	11 B	13	ND	19	43
February 2012 (2)	-	-	ND	17 B	ND	ND	ND	17
March 2012	9,685,860	80,690	ND	25 B	ND	ND	ND	25
April 2012	9,800,300	114,440	ND	ND	ND	ND	ND	ND
May 2012	9,879,980	79,680	ND	14.8	ND	ND	ND	14.8
Class GA GWQS/GVs[3] (ug/L):			5	50	5	5	5	N/A

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table.
2. Resample of process effluent due to anomalous VOC concentrations during February 7th 2012 monitoring event.
3. Per NYSDEC Techical & Operational Guidance Series (T.O.G.S) 1.1.1

Definitions:

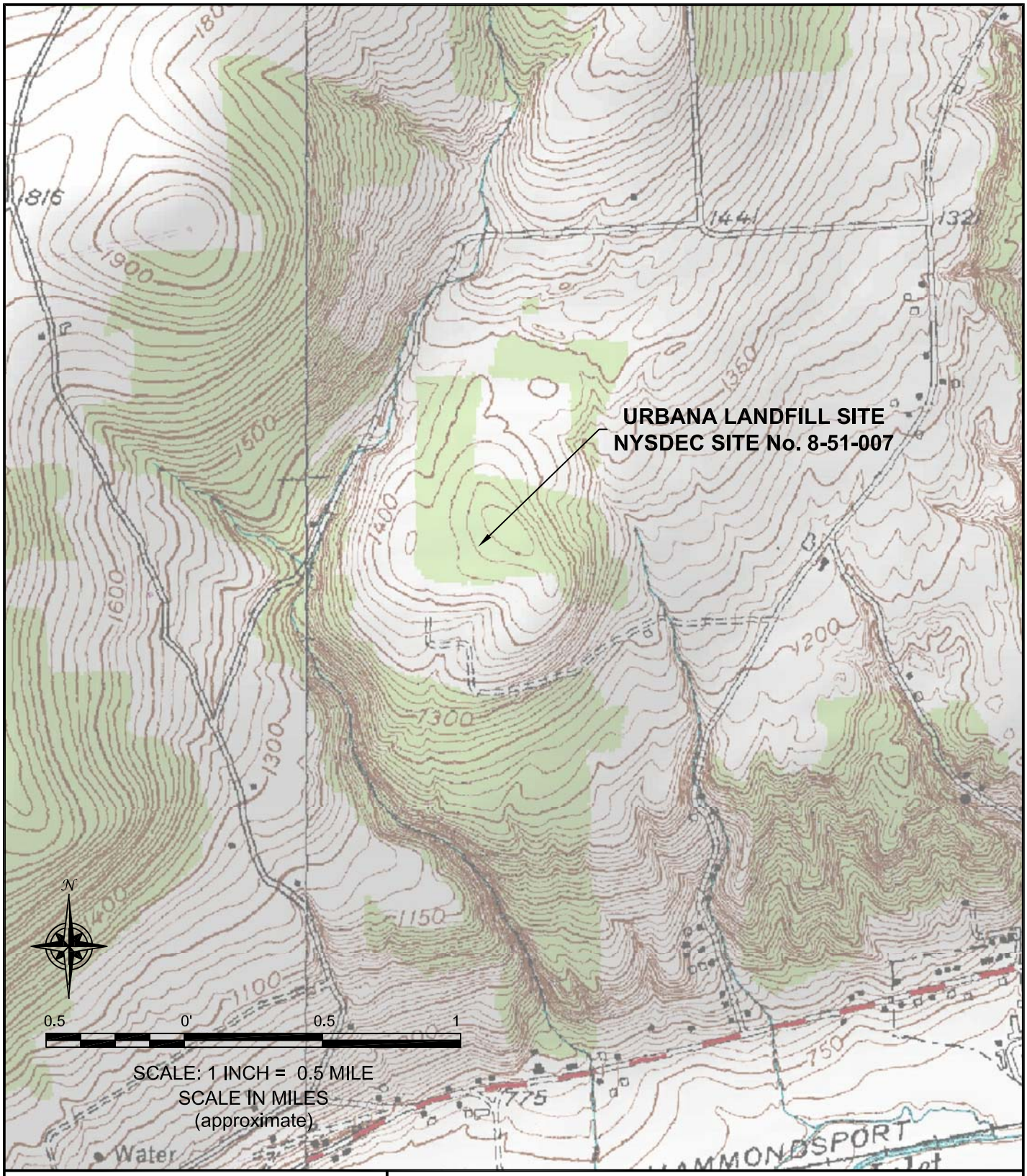
ND = Parameter not detected above laboratory detection limit.

B = Method Blank contained trace levels of analyte .

FIGURES

F:\CAD\Benchmark\Mercury Aircraft\Post-Closure Monitoring Plan\Periodic Review Report\Figure 1 - Site Location Map.dwg

FIGURE 1



BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

PROJECT NO.: 0001-001-300

DATE: MAY 2011

DRAFTED BY: JCT

SITE LOCATION & VICINITY MAP

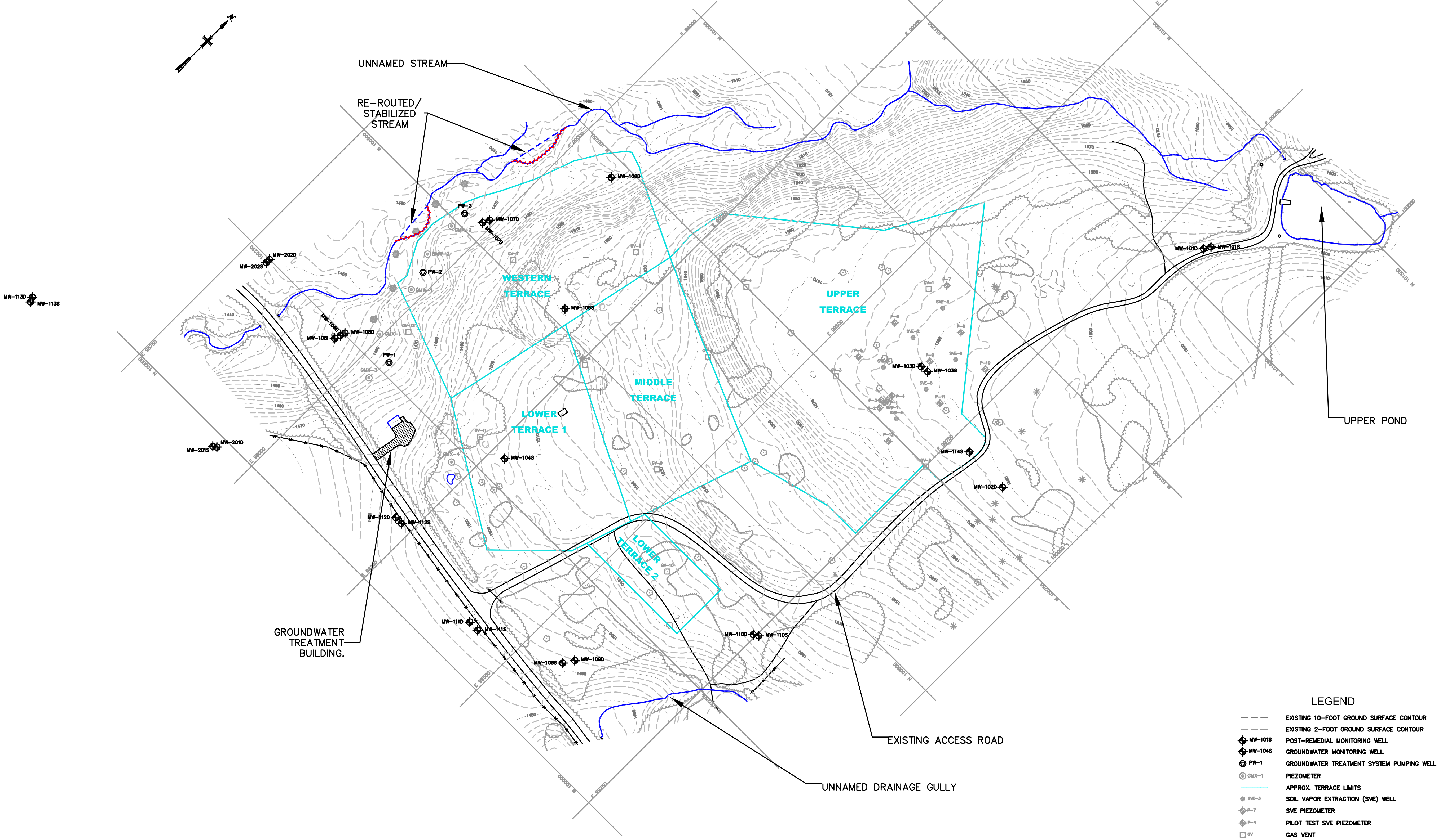
PERIODIC REVIEW REPORT

URBANA LANDFILL SITE
NYSDEC SITE No. 8-51-007
URBANA, NEW YORK

PREPARED FOR

MERCURY AIRCRAFT, INC.

F:\CAD\Benchmark\Mercury Aircraft\Post-Closure Monitoring Plan\Periodic Review Report\Figure 2 - Site Plan.dwg



LEGEND

— — —	EXISTING 10-FOOT GROUND SURFACE CONTOUR
— — —	EXISTING 2-FOOT GROUND SURFACE CONTOUR
MW-101S	POST-REMEDIAL MONITORING WELL
MW-104S	GROUNDWATER MONITORING WELL
PW-1	GROUNDWATER TREATMENT SYSTEM PUMPING WELL
GMX-1	PIEZOMETER
	APPROX. TERRACE LIMITS
SVE-3	SOIL VAPOR EXTRACTION (SVE) WELL
P-7	SVE PIEZOMETER
P-4	PILOT TEST SVE PIEZOMETER
GV	GAS VENT

80' 0' 80' 160'

SCALE: 1 INCH = 80 FEET
SCALE IN FEET
(approximate)

WARNING: IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW SECTION 7209.2 OR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING PERSON SHALL COMPLY WITH ALL REQUIREMENTS OF NEW YORK EDUCATION LAW SECTION 7209.2.

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JOB NO.: 0001-001-300

REVISIONS

NO.	BY	DATE	REMARKS

SEAL

DRAWN BY:	JCT
DATE:	MAY 2011
CHECKED BY:	
APPROVED BY:	

DISCLAIMER:
PROPERTY OF BENCHMARK EES, PLLC. IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK EES, PLLC.

SITE PLAN

PERIODIC REVIEW REPORT
NYSDEC SITE No. 8-51-007
URBANA, NEW YORK
URBANA LANDFILL SITE
PREPARED FOR
MERCURY AIRCRAFT, INC.

FIGURE 2

APPENDIX A

INSTITUTIONAL AND ENGINEERING CONTROLS CERTIFICATION FORM

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. 851007

Site Name Urbana Landfill

Site Address: Crow's Nest Road Zip Code: 14840
City/Town: Hammondsport
County: Steuben
Site Acreage: 12.0
Reporting Period: ~~April 30, 2011~~ MAY 1, 2011 to ~~June 30~~ May 31, 2012 ~~April 30, 2012~~

	YES	NO
1. Is the information above correct?	☐	☒
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 thru 4, include documentation or evidence that documentation has been previously submitted with this certification 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? 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 DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. 851007

Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
103.00-01-005.100	Steve and Tammi Perkins	
		Site Management Plan

Box 4

Description of Engineering Controls

Parcel	Engineering Control
103.00-01-005.100	
	Groundwater Treatment System

Engineering Control Details for Site No. 851007

Parcel: 103.00-01-005.100
The PRP must operate the groundwater treatment system until the Record of Decision cleanup goals are achieved.

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;

   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) 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;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative _____ Date _____

IC CERTIFICATIONS
SITE NO. 851007

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 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 Joseph F. Meade IV at 17 Wheeler Ave. / Hammondsport NY 14840
print name print business address

am certifying as Owner Remedial Party (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

8/1/12
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 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 Thomas H. Forbes, PE at 2558 Hamburg Turnpike, Lackawanna, NY 14218
print name — print business address

am certifying as a Professional Engineer for the Remedial Party
(Owner or Remedial Party)

STATE OF NEW YORK
THOMAS H. FORBES
LICENSED PROFESSIONAL ENGINEER

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

8-1-12
Date

APPENDIX B

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 2

ANALYTICAL DATA SUMMARY

Groundwater Monitoring Event - January 2009
Urbana Landfill - Site Code 8-51-007
Urbana, New York

PARAMETER	Monitoring Location																GWQS [2]
	MW-101S	MW-101D	MW-102D	MW-103S	MW-103D	MW-104S	MW-105S	MW-106D	MW-107S	MW-107D	MW-108S	MW- 108I	MW-108D	MW-109S	MW-109D	MW-110S	
Field Measurements [6]:																	
pH (units)	6.87	7.48	7.74	(7)	7.24	6.35	6.76	7.65	7.21	7.33	7.16	6.84	7.63	7.11	7.49	(7)	6.5 - 8.5
Temperature (^{o}C)	6.5	7.9	7.4	(7)	7.0	5.6	6.6	8.4	6.8	8.3	4.2	7.3	6.4	3.4	8.1	(7)	NA
Sp. Conductance (uS)	148	234.9	334	(7)	421	1050	886	542.7	865	816.5	750	834	780	692.1	485	(7)	NA
Turbidity (NTU)	>100	63	45	(7)	26.2	87	42.3	2	>100	16.4	38.6	195	6.17	78.7	5.43	(7)	NA
Eh (mV)	- 26	+ 113	+ 63	(7)	+ 107	- 48	- 76	+ 95	0	+ 94	+ 122	+ 133	+ 84	+ 68	+ 46	(7)	NA
Volatile Organic Compounds (ug/L):																	
Acetone	ND	ND	ND	(7)	ND	2.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	(7)	5
Benzene	ND	ND	ND	(7)	ND	**4.3**	0.56 J	ND	ND	ND	ND	ND	ND	ND	ND	(7)	1
1,1,1-Trichloroethane	ND	ND	1.7	(7)	**84**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	(7)	5
1,1-Dichloroethane	ND	ND	ND	(7)	**45**	ND	0.92 J	ND	ND	ND	ND	ND	ND	ND	ND	(7)	5
1,1-Dichloroethene	ND	ND	ND	(7)	**9.1**	ND	ND	ND	4.8	ND	ND	ND	ND	ND	ND	(7)	5
1,2-Dichlorobenzene	ND	ND	ND	(7)	ND	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	(7)	3
1,4-Dichlorobenzene	ND	ND	ND	(7)	ND	**5.9**	1.3	ND	ND	ND	ND	ND	ND	ND	ND	(7)	3
Chlorobenzene	ND	ND	ND	(7)	ND	**18**	1.8	ND	ND	ND	ND	ND	ND	ND	ND	(7)	5
Chloroethane	ND	ND	ND	(7)	**20**	ND	1.3	ND	**7.2**	ND	ND	ND	ND	ND	ND	(7)	5
cis-1,2-Dichloroethene	ND	ND	ND	(7)	**23**	ND	1.8	ND	**1100**	**0.57**	**20**	**19**	2.3	ND	ND	(7)	5
Isopropylbenzene	ND	ND	ND	(7)	ND	4.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	(7)	5
Methylene Chloride	ND	ND	ND	(7)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	(7)	5
trans-1,2-Dichloroethene	ND	ND	ND	(7)	ND	ND	ND	ND	3.8	ND	2	0.66 J	ND	ND	ND	(7)	5
Trichloroethene	ND	ND	ND	(7)	**62**	ND	1.1	ND	**140**	ND	**12**	**19**	0.78 J	ND	ND	(7)	5
Vinyl Chloride	ND	ND	ND	(7)	**5.5**	ND	0.82 J	ND	**290**	ND	ND	0.72 J	ND	ND	ND	(7)	2
Xylenes, Total	ND	ND	ND	(7)	ND	**150**	ND	ND	ND	ND	ND	ND	ND	ND	ND	(7)	5
Total VOCs	**0**	**0**	**1.7**	**0**	**248.6**	**186.9**	**9.6**	**0**	**1545.8**	**0.57**	**34**	**39.38**	**3.08**	**0**	**0**	**0**	**NA**

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TABLE 2 (continued)

ANALYTICAL DATA SUMMARY

Groundwater Monitoring Event - January 2009
Urbana Landfill - Site Code 8-51-007
Urbana, New York

PARAMETER	Monitoring Location															GWQS [2]
	MW-110D	MW-111S	MW-111D	MW-112S	MW-112D	MW-113S	MW-113D	MW-114S	MW-201S	MW-201D	MW-202S	MW-202D	PW-1	PW-2	PW-3	
Field Measurements [6]:																
pH (units)	7.13	(7)	6.98	6.72	**12.30**	6.93	(8)	(7)	7.17	**9.28**	8.09	**12.04**	6.62	6..63	6.88	6.5 - 8.5
Temperature (^{o}C)	6.0	(7)	9.0	9.0	8.0	6.7	(8)	(7)	8.2	6.3	7.1	6.8	15.4	17.9	16.0	NA
Sp. Conductance (uS)	992	(7)	749	850	4124	670	(8)	(7)	676.6	180.1	151	1472	945	989	567	NA
Turbidity (NTU)	7.8	(7)	86	345	66	8.3	(8)	(7)	>100	28	532	3.8	13	12.8	13.1	NA
Eh (mV)	+ 16	(7)	+ 22	+ 138	- 85	+ 150	(8)	(7)	- 28	+ 7	+ 77	- 61	- 22	- 13	0	NA
Volatile Organic Compounds (ug/L):																
Acetone	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	ND	ND	ND	ND	**9.1**	5
Benzene	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	ND	ND	0.78 J	ND	ND	1
1,1,1-Trichloroethane	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	ND	ND	0.95 J	ND	ND	5
1,1-Dichloroethene	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	ND	ND	2.2	2.2	ND	5
1,2-Dichlorobenzene	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	ND	ND	ND	ND	ND	3
1,4-Dichlorobenzene	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	ND	ND	ND	ND	ND	3
Chlorobenzene	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	ND	ND	ND	ND	ND	5
Chloroethane	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	ND	ND	**7.6**	ND	ND	5
cis-1,2-Dichloroethene	ND	(7)	ND	ND	ND	4	(8)	(7)	ND	ND	**20**	2	**530**	**400**	**39**	5
Isopropylbenzene	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	ND	ND	ND	ND	ND	5
Methylene Chloride	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	ND	ND	ND	ND	**8.3**	5
trans-1,2-Dichloroethene	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	0.29 J	ND	2.2	1.1	ND	5
Trichloroethene	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	**40**	0.63 J	**210**	**27**	**5.3**	5
Vinyl Chloride	ND	(7)	ND	ND	ND	**4.5**	(8)	(7)	ND	ND	ND	ND	**89**	**39**	ND	2
Xylenes, Total	ND	(7)	ND	ND	ND	ND	(8)	(7)	ND	ND	ND	ND	ND	ND	ND	5
Total VOCs	**0**	**0**	**0**	**0**	**0**	**8.5**	**0**	**0**	**0**	**0**	**60.29**	**2.63**	**842.73**	**469.3**	**61.7**	**NA**

Notes:
1. Only those compounds detected above the method detection limit at a minimum of one sample location are reported in this table, all others were reported as non-detect.
2. NYSDEC Class "GA" Groundwater Quality Standards (GWQS) as per 6 NYCRR Part 703. Guidance value used when Standard value not available.
3. Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis performed on groundwater sample collected from MW-112S
4. Blind Duplicate sample collected from MW-108D.
5. "ND" indicates parameter was not detected above laboratory reporting limit and is reported herein as not detected (ND).
6. Field measurements were collected immediately before sample collection.
7. Well was damaged, therefore no sample was obtained.
8. Well was frozen, therefore no sample was obtained.
9. " PW " = Pumping Well
10. " J " indicates the analyte was detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.

= concentration exceeds the GWQS

APPENDIX C

PHOTO LOG

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PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.:
Mercury Aircraft, Inc	Town of Urbana Landfill- Urbana, New York	0001-001-300

Photo No.	Date
1	06/11/12

Direction Photo Taken:
Southwest

Description:
Site Conditions- cover system on upper terrace of landfill area.

Photo No.	Date
2	06/11/12

Direction Photo Taken:
Southwest

Description:
Site Conditions- cover system on upper terrace of landfill area.

Prepared By: *RLD*

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.:
Mercury Aircraft, Inc	Town of Urbana Landfill- Urbana, New York	0001-001-300

Photo No.	Date
3	06/11/12

Direction Photo Taken:
West

Description:
Site Conditions- cover system on middle terrace of landfill area.

Photo No.	Date
4	06/11/12

Direction Photo Taken:
West

Description:
Site Conditions- cover system on middle terrace of landfill area.

Prepared By: *RLD*

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.:
Mercury Aircraft, Inc	Town of Urbana Landfill- Urbana, New York	0001-001-300

Photo No.	Date
5	06/11/12

Direction Photo Taken:
Northeast

Description:
Site Conditions- cover system on lower terrace 2 of landfill area.

Photo No.	Date
6	06/11/12

Direction Photo Taken:
North

Description:
Site Conditions- cover system on lower terrace 1 of landfill area.

Prepared By: *RLD*

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.:
Mercury Aircraft, Inc	Town of Urbana Landfill- Urbana, New York	0001-001-300

Photo No.	Date
7	06/11/12

Direction Photo Taken:
West

Description:
Site Conditions - Landfill access road.

Photo No.	Date
8	06/11/12

Direction Photo Taken:
North

Description:
Site Conditions - Landfill access road.

Prepared By: *RLD*

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.:
Mercury Aircraft, Inc	Town of Urbana Landfill- Urbana, New York	0001-001-300

Photo No.	Date
9	06/11/12

Direction Photo Taken:
North

Description:
Site Conditions- cover system on western terrace of landfill area.

Photo No.	Date
10	06/11/12

Direction Photo Taken:
North

Description:
Site Conditions- cover system on western terrace of landfill area.

Prepared By: *RLD*

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.:
Mercury Aircraft, Inc	Town of Urbana Landfill- Urbana, New York	0001-001-300

Photo No.	Date
11	06/11/12

Direction Photo Taken:
Northwest

Description:
Site Conditions- Groundwater Treatment System Building.

Prepared By: *RLD*