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July 26, 2011

Mr. Howard Pham
STAT Project Officer
U.S. Environmental Protection Agency, Region 5
Superfund Division
77 W. Jackson Boulevard
Chicago, Illinois 60604

**Subject: Work Plan for the Allied Paper/Portage Creek/Kalamazoo River Superfund Site,
Operable Unit 1(OU1): Allied Landfill
Kalamazoo, Michigan
CERCLIS ID: MID006007306
EPA Region 5, STAT Contract No. EP-S5-10-01, Task Order No. EP-DT05-00005
Task Monitor: Michael Berkoff, EPA Region 5 Remedial Project Manager**

Dear Mr. Berkoff:

Seagull Environmental Technologies Inc. (Seagull) is submitting the attached Work Plan for the Allied Paper/Portage Creek/Kalamazoo River Superfund Site, Operable Unit 1(OU1): Allied Landfill in Kalamazoo, Michigan. If you have any questions or comments, please contact the STAT Program Manager at (913) 908-4697.

Sincerely,

Hieu Q. Vu, PE
STAT Program Manager

Enclosures

WORK PLAN

for the

**ALLIED PAPER/PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND PROJECT
OPERABLE UNIT 1: ALLIED LANDFILL
KALAMAZOO, MICHIGAN**

CERCLIS ID No. MID006007306

Prepared For:

U.S. Environmental Protection Agency Region 5
Superfund Division
77 W. Jackson Boulevard
Chicago, Illinois 60604

Prepared By:

Seagull Environmental Technologies, Inc.
121 NE 72nd Street
Gladstone, Missouri 64118

Contract Number: EP-S5-10-01
Task Order Number: EP-DT05-00005

APPROVED BY:



Hieu Q. Vu, PE, STAT Program Manager

July 26, 2011

Date



Lynn Parman, PG, CHMM, STAT QA/QC Manager

July 26, 2011

Date



Ryan Lunt, STAT Project Manager

July 26, 2011

Date

Howard Pham, EPA Region 5, STAT Project Officer

Date

Michael Berkoff, EPA Region 5, Remedial Project Manager

Date

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1.0 INTRODUCTION

Under the U.S. Environmental Protection Agency (EPA) Region 5 Superfund Technical Assistance Team (STAT) contract (No. EP-S5-10-01), Task Order No. EP-DT05-00005, Seagull Environmental Technologies, Inc. (Seagull) was tasked to conduct soil sampling at the Allied Paper/Portage Creek/Kalamazoo River Superfund Site, Operable Unit 1 (OU1): Allied Landfill site in Kalamazoo, Michigan. This sampling activity is being conducted to resample previous locations that yielded indeterminate results for lead, mercury, and total chromium during the previously conducted Remedial Investigations.

2.0 BACKGROUND

The Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site is located in Allegan and Kalamazoo counties in southwest Michigan. The Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site spans nearly 80 miles of the Kalamazoo River between Morrow Dam and Lake Michigan and is divided into five cleanup projects known as operable units (OUs). The five OUs are: OU #1, Allied Paper Property/Bryant Mill Pond Area; OU #2, Willow Boulevard and A-Site Landfill; OU #3, King Highway Landfill; OU #4, 12th Street Landfill; and OU #5, the Portage Creek and Kalamazoo River sediments.

The primary site contaminant at the OU1 site is polychlorinated biphenyls (PCBs). PCBs were introduced to Portage Creek and the Kalamazoo River through past discharges and disposal of PCB-contaminated paper residuals by the paper industry. The five operable units are situated on the river banks and contain millions of cubic yards of PCB-contaminated waste. It has been estimated that the river sediments contain more than 120,000 pounds of PCBs.

3.0 SCOPE OF WORK

To achieve the project objective, STAT will focus on OU 1, Allied Paper Landfill. STAT will collect approximately 13 soil samples the from OU 1, which is located along Portage Creek within the city of Kalamazoo, Michigan (see Attachment A, Figure 1). The OU1 is one of the most up-gradient source areas of PCB contamination to Portage Creek and the Kalamazoo River. A Health and Safety Plan for the field activities has been developed by Seagull and is included as Attachment A

3.1 PROJECT PLANNING

Seagull staff involved with the project will coordinate all field activities with EPA Region 5 personnel. In addition, Seagull will coordinate analytical services with the receiving laboratories, including submittal of an Analytical Confirmation Request form to EPA Region 5 prior to sample collection. Seagull will also procure all required sample containers, chemical preservatives, purified water for blank samples, expendable sampling supplies, and field equipment/instruments necessary to complete the field activities. Seagull will also ensure that access has been obtained to all proposed sample locations before field activities commence. The following table (Table 1) lists Seagull personnel who will be involved with the project:

**TABLE 1
PROJECT STAFFING**

Seagull Personnel	Project Role
Hieu Q. Vu, PE	STAT Program Manager
Lynn Parman, PG, CHMM	QA/QC Manager/Data Reviewer
Ryan Lunt	Project Manager/Field Sampler
To be determined	Site Safety Officer/Field Sampler

A schedule for deliverables related to this sampling activity at the Allied Landfill Site is included in Table 2.

**TABLE 2
SCHEDULE FOR PROJECT DELIVERABLES**

Deliverable	No. of Copies	Due Date
Work Plan	3	3 days after kick-off
Health and Safety Plan	3	3 days after receipt of task order
Sampling and Analysis Plan	3	5 days after receipt of task order
Quality Assurance Project Plan	3	5 days after receipt of task order*
Field Sampling Plan	3	7 days after receipt of task order
Field Logs and Daily Diaries	7	3 days after sampling completed
Data Validation Report	3	Not required
Data Evaluation Report	3	45 days after all data reported
Return EPA-Related Files & Materials	NA	After all project activities and reports completed

* A Generic Quality Assurance Project Plan was previously developed for the STAT contract.

3.2 DATA ACQUISITION

Collection of field samples will be conducted in accordance with the attached Sampling and Analysis Plan (see Attachment B). A summary of the field samples anticipated to be collected for this activity is included in Attachment C.

3.3 DATA VALIDATION

No data validation/report will be required from Seagull for this project, as specified in the project-specific Statement of Work from EPA Region 5.

3.4 DATA EVALUATION

A Data Evaluation Report will be prepared by Seagull for only non-Contract Laboratory Program (CLP) data and delivered to EPA within 45 days after those analytical data have been reported.

3.5 HANDLING OF INVESTIGATION-DERIVED WASTE

Any soil cutting, which originated from the landfill, will be placed back into the borehole. All used sampling supplies (gloves, etc.) will be disposed of offsite as non-contaminated waste.

3.6 RECORD KEEPING

During field activities, Seagull personnel will document sample-related information on field sheets and in a field logbook. Sample-related information will also be entered into FORMS II Lite. Analytical data will be delivered to EPA Region 5 as Electronic Data Deliverables (EDD) and Superset EDDs. Copies of field notes, analytical results, EDDs, and other relevant documents will be delivered to Michael Berkoff, EPA Region 5 Remedial Project Manager.

3.7 PROJECT CLOSEOUT

Relevant site-related documents and files will be returned to EPA Region 5 following completion of all field activities and submittal of final reports.

4.0 REFERENCES

U.S. Environmental Protection Agency (EPA). 2011. NPL Fact sheet for Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site, Kalamazoo, Michigan. July.
<http://www.epa.gov/R5Super/npl/michigan/MID006007306.htm>

ATTACHMENT A

HEALTH AND SAFETY PLAN



SEAGULL ENVIRONMENTAL TECHNOLOGIES, INC. HEALTH AND SAFETY PLAN

A. SITE DESCRIPTION

Site Name: Allied Paper/Portage Creek/Kalamazoo River Superfund Site, Operable Unit 1:
Allied Landfill site

Location: Kalamazoo, Illinois Project Number: EP-DT05-00005

Site Contact: Ryan Lunt Telephone: 913.633.7139

Client Contact: Michael Berkoff Telephone: 773.750.5793

Prepared By: Ryan Lunt Date Prepared: July 25, 2011

Dates of Activities: July 28 and 29, 2011 Emergency Response: Yes No

B. SCOPE OF WORK

Site Objectives:

Seagull Environmental Technologies, Inc. (Seagull) was tasked to conduct soil sampling at the Allied Paper/Portage Creek/Kalamazoo River Superfund Site, Operable Unit 1: Allied Landfill site in Kalamazoo, Michigan. This sampling activity is being conducted to resample previous sample locations that yielded indeterminate results for lead, mercury, and total chromium during the Remedial Investigations.

Project Scope of Work and Background:

To achieve the project objective, approximately 13 soil samples will be collected from the Allied Landfill (OU1), which is located along Portage Creek within the city of Kalamazoo, Michigan. The Allied Landfill (OU1) is one of the most up-gradient source areas of PCB contamination to Portage Creek and the Kalamazoo River.

C. ON-SITE ORGANIZATION AND COORDINATION

The Project Manager has overall responsibility for all activities on site, including implementation of the site safety plan. The Project Manager may delegate this function to the Site Safety Officer. The Site Safety Officer is responsible for ensuring that work crews comply with all site safety and health requirements. All site employees are responsible for understanding and complying with this Site Safety Plan.

The following personnel are designated to carry out the stated job functions on site.

(Note: One person may carry out more than one job function.)

Project Manager: Ryan Lunt Telephone: 913.633.7130

Safety Officer: Jeff Pritchard Telephone: 913.220-5887



C. **SITE LAYOUT**

The on-site Command Post and staging area will be located upwind from all work activities. This area will be dependent on wind direction daily.

Exclusion Zone Location and Method to Identify:

The exclusion zone should extend in all directions and will be properly identified on site-specific basis. The exclusion zone location can be determined in the field if necessary.

NOTE: Keep 500 feet maximum distance away for unknown sites until the identity of materials is determine.

CRZ (decontamination area) Location and Method to Identify:

The entire Allied Landfill (OU1) will act as the CRZ. Seagull personnel will also wear the proper personal protective equipment (PPE) during site activities.



D. HAZARD EVALUATION
Present and Suspected Material Hazards

Materials Present or Suspected	Highest Observed Concentration	Exposure Limits	Primary Hazard of Material	Symptoms and Effects of Acute Exposure
Metals- (i.e. Lead and Total Chromium)	N/A	PEL =Lead 50 µg/ m ³ ; 1 mg/m ³ REL =0.5 mg/m ³ TLV = IDLH =250 mg/m ³		
PCBs	N/A	PEL =1 mg/m ³ REL =.0001 mg/m ³ TLV =. IDLH =5 mg/ m ³		
		PEL = REL =. TLV =. IDLH =		

Note: In the Exposure Limit column, include Ceiling (C) and Short-Term Exposure Limits (STEL) if they are available. Also, use the following short forms and abbreviations to complete the table above.

A = Air
 CARC = Carcinogenic
 eV = Electron volt
 U = Unknown

IDLH = Immediately dangerous to life or health
 mg/m³ = Milligram per cubic meter
 NA = Not available
 NE = None established

PEL = Permissible exposure limit
 ppm = Part per million
 REL = Recommended exposure limit
 S = Soil

TLV = Threshold limit value



Site Conditions, Hazards, and Concerns

Wind Speed and Direction		Temperature (°F)	Relative Humidity (%)	Probability of Precipitation (%)	Weather Forecast
Speed (mph):	From Direction:				
On-Site Supplies: <input checked="" type="checkbox"/> First Aid Kit <input checked="" type="checkbox"/> Fire Extinguisher <input type="checkbox"/> Air Horn <input type="checkbox"/> Oral Thermometer <input type="checkbox"/> Noise Dosimeter					
Known or Anticipated Site Hazards and Concerns:					
<input type="checkbox"/> Work on active roadway	<input type="checkbox"/> Organic chemicals	<input type="checkbox"/> Respirable silica			
<input type="checkbox"/> Overhead utilities	<input type="checkbox"/> Lift (man lift, cherry picker) use	<input type="checkbox"/> Construction work			
<input type="checkbox"/> Energized electrical systems	<input type="checkbox"/> Driving commercial vehicles	<input checked="" type="checkbox"/> Client-specific safety requirements (attach to HASP)			
<input type="checkbox"/> Onsite laboratory	<input type="checkbox"/> Chemical warfare material	<input type="checkbox"/> Blasting and explosives			
<input type="checkbox"/> Surface or underground storage tanks	<input type="checkbox"/> Scaffold use	<input type="checkbox"/> Excavation or trenching			
<input type="checkbox"/> Portable hand tool use	<input type="checkbox"/> Driving personal vehicles	<input type="checkbox"/> ATV use			
<input type="checkbox"/> Explosion or fire hazard	<input type="checkbox"/> Compressed Gas Cylinders	<input type="checkbox"/> Non-ionizing radiation (lasers, radiofrequencies, UV)			
<input checked="" type="checkbox"/> General slips, trips, falls	<input type="checkbox"/> Wood or metal ladder use	<input type="checkbox"/> Benching, shoring, bracing			
<input type="checkbox"/> Portable electrical tool use	<input type="checkbox"/> Scientific diving operations	<input type="checkbox"/> Methamphetamine lab			
<input type="checkbox"/> Oxygen deficiency	<input type="checkbox"/> Asbestos	<input type="checkbox"/> High Noise			
<input checked="" type="checkbox"/> Uneven, muddy, rugged terrain	<input type="checkbox"/> Dangerous goods shipped by air	<input type="checkbox"/> Work in strip or shaft mines			
<input type="checkbox"/> Machine guarding	<input type="checkbox"/> Injury and Illness Prevention Program (California only)	<input type="checkbox"/> Mold			
<input type="checkbox"/> Inorganic chemicals	<input type="checkbox"/> Respirable particulates	<input checked="" type="checkbox"/> Buried Utilities			
<input type="checkbox"/> Industrial truck (forklift) use	<input type="checkbox"/> Elevated work (over 6' high)	<input type="checkbox"/> Grinding operations			
<input checked="" type="checkbox"/> Portable fire extinguisher use	<input type="checkbox"/> Ergonomics (California only)	<input type="checkbox"/> Other (insert)			
Explosive or Fire Potential: <input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low <input type="checkbox"/> Unknown					



Task Specific Hazards, Control Measures and Personal Protective Equipment

Task Description:	Hazards	Sources	Control Measures	Level of Protection	
				Primary	Contingency
1. Site Survey – Drive around and verify sampling locations and utilities	Other vehicles present on site	Vehicle	Awareness of surrounding environment	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input checked="" type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input checked="" type="checkbox"/> D
2. Geoprobe soil sampling	Equipment	Geoprobe	Proper PPE	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input checked="" type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C <input type="checkbox"/> D
3.				<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
4.				<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
5.				<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
6.				<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
7.				<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D

Personal Protective Equipment

Task Number	Primary Level of Protection	PPE Component Description (Primary)	Contingency Level of Protection	PPE Component Description (Contingency)
1	D	Respirator type: N/A Cartridge type (if applicable): N/A CPC material: Tychem Glove material(s): Nitrile Boot material: Steel-toed boots Other: First Aid Kit	C	Respirator type: Half-face APR-If needed Cartridge type (if applicable): Organic Vapor CPC material: Tychem Glove material(s): Nitrile Boot material: Steel-toed boots; Other: First Aid Kit
2	D	Respirator type: N/A Cartridge type (if applicable): N/A CPC material: Tychem Glove material(s): Nitrile Boot material: Steel-toed boots Other: First Aid Kit	C	Respirator type: Half-face APR-If needed Cartridge type (if applicable): Organic Vapor CPC material: Tychem Glove material(s): Nitrile Boot material: Steel-toed boots; booties Other: First Aid Kit
3				
4				
5				



E. DECONTAMINATION PROCEDURES

Decontamination Procedures	
The site safety coordinator oversees implementation of project decontamination procedures and is responsible for ensuring they are effective.	
Personnel Decontamination Level D Decon - <input type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry Level C Decon - <input type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry Level B Decon – Briefly outline the level B decontamination methods to be used on a separate page attached to this HASP. Level A Decon – A Level 3 HASP is required. Notify your regional health and safety representative and health and safety director.	Decontamination Equipment <input type="checkbox"/> Washtubs <input checked="" type="checkbox"/> Buckets <input checked="" type="checkbox"/> Scrub brushes <input type="checkbox"/> Pressurized sprayer <input type="checkbox"/> Detergent [Type] <input type="checkbox"/> Solvent [Type] <input type="checkbox"/> Household bleach solution Concentration/Dilution: _____ <input type="checkbox"/> Deionized water <input checked="" type="checkbox"/> Disposable sanitizer wipes <input type="checkbox"/> Facemask sanitizer powder <input checked="" type="checkbox"/> Wire brush <input type="checkbox"/> Spray bottle <input type="checkbox"/> Tubs / pools <input type="checkbox"/> Banner/barrier tape <input type="checkbox"/> Plastic sheeting <input type="checkbox"/> Tarps and poles <input checked="" type="checkbox"/> Trash bags <input type="checkbox"/> Trash cans <input checked="" type="checkbox"/> Duct tape <input checked="" type="checkbox"/> Paper towels <input type="checkbox"/> Folding chairs <input type="checkbox"/> Other
Equipment Decontamination All tools, equipment, and machinery from the Exclusion Zone (hot) or Contamination Reduction Zone (warm) are decontaminated in the CRZ before they are removed to the Support Zone (cold). Equipment decontamination procedures are designed to minimize the potential for hazardous skin or inhalation exposure, cross-contamination, and chemical incompatibilities.	
Respirator Decontamination Respirators are decontaminated in compliance with SWP 6-27 and should be included with this HASP.	
Waste Handling for Decontamination Procedures for decontamination waste disposal meet all applicable local, state, and federal regulations.	



F. EMERGENCY RESPONSE PLAN AND CONTACTS LIST

Emergency Contacts

Work Care and Incident Intervention	(800) 455.6155
U.S. Coast Guard National Response Center	(800) 424.8802
InfoTrac	(800) 535.5053
Fire department	402-441.8373 or 911
Police department	402-441.7204 or 911

Personnel Call-Down List:

Job Title or Position:	Name	Primary Phone:
Regional Safety Officer	Gretchen Lynch	720.317.3999
Project Manager:	Ryan Lunt	913.633.7139
Site Safety Coordinator (SSC):	Ryan Lunt	913.220.5887
Subcontractor SSC:		

Medical and Site Emergencies:

Signal a site or medical emergency with three blasts of a loud horn (car horn, fog horn, or similar device). Site personnel should evacuate to the area of safe refuge designated on the site map.

Hospital Name:	Bronson Methodist Hospital
Address:	601 John Street Kalamazoo, Michigan 49007
General Phone:	269.341.7654
Emergency Phone:	911
Ambulance Phone:	911

Hospital called to verify emergency services are offered? YES NO

Step-by-step Route to Hospital: (see Page 10 of 12 for route map):

1. Start out going NORTH on PORTAGE ST toward REYCRAFT DR. 1.9 mi
2. Turn LEFT onto E VINE ST. 0.5 mi
*E VINE ST is just past JACKSON ST
If you are on PORTAGE ST and reach E CROSSTOWN PKWY you've gone a little too far*
3. Turn RIGHT onto S BURDICK ST. 0.03 mi
*S BURDICK ST is just past JOHN ST
If you are on W VINE ST and reach S ROSE ST you've gone a little too far*
4. Turn SLIGHT RIGHT onto JOHN ST. 0.06 mi
5. 601 JOHN ST is on the RIGHT.

B **601 John St**
Kalamazoo, MI 49007-5341
[Add a Note](#) [Search Nearby](#) [Zoom](#)
Not what you were looking for?

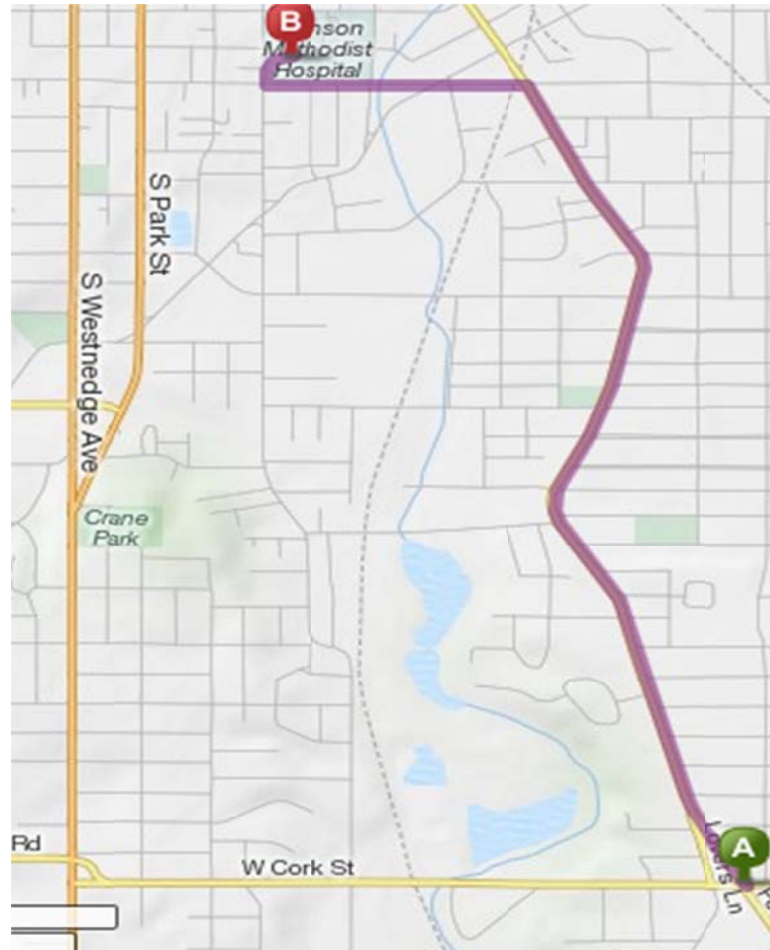


Site Map:





Hospital Route Map:





G. EMPLOYEE TRAINING

All Field employees receive 40 hours of classroom training on various health and safety topics regarding hazardous waste sites in accordance with 29 CFR 1910.120. Topics include:

Regulatory Compliance (OSHA, EPA, DOT)	Noise Stress
Toxicology	Heat/Cold Stress
Flammables	Ionizing Radiation
Corrosives Reactions	Drum Handling
Respiratory Protection	Confined Space Entry
Personal Protective Clothing	Decontamination
Environmental Monitoring	Medical Surveillance
Site Safety Plans	Hazard Communication
Contingency Plans	

Annually thereafter, all field employees receive 8 hours of refresher training on the above topics.

Managers and Supervisors receive an additional 8 hours of training on safe management of hazardous waste sites. All training complies with 29 CFR 1910.120. All field employees receive initial and recertification training in first aid and CPR. All training is documented and kept on file at SETI's corporate office. Copies of certifications are also located on each job site.

Site-specific health and safety issues are discussed at the beginning of each job. Daily safety meetings are conducted at the site and documented.

H. MEDICAL SURVEILLANCE

Pre-employment and periodic medical examinations are required under 29 CFR 1910.120 for persons working at hazardous waste sites. The medical examination must have been completed within 12 months prior to on-site activity and repeated annually. A licensed physician issues a written opinion that the worker is fit to perform at hazardous waste sites and able to wear respiratory protection. Workers are informed of their right to accessibility of medical records.

I. HAZARD COMMUNICATION

In accordance with 29 CFR 1910.1200, all site workers working with hazardous materials are provided with adequate information regarding their dangers and precautions. Containers of hazardous materials must be properly labeled and MSDSs be kept on site. Workers will be briefed on the information included in the MSDSs as part of the site-specific safety meetings.



APPROVAL AND SIGN-OFF FORM

Project No.: EP-DT05-00005

I have read, understood, and agree with the information set forth in this Health and Safety Plan and will follow the direction of the Site Safety Coordinator (SSC) as well as procedures and guidelines established in the Seagull Environmental Technologies, Inc., Health and Safety Manual. I understand the training and medical requirements for conducting field work and have met these requirements.

Name	Company / Agency / Organization	Signature	Date

I have read, understood, and agree with the information set forth in this Health and Safety Plan and comply with and will enforce this HASP, as well as procedures and guidelines established in the Seagull Environmental Technologies, Inc., Health and Safety Manual.

Name	Project-Specific Position	Signature	Date
Ryan Lunt	Project Manager		
Ryan Lunt	Site Safety Coordinator		
Pat Hall	Subcontractor SSC		

Seagull has prepared this plan solely for the purpose of the health and safety protection of Seagull employees. Subcontractors, visitors, and others at the site, while required to read and follow the provisions outlined in this plan at a minimum, should refer to their safety program for specific information related to their health and safety protection.

Note: Use Additional sheets as necessary to ensure that all personnel sign and affirm this document.

ATTACHMENT B

SAMPLING AND ANALYSIS PLAN

SAMPLING AND ANALYSIS PLAN

for the

**ALLIED PAPER/PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND PROJECT
OPERABLE UNIT 1: ALLIED LANDFILL**

CERCLIS ID No. MID006007306

Prepared For:

U.S. Environmental Protection Agency Region 5
Superfund Division
77 W. Jackson Boulevard
Chicago, Illinois 60604

Prepared By:

Seagull Environmental Technologies, Inc.
121 NE 72nd Street
Gladstone, Missouri 64118

Contract Number: EP-S5-10-01
Task Order Number: EP-DT05-00005

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Appendix

A FIGURES

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1.0 INTRODUCTION

Under the U.S. Environmental Protection Agency (EPA) Region 5 Superfund Technical Assistance Team (STAT) contract (No. EP-S5-10-01), Task Order No. EP-DT05-00005, Seagull Environmental Technologies, Inc. (Seagull) was tasked to conduct soil sampling at the Allied Paper/Portage Creek/Kalamazoo River Superfund Site: Operable Unit 1: Allied Landfill, Kalamazoo, Michigan. This sampling activity is being conducted to resample previous locations that yielded indeterminate results for lead, mercury, and total chromium during previous completed Remedial Investigations. This Sampling and Analysis Plan (SAP) identifies site-specific elements of the sampling strategy and analytical methods proposed for the sampling to be conducted by Seagull in July 2011. The SAP accompanies a generic Quality Assurance Project Plan (QAPP) for the EPA Region 5 STAT contract, previously prepared by Seagull and approved by EPA Region 5.

2.0 SITE LOCATION AND DESCRIPTION

The Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site is located in Allegan and Kalamazoo counties in southwest Michigan. The Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site spans nearly 80 miles of the Kalamazoo River between Morrow Dam and Lake Michigan and is divided into five cleanup projects known as operable units (OUs): OU #1, Allied Paper Property/Bryant Mill Pond Area; OU #2, Willow Boulevard and A-Site Landfill; OU #3, King Highway Landfill; OU #4, 12th Street Landfill; and OU #5, the Portage Creek and Kalamazoo River sediments. The main focus of the sample event is OU 1, which is located along Portage Creek within the city of Kalamazoo, Michigan (see Attachment A, Figure 1). The OU 1 is surrounded primarily by residential housing.

3.0 SAMPLING STRATEGY AND METHODOLOGY

To achieve the project objective, soil samples will be collected in the study area for laboratory analysis, as described in this SAP. The sampling activities, which will be conducted after access to locations of interest has been obtained, will require two Seagull personnel. Sampling will be conducted in accordance with approved standard operating procedures (SOP) and methods referenced in the generic QAPP, and will entail collection of 14 soil samples (including one duplicate sample) from approximately 12 boreholes (see Attachment A, Figure 2). EPA Region 5 personnel will select all sample locations.

The SOPs and chain-of-custody procedures referenced in the QAPP will be followed throughout the sampling activities to verify that integrity of the samples is maintained from the time of collection until

they are submitted to the laboratories for analysis. New disposable nitrile gloves will be worn during collection of each sample. Sampling methods to be used during these field activities are described in Sections 3.1 and 3.2, and will be conducted in accordance with the Contract Laboratory Program Guidance for Field Samplers (EPA 2007).

3.1 SOIL SAMPLES

A Geoprobe® direct-push apparatus will be used to collect 14 soil samples from 12 borehole locations (see Appendix B, Figure 2). Each borehole will be advanced to at least 24 feet below ground surface (bgs) using a Geoprobe® 4-foot-long Macro-Core® sampler fitted with a disposable polyvinyl chloride (PVC) liner. Soil samples will be collected at various depth intervals from each borehole location (see Attachment C). The soil samples will be collected from previous sample locations that were previously sampled during the Remedial Investigations.

Other pertinent data, including property ownership information and exact sample locations, will also be recorded. All soil samples will be cooled to a temperature of less than 4 degrees Celsius following collection until submittal for laboratory analysis.

TABLE 1
SAMPLE CONTAINERS AND PRESERVATIVES

Analysis	Containers	Preservatives
Metals (including mercury) (Soil)	8-ounce Glass Jar	Cool to < 4 °C

Notes:

°C Degrees Celsius
 < Less than
 > Greater than

3.2 QUALITY CONTROL SAMPLES

For this sampling activity, one blind field duplicate sample will be collected to assess the quality assurance (QA) and quality control (QC) of the sampling activities.

4.0 ANALYTICAL METHODS

All soil samples will be analyzed for lead, mercury, and total chromium. All analyses will be conducted through EPA’s Contract Laboratory Program (CLP). All analyses will be conducted according to SOPs

and methods described in the generic QAPP for the STAT contract. Appropriate containers and physical/chemical preservation techniques will be employed during the field activities to help verify that representative analytical results are obtained. Proper coordination with the receiving laboratories will be conducted to ensure no analytical holding times are exceeded.

5.0 REFERENCES

- U.S. Environmental Protection Agency (EPA). 1998. Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water. EPA/600/R-98/128. September.
- EPA. 2007. Office of Superfund Remediation and Technology Innovation. Contract Laboratory Program Guidance for Field Samplers. OSWER 9240.0-44. EPA/540/R-07/06. July.

APPENDIX A

FIGURES

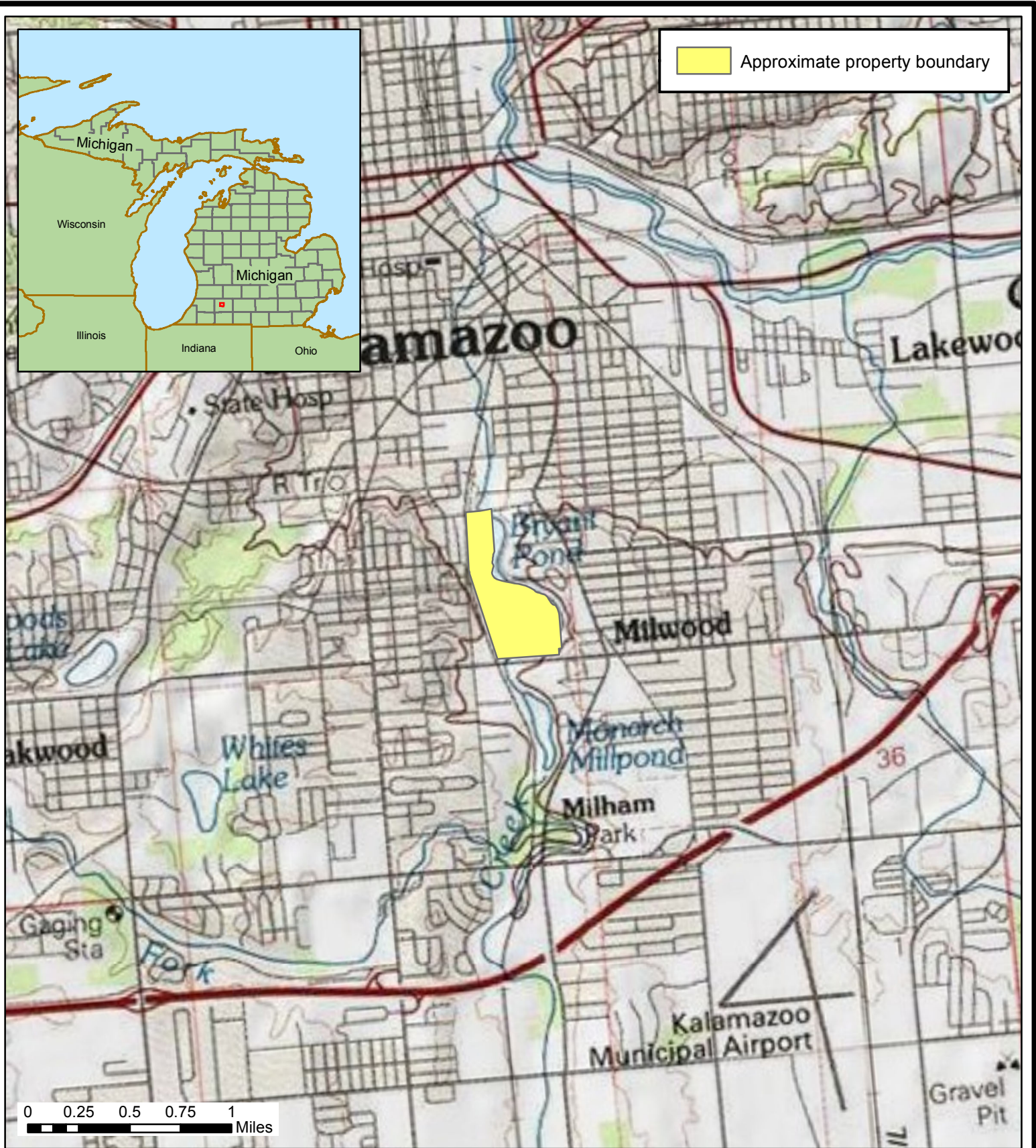
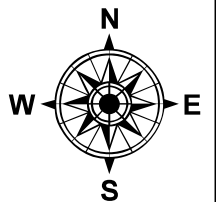


Figure 1
Site Location Map

Allied Landfill, Kalamazoo, Michigan



Seagull Environmental Technologies, Inc.



Source: U.S. Geological Survey

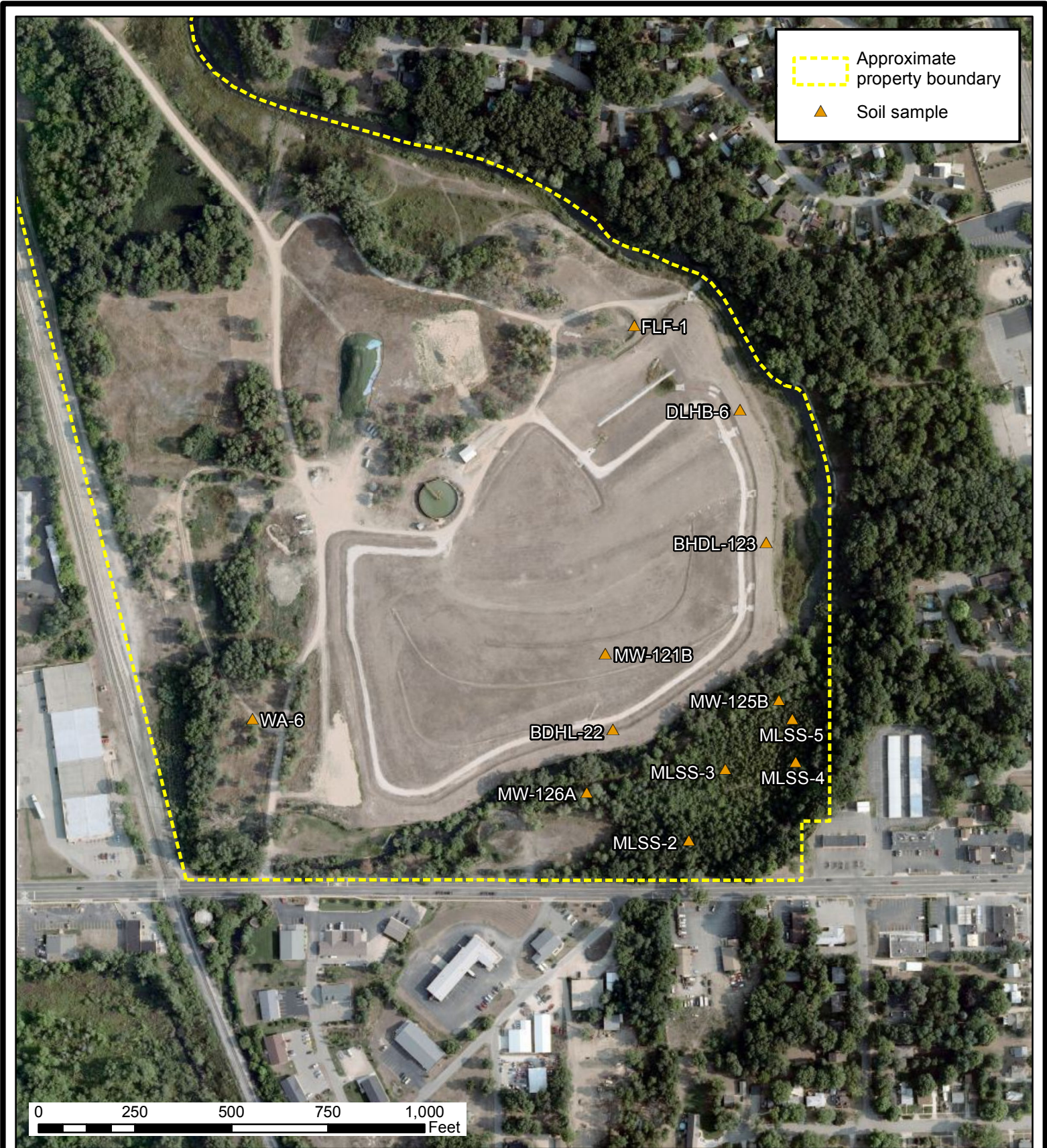
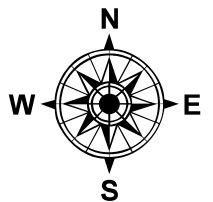


Figure 2
Proposed Sample Map

Allied Landfill, Kalamazoo, Michigan



Seagull Environmental Technologies, Inc.



Source: U.S. Geological Survey

ATTACHMENT C

FIELD SAMPLING PLAN

FIELD SAMPLING PLAN

for the

ALLIED PAPER/PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND PROJECT OPERABLE UNIT 1: ALLIED LANDFILL KALAMAZOO, MICHIGAN

CERCLIS ID No. **MID006007306**

Locations associated with the OU1 where samples are proposed to be collected by Seagull Environmental Technologies, Inc. (Seagull) in July 2011 and submitted for laboratory analysis are included in the table below (excluding quality assurance/quality control [QA/QC] samples). The priorities of the sample locations specified in the tables were authorized by U.S. Environmental Protection Agency (EPA) Region 5 personnel.

**TABLE 1
SOIL SAMPLES
OPERABLE UNIT 01: ALLIED LANDFILL
KALAMAZOO, MICHIGAN**

Sampling Location	Latitude	Longitude	Sample Depth Interval(Ft)
FLF-1	42.263606	-85.573169	6-6.5
DLHB-6	42.262996	-85.572171	*
BHDL-123	42.262048	-85.571943	8-9.5
MW-125B	42.260926	-85.571844	18-19
MLSS-4	42.260484	-85.571695	18-20
MLSS-5	42.260790	-85.571720	22-24
MLSS-3	42.260440	-85.572366	18-20
MLSS-3	42.260440	-85.572366	20-22
MLSS-2	42.259938	-85.572727	20-22
MW-121B	42.261276	-85.573499	16-17.5
MW-126A	42.260292	-85.573697	14-16
BDHL-22	42.260739	-85.573437	10-12
WA-6	42.260854	-85.576882	12-13

Notes:

*The soil depth interval for DLHB-6 will be determined on-site by the EPA Region 5 Remedial Project Manager.

Ft Feet