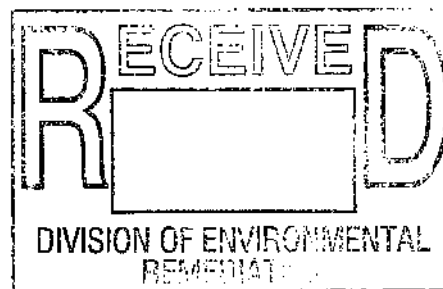




May 20, 2004

Ms. Karen Maiurano  
NYS Department of Environmental Conservation  
Division of Environmental Remediation  
Remedial Bureau C, 11<sup>th</sup> Floor  
625 Broadway  
Albany, NY 12233-7014



**Re: Off-site Groundwater Investigation  
Amenia Town Landfill  
Amenia, New York  
NYSDEC Site Code No. 3-14-006**

Dear Ms. Maiurano:

This letter presents a workplan for the investigation of off-site groundwater at the above referenced site. Mobilization for the work will begin immediately upon approval by the New York State Department of Environmental Conservation (NYSDEC) of this workplan. The NYSDEC will be informed of the start date at least one week before field mobilization.

## **1.0 INTRODUCTION**

A Remedial Investigation (RI) was conducted at the Amenia Town Landfill, Amenia, New York on behalf of the Amenia Landfill Group (ALG). A Draft RI report was submitted to the New York State Department of Environmental Conservation (NYSDEC) describing the results of the work (URS, June 2003). NYSDEC provided comments to the draft report by letter dated September 25, 2003 and requested that additional investigation be conducted between Route 22 and the West Pond Tributary, downgradient of MW-3 and MW-4, to evaluate the quality of off-site groundwater. In response to this request, this workplan summarizes a scope of work to evaluate the quality of off-site groundwater.

## **2.0 OBJECTIVE OF THE OFF-SITE GROUNDWATER INVESTIGATION**

Groundwater samples will be collected between Route 22 and the West Pond Tributary to evaluate the quality of off-site groundwater and to assess the potential for future exposures to contaminated groundwater in that area.

## **3.0 SCOPE OF WORK**

The work will be conducted in a manner consistent with the procedures described in the final scoping documents for the Amenia Town Landfill Remedial Investigation, which consists of

a Work Plan, a Sampling and Analysis Plan, a Quality Assurance and Quality Control Plan, and a Health and Safety Plan (URS, February 2001; October 2001). The following activities will be conducted for this off-site groundwater investigation:

- Advance five borings using the direct push method
- Install five temporary well points
- Collect two initial groundwater samples and three contingency groundwater samples
- Submit the initial two samples for expedited laboratory analyses
- Analyze the contingency samples if the initial samples are contaminated
- Prepare a letter report describing the results of the investigation and present recommendations for any additional action

Five groundwater samples (OF-1A, -1B, -2A, -2B, and -2C) will be collected from temporary well points installed at the locations shown in Figure 1. Two samples will be collected opposite monitoring well MW-3. Three samples will be collected opposite monitoring well MW-4 because of the greater distance in this area between Route 22 and West Pond Tributary. The samples will be collected using the direct push drilling method. A direct push boring will be advanced to the depth of the water table, estimated to be about 20 to 25 ft below the ground surface. A Geoprobe-brand screen point groundwater sampler with expendable drive point will be used to intersect the water table. The drill string will then be retracted to expose a stainless-steel screen allowing groundwater to enter the sampler. The sampler will be cleaned between boring locations in the area of the decontamination station established during the RI.

The groundwater samples will be collected using a peristaltic pump and dedicated tubing. Because of the natural turbidity associated with groundwater samples from temporary points (which biases inorganic concentrations high) both filtered and unfiltered samples will be submitted for inorganic analyses for data comparison. The inorganic filtered samples will be collected following NYSDEC policy (TAGM 4015, 1988). Field measurements, consisting of pH, turbidity, temperature, specific conductivity, oxygen-reduction potential, and dissolved oxygen, will be made on each sample.

Two groundwater samples (OF-1A and OF-2A) will be collected from well points established closest to the landfill, approximately 50 feet east of Route 22. A second set of samples (OF-1B and OF-2B) will be collected about 100 ft east of Route 22. An additional sample (OF-2C) will be collected about 150 feet east of Route 22. Each sample will be submitted to the project laboratory, preserved and extracted as required.

A phased analytical strategy will be used. The samples collected closest to the landfill (OF-1A and OF-2A) will be analyzed first with an expedited turnaround time. If concentrations of constituents in samples OF-1A and OF-2A do not exceed NYSDEC groundwater quality standards (NYSDEC, 1998), then no additional samples will be analyzed. If contamination is detected in sample OF-1A, then sample OF-1B will be analyzed. Similarly, if contamination is detected in sample OF-2A, then sample OF-2B will be analyzed. If contamination is detected in sample OF-2B, then sample OF-2C will be analyzed.

The groundwater samples will be analyzed for the same target compound list (TCL) and target analyte list (TAL) parameters as those collected during the RI and analyzed using the same laboratory methods (Table 1):

- volatile organic compounds (VOCs)
- semivolatile organic compounds (SVOCs)
- pesticides
- polychlorinated biphenyls (PCBs)
- metals and cyanide

Quality assurance and quality control samples consisting of a field duplicate, matrix spike, matrix spike duplicate, field blank, and trip blank will also be collected and analyzed.

The previous project laboratory, Ecology and Environmental, Inc. (NYSDOH No. 10486), Lancaster, New York, will perform the analyses. The samples will be analyzed using SW-846 methodologies. URS chemists will validate the data in accordance with NYSDEC data usability guidance (NYSDEC, September 1997).

For stratigraphic information, soil samples will be collected from each boring using dedicated acetate macro cores and logged. The borings will be backfilled with drill cuttings and a bentonite seal immediately after collection of the groundwater samples and removal of the temporary PVC well points.

The site-specific Health and Safety Plan (URS, 2001) will be amended to include this scope of work. A letter report, which evaluates the analytical results and presents conclusions and recommendations, will be submitted to NYSDEC for review.

If you have any questions regarding this workplan, please call Marion Craig at 973-812-6879.

Sincerely,

**URS Corporation**

  
Marion Craig  
Project Manager

c: Fay Navratil, NYSDOH  
Rick Gentry, Ashland  
Harold Moats, Syngenta  
Paul L. Brookner, Unisys Corporation  
Karl S. Bourdeau, Esq., Beveridge & Diamond  
David B. Graham, Esq., Kaufman & Canoles  
Kimberlea Shaw Rea, Esq., Law Offices of Kimberlea Shaw Rea  
Peter Ruppar, Esq., Duke, Holzman, Yaeger & Photiadis  
William Barber, BP  
Thomas Morris, IBM

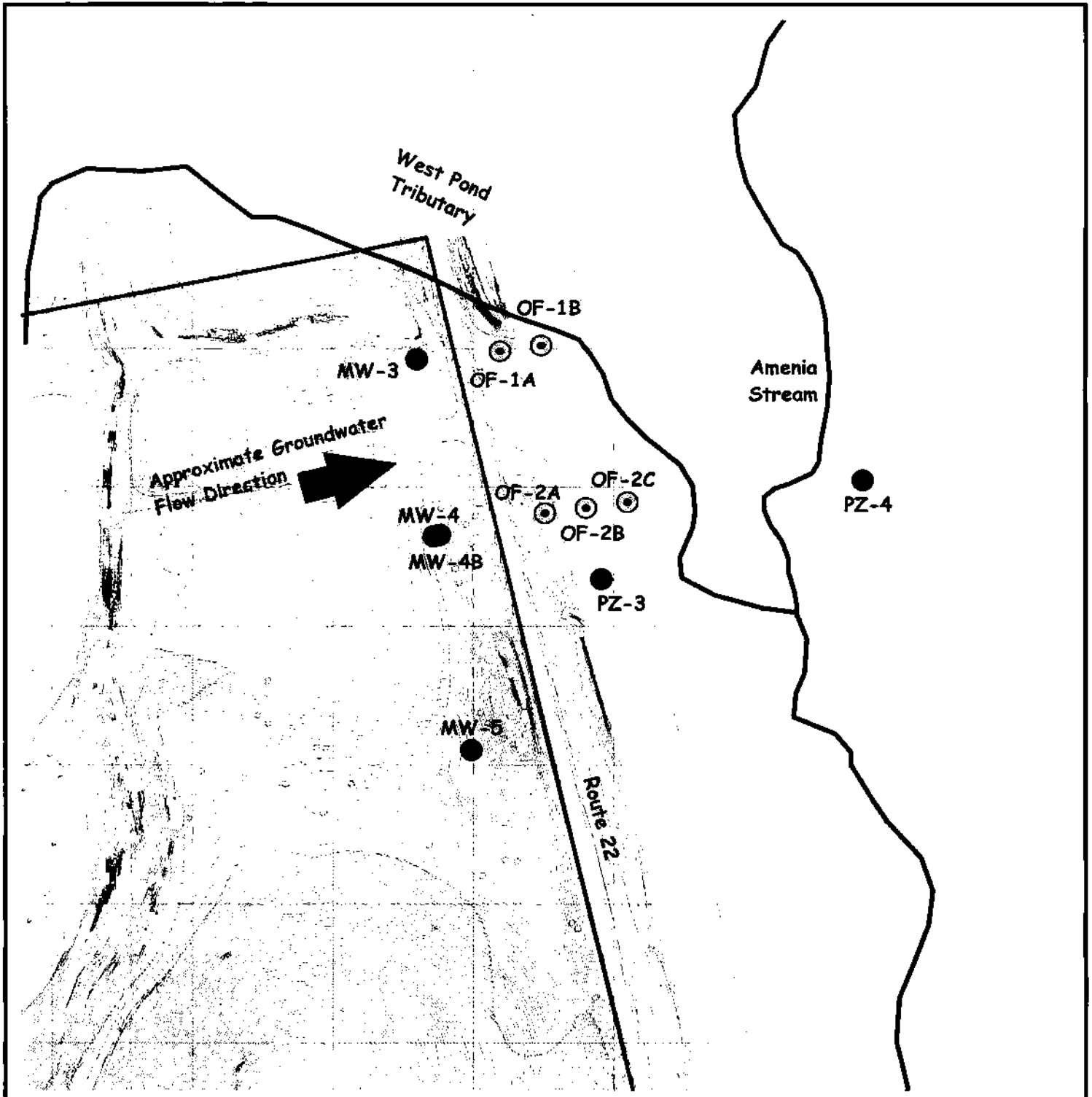
**References:**

- New York State Department of Environmental Conservation, September 30, 1988, Technical and Administrative Guidance Memorandum (TAGM) #4015, Policy Regarding Alteration of Groundwater Samples Collected for Metals Analysis.
- New York State Department of Environmental Conservation, September 1997, Guidance for the Development of Data Usability Summary Reports.
- New York State Department of Environmental Conservation, June 1998, Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.
- New York State Department of Environmental Conservation, September 25, 2003, Comment Letter Regarding the June 2003 Draft Remedial Investigation Report for the Amenia Town Landfill.
- URS Corporation, February 2001, Final Work Plan and Sampling and Analysis Plan, Remedial Investigation and Feasibility Study, Amenia Town Landfill, Amenia New York.
- URS Corporation, October 18, 2001, Health and Safety Plan, Remedial Investigation and Feasibility Study, Amenia Town Landfill, Amenia, New York.
- URS Corporation, June 2003, Draft Remedial Investigation Report, Amenia Town Landfill, Amenia, New York.

**Table 1**  
**Amenia Town Landfill, Amenia NY**  
**Analytical Summary for the Off-Site Groundwater Investigation**

Sample No.	Contingency Sample	Nominal Distance East of Route 22	Expedited Analysis	TCL/TAL Analyses	Method
OF-1A	No	50 ft	Yes	VOCs (+10)	8260B
OF-2A	No	50 ft	Yes	SVOCs (+25)	8270C
OF-1B	Yes	100 ft	No	Pesticides	8081A
OF-2B	Yes	100 ft	No	Polychlorinated biphenyls	8082 (3510C)
OF-2C	Yes	150 ft	No	Inorganics (filtered)	200.7
Trip Blank	No	QA/QC	Yes	Inorganics (unfiltered)	200.7
Field Blank	No	QA/QC	Yes	Cyanide (filtered)	335.3
Blind duplicate of OF-2A	No	QA/QC	Yes	Cyanide (unfiltered)	335.3
Matrix Spike (OF-1A)	No	QA/QC	Yes	specific conductivity,	Field meter -
Matrix Spike Duplicate (OF-1A)	No	QA/QC	Yes	pH, turbidity, dissolved oxygen,	Horriba U-10 or
				specific conductivity,	equivalent
				oxygen-reduction potential,	
				temperature	

VOCs (+10) = volatile organic compounds, library search of the next ten peaks  
SVOCs (+25) = semivolatle organic compounds and a library search of the next 25 peaks  
PCBs= polychlorinated biphenyls  
TCL/TAL metals = Target Compound List/Target Analyte List  
QA/QC = quality assurance and quality control



**KEY**

- Existing deep well
- Existing shallow piezometer
- Existing shallow well
- ⊙ Proposed off-site groundwater sample locations (OF-1A, OF-1B, OF-2A, OF-2B, and OF-2C)



**Off-Site Groundwater Sample Locations  
Amenia Town Landfill  
Amenia, New York**

Project: Amenia Town Landfill RI/FS - 19683595

Date: 01/14/2004

1:2400

0 100 200 300 400 Feet



**URS**  
Wayne, New Jersey

Figure: 1