

**FINAL  
POST-CLOSURE MONITORING, MAINTENANCE  
AND CONTINGENCY PLANS**

For

**MOOERS LANDFILL**

**Town of Mooers  
Clinton County, New York**

**JUNE, 1996**

**PREPARED FOR:**

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P.O. Box 2849  
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**PREPARED BY:**

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**FINAL**  
**POST-CLOSURE MONITORING, MAINTENANCE AND CONTINGENCY PLANS**

**TABLE OF CONTENTS**

	<b><u>PAGE</u></b>
1.0 INTRODUCTION	1-1
1.1 Site Description and History	1-1
2.0 ENVIRONMENTAL MONITORING PROGRAM	2-1
2.1 Location of Monitoring Points	2-1
2.1.1 Groundwater Monitoring Points	2-1
2.1.2 Surface Water Monitoring Points	2-1
2.1.3 Gas Monitoring Points	2-2
2.2 Sampling Schedule	2-2
2.3 Sampling Procedures	2-3
2.3.1 Monitoring Well Sampling	2-3
2.3.2 Surface Water Sampling	2-5
2.3.3 Sample Preservation	2-6
2.3.4 Gas Monitoring	2-6
2.4 Water Quality Analyses	2-7
2.5 Documentation and Reporting	2-7
2.5.1 Sampling Records	2-7
2.5.2 Quality Control	2-9
2.5.3 Monitoring Reports	
2.6 Contingency Gas Migration Barriers	2-14
3.0 SITE MAINTENANCE PROGRAM	3-1
3.1 Quarterly Inspections	3-1
3.1.1 Cap System	3-1
3.1.2 Drainage System	3-2
3.1.3 Gas Venting System	3-2
3.1.4 Stepped Impoundment System	3-3
3.1.5 Mitigation Wetland	3-3

**FINAL**  
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**TABLE OF CONTENTS - CONTINUED**

	<b><u>PAGE</u></b>
3.1.6 Vectors	3-3
3.1.7 Structures	3-3
3.2 Mowing Requirements	3-4
4.0 CONTINGENCY PLANS	4-1
4.1 Fire Control	4-1
4.2 Dust	4-1
4.3 Litter	4-1
4.4 Odor	4-1
4.5 Noise	4-2
4.6 Vectors	4-2
4.7 Severe Weather Conditions	4-2
4.7.1 Heavy Rains	4-2
4.7.2 Snow	4-2
4.8 Leachate Outbreaks	4-3
4.9 Emergency Contacts	4-3

## 1.0 INTRODUCTION

The programs presented herein are intended to provide guidance regarding site monitoring, maintenance and contingency actions at the Mooers Landfill, located in Clinton County, New York, for the required minimum thirty-year period following closure. The overall program is intended to be administered through the Clinton County Highway Department. Inquiries regarding this program can be made to:

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~~Clinton County Superintendent~~  
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Box 3107  
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(315) 457-5200

### 1.1 Site Description and History

A narrative of the site location and description, operational history and remedial history is included in the 1992 Final Remedial Investigation Report and the 1993 Final Feasibility Study Report prepared by Barton & Loguidice, P.C., as well as in the 1993 Record of Decision for the Mooers Landfill prepared by the NYSDEC. These documents also provided detailed descriptions of the site geology and hydrogeology and environmental conditions identified as part of the Remedial Investigation.

## **2.0 ENVIRONMENTAL MONITORING PROGRAM**

### **2.1 Location of Monitoring Points**

#### **2.1.1 Groundwater Monitoring Points**

There are nineteen (19) existing groundwater monitoring wells at the site. The well locations and numbers are indicated on Sheet 1 (attached), the Environmental Monitoring Plan. The existing site monitoring array appears to generally satisfy the 1988 Part 360 monitoring requirements.

The 1993 Feasibility Study prepared by Barton & Loguidice, P.C., for the Mooers Landfill indicated that bedrock well MW-2D was located across from a hydrologic barrier and would therefore not be included as part of the monitoring array. In addition, well cluster MW-8S/8D is located too distant from the landfill and not within the immediate flow path of groundwater. This location will also not be included as part of the monitoring array.

Existing wells and well couplets to be included in the environmental monitoring program are MW-1S/1D, MW-3S, MW-4S, MW-5S, MW-6S/6D, MW-7S/7D, MW-9S and MW-10S/10D. MW-10S/10D is included as a representative background well cluster.

#### **2.1.2 Surface Water Monitoring Points**

Two surface water monitoring locations will be sampled. One of the sampling points is located within the recently constructed stepped impoundment system to the northeast of the landfill, while the other is located in an area of the wetland just beyond the final impoundment. Samples collected at these locations will be used to evaluate the effectiveness of passive treatment as "surface water" flows through the constructed wetland.

They are designated as SW-5 and SW-10, representing a previously established surface water sampling location, and a newly created sampling point, respectively. SW-10 is labeled in accordance with the last designation used during the Remedial Investigation. SW-10 will be collected within the stepped impoundment system at one of the vertical 1/2-sections of 30" CMP that have been installed adjacent to the weir openings in the impoundment walls. Locations of these monitoring points are indicated on Sheet 1.

### **2.1.3 Gas Monitoring Points**

Two gas monitoring wells have been installed to monitor potential landfill gas migration within the subsurface. The location of these wells are indicated on Sheet 1.

## **2.2 Sampling Schedule**

Sampling will be performed quarterly at the designated water quality sampling points and gas monitoring points during the post-closure period. Baseline water quality analysis will be performed on an annual basis with routine water quality analyses performed for the remaining three quarters. The baseline analyses will be rotated to a different quarter each year. Table 2-1 presents the proposed schedule of water quality sampling during the next five years.

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736 Route 3  
P.O. Box 2849  
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TABLE 2-1				
SAMPLING SCHEDULE				
YEAR	1ST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER
1996	-	-	B	R
1997	B	R	R	R
1998	R	B	R	R
1999	R	R	B	R
2000	R	R	R	B
2001	B	R	-	-
B = Baseline      R = Routine				

Sampling requirements for the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> quarters of at the year 2001 will be determined at the end of the initial five year monitoring period.

## 2.3 Sampling Procedures

### 2.3.1 Monitoring Well Sampling

Each monitoring well will be equipped with a dedicated bailer. This will be used both for well purging and for sample collection. The following sampling procedures should be used:

- Sampling will be conducted in sequence from upgradient/background wells to the downgradient wells, or from the potentially least contaminated to the potentially most contaminated in order to minimize any potential cross contamination.



- Inspect each well for any visible damage to the well casing or seal.
- Measure and record the static water level in each well. The volume of water contained in a 2-inch cased well may be determined by multiplying the height of water column by a volumetric conversion factor of 0.163 gallons per foot of water column height.
- Purge each well of at least three volumes of water or evacuate completely at least once, depending on the well hydraulics. Periodic measurements of specific conductance, temperature and pH during purging can, on the attainment of stabilized readings, indicate that all stagnant water has been removed and replaced by fresh formation water.
- Measure and record the field determined parameters: oxidation-reduction potential (ORP or Eh), specific conductance, temperature, and pH. Also note the general sample appearance: turbidity, color, sediment, immiscible components, odor.
- Samples should be collected and containerized in the order of the volatilization sensitivity of the parameters. The preferred order of collection is as follows:
  - Purgeable volatile organics
  - Total organic carbon (TOC)
  - Extractable organics
  - Total metals
  - Phenols
  - Cyanide
  - Sulfate and chloride

- Turbidity
  - Nitrate and ammonia
  - Any other parameters
- Volatile organics samples must be free of air bubbles. Bottles must be gently filled to overflowing, tightly capped, inverted and inspected. If any bubbles can be seen in the sample, the bottle must be emptied and refilled. When a bubble-free sample has been obtained, it must be immediately chilled.
  - Fill the necessary number of prepared, pre-labelled sample bottle with groundwater samples. Pack the filled sample bottles in a cooler chest for transportation to the laboratory using ice if ambient air temperatures are above 40°F.
  - Complete the field sampling data sheet, chain-of-custody form, and any other notes in the field sampling logbook.

### **2.3.2 Surface Water Sampling**

Grab samples of the surface water should be collected just below the water's surface so that the bottom sediments are not disturbed. The samples should be collected directly into the sample bottle if possible, or an intermediate sampling container such as a pre-cleaned wide mouth glass jar should be used. The following general procedure should be used:

- Before collecting the actual sample, the intermediate sampling container and the sampler's gloves shall be rinsed three times in the surface water before filling the container or sample bottle.

- Measure and record the field determined parameters: oxidation-reduction potential (ORP or Eh), specific conductance, temperature, pH and dissolved oxygen. Also note the general sample appearance; turbidity, color, sediment, immiscible components, odor.
- Fill the necessary number of prepared, pre-labelled sample bottles in the order previously stated with groundwater samples. Wipe dry and pack the filled sample bottles in a cooler chest for transportation to the laboratory using ice if the temperature is above 40°F.
- Complete the field sampling data sheet, chain-of-custody form, and any other notes in the field sampling logbook.

It may be necessary to purge the standing "surface water" from the 1/2-section of CMP prior to sampling to allow fresh water to enter the manhole.

### **2.3.3 Sample Preservation**

To ensure the integrity of the water quality samples during transportation from the field to the laboratory, the USEPA guidelines for sample containers, preservatives and maximum holding times should be observed. All requirements are summarized in Table 2-2. An example chain-of-custody form and sampling data sheet is provided at the back of this plan.

### **2.3.4 Gas Monitoring**

A gas monitoring instrument with a minimum range up to 100% LEL and a maximum range of up to 100% methane shall be used for the monitoring. The instrument shall be inserted into the monitoring point (hand held for surface monitoring at 2 inches above the surface and lowered by the cable in subsurface points to about 2 feet depth).

## **2.4 Water Quality Analyses**

The field and laboratory parameters for baseline and routine water quality analyses are listed in Table 2-3. The values for field determined physical and chemical parameters (i.e., specific conductance, temperature, pH, ORP-Eh and dissolved oxygen) will be reported to the analytical laboratory when samples are submitted, and both sets of data (field and laboratory parameters) will be included on the analytical report.

A number of volatile and semi-volatile organic parameters have been detected at several of the existing site wells which are intended to become part of the environmental monitoring program. These include MW-1S/1D, MW-4S and MW-6S/6D. As a result, the analysis for routine parameters at these locations will include volatile organic compounds using EPA Method 8260. Baseline samples collected at these locations will include semi-volatile organic compound analysis using EPA Method 8270. Method 8260 is preferable due to the presence of specific volatiles (e.g., acetone and 2-butanone) which cannot be detected using conventional VOC analysis by EPA methods 601/602.

VOCs and SVOCs are expected to be detected, a least initially, at the two surface water sampling locations. In order to track the effectiveness of the stepped impoundment system, surface water samples will be analyzed for baseline parameters including EPA Method B270 on a quarterly basis.

## **2.5 Documentation and Reporting**

### **2.5.1 Sampling Records**

A field logbook or field sampling sheet must be maintained as a written record of the sample collection process at each monitoring point. The following minimum information should be recorded:

- Project ID, sampling point ID; sampling personnel; date and time; weather conditions; sampling sequence.
- Well depth; casing diameter; reference datum; static water level; well volume; well condition.
- Purging method; purging time/duration; well recovery/recharge rate; volume purged.
- Sample withdrawal method; sampling time; number and type of containers; field measured parameters; sample filtration; sample appearance/field observations.
- Sample storage and transportation method; delivery date and time; analytical parameters requested.

Each sample bottle should be legibly and indelibly labelled with the following minimum information:

- Sampling point ID; project ID; collection date and time; parameters requested (if space permits).

The delivery of samples to the analytical laboratory must be accompanied by a completed chain-of-custody record, on which the following minimum information should be recorded:

- Project ID; sampling point ID; collection date and time; parameters requested; number and type of containers; signature of collector; signature of persons maintaining custody; inclusive dates of possession.

### **2.5.2 Quality Control**

The analytical laboratory must be certified and approved by New York State Department of Health (NYSDOH) according to the Environmental Laboratory Approval Program (ELAP), and must maintain and utilize proper analytical Quality Assurance/Quality Control (QA/QC) procedures.

All field equipment used for field determinations must be calibrated at least daily prior to and after use. After use at each monitoring point, the probes and apparatus must be thoroughly cleaned and rinsed prior to contacting any water from the next sampling point.

### **2.5.3 Monitoring Reports**

The quarterly water quality monitoring report consists of the field sampling data sheets or transcriptions from the field logbook for each monitoring point, the chain-of-custody record, and the laboratory analysis report. The latter should include:

- Project ID; sample point ID; sampling date and time; date of analysis, analytical results including field determined parameters; method detection limits (MDL); annotations of compounds detected below MDL.

All analytical and field data will be reviewed and compiled by the County's consultant in a database of historical results. Parameters detected in exceedance of NYSDEC water quality standards or guidance values will be evaluated and presented in quarterly water quality reports.

**TABLE 2-2**  
**SAMPLING AND**  
**PRESERVATION OF SAMPLES<sup>1</sup>**

Parameter <sup>2</sup>	Container <sup>3</sup>	Preservative	Holding Time <sup>4</sup>
Alkalinity	P,G	Cool, 4°C	12 days
BOD <sub>6</sub>	P,G	Cool, 4°C	24 hours
COD	P,G	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH < 2	26 days
Chloride	P,G	Cool, 4°C	26 days
Color	P,G	Cool, 4°C	24 hours
Cyanide	P,G	Cool, 4°C, NaOH to pH > 12	12 days
Hardness	P,G	HNO <sub>3</sub> to pH < 2	6 months
Metals except	P,G	HNO <sub>3</sub> to pH < 2	6 months
Boron	P only	Cool, 4°C	26 days
Chromium-Hex.	P,G	Cool, 4°C	24 hours
Mercury	P,G	HNO <sub>3</sub> to pH < 2	26 days
Nitrogen Ammonia	P,G	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH < 2	26 days
Kjeldahl (TKN)	P,G	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH < 2	26 days
Nitrate	P,G	Cool, 4°C	24 hours
Phenols	G only	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH < 2	26 days
Sulfate	P,G	Cool, 4°C	26 days
TDS	P,G	Cool, 4°C	24 hours
TOC	P,G	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH < 2	26 days
Turbidity	P,G	Cool, 4°C	24 hours
Volatile Organics (EPA Method 8260)	G only <sup>5</sup>	Cool, 4°C	7 days
Semi-Volatile Organics (EPA Method 8270)	G only <sup>6</sup>	Cool, 4°C	5 days after VTSR until extraction; 40 days for analysis

**TABLE 2-2 (Continued)**

**SAMPLING AND  
PRESERVATION OF SAMPLES<sup>1</sup>**

**NOTES:**

- <sup>1</sup> Based on Table I - Required Containers, Preservatives, and Holding Times, From NYSDEC Analytical Services Protocol (ASP), September 1989).
- <sup>2</sup> Laboratory determinations only; field determinations to be made immediately during sampling.
- <sup>3</sup> P = Plastic (polyethylene), G = Glass
- <sup>4</sup> All holding times are from Verified Time of Sample Receipt (VTSR) at the laboratory.
- <sup>5</sup> Do not allow any head space in the container. Use teflon-lined septum.
- <sup>6</sup> Use teflon-lined cap.



TABLE 2-3

**WATER QUALITY ANALYSIS TABLE**  
 [Source: 6 NYCRR Part 360-2.11(c)(6)]

	<u>ROUTINE</u>	<u>BASELINE</u>
<u>FIELD PARAMETERS</u>		
Dissolved Oxygen <sup>1</sup>	X	X
Field Observations <sup>2</sup>	X	X
Floaters or Sinkers <sup>3</sup>		X
Oxidation-Reduction Potential (ORP or Eh)	X	X
pH		X
Specific Conductance	X	X
Static Water Level (in wells and sumps)	X	X
Temperature	X	X
<u>INORGANIC PARAMETERS</u> (Leachate Indicators)		
Alkalinity	X	X
Ammonia	X	X
Biochemical Oxygen Demand (BOD <sub>5</sub> )		X
Boron		X
Chemical Oxygen Demand (COD)	X	X
Chloride	X	X
Color		X
Cyanide		X
Hardness as CaCO <sub>3</sub>	X	X
Nitrate	X	X
Phenols, Total	X	X
Sulfate	X	X
Total Dissolved Solids (TDS)	X	X
Total Kjeldahl Nitrogen (TKN)		X
Total Organic Carbon (TOC)	X	X
Turbidity	X	X
<u>METALS<sup>4</sup></u>		
Aluminum		X
Cadmium	X	X
Calcium	X	X
Iron	X	X
Lead	X	X
Magnesium	X	X
Potassium	X	X
Sodium	X	X

continued...

TABLE 2-3 (Continued)

**WATER QUALITY ANALYSIS TABLE**  
 [Source: 6 NYCRR Part 360-2.11(c)(6)]

	<u>ROUTINE</u>	<u>BASELINE</u> <sup>5</sup>
<u>TOXIC METALS</u>		
Antimony		X
Arsenic		X
Beryllium		X
Barium		X
Chromium (Total and Hexavalent)		X
Copper		X
Mercury		X
Nickel		X
Selenium		X
Silver		X
Thallium		X
Zinc		X
<u>ORGANIC PARAMETERS</u>		
Volatile Organic Compounds (EPA Method 8260)	X <sup>6</sup>	X
Semi-Volatile Organic Compounds (EPA Method 8270)		X

NOTES

- 1 Surface water only.
- 2 Any unusual conditions (colors, odors, surface sheens, etc.) noticed during well development, purging or sampling will be reported.
- 3 Any floaters or sinkers found will be analyzed separately for baseline parameters.
- 4 It is recommended that all samples for metals are taken in duplicate; one analysis should be filtered in the field prior to acid preservation. The other should be whole and unfiltered. No other samples (organics or inorganics) should be filtered.
- 5 Baseline analysis modified to include semi-volatile organic compound analysis for those locations currently exhibiting these parameters.
- 6 Volatile organic analysis included for those locations currently exhibiting VOCs. EPA Method 8260 is specified for certain parameters present at the site but not analyzed for using EPA Methods 601/602.

In addition, an annual summary report will be prepared, in which the results of statistical analyses for seasonal and annual trends in water quality will be presented. Significant trends may be illustrated in graphical or tabular format. Observations as to well access and maintenance conditions will be noted, and recommendations for any necessary improvements will be made. Quarterly Water Quality Monitoring/Field Inspection Reports and Annual Summary Reports will be sent to:

Denise Wagner  
NYSDEC Region 5  
Route 86, P.O. Box 296  
Ray Brook, New York 12977-0296

Rich Fedigan  
NYSDOH, Environmental Exposure  
2 University Place  
Albany, New York 12203-3399

Ken Kogut  
NYSDEC Region 5  
Route 86, P.O. Box 296  
Ray Brook, New York 12977-0296

## **2.6 Contingency Gas Migration Barriers**

If explosive gas levels exceed 25 percent of the lower explosive limit within any structures on or off the site (except gas control), the NYSDEC will be notified and remedial action taken. The level of subsurface gas will be monitored at the two facility landfill gas wells.

### **3.0 SITE MAINTENANCE PROGRAM**

#### **3.1 Quarterly Inspections**

A quarterly inspection will be performed on the landfill site to identify any problems that might have developed with the cap system, stepped impoundment system, drainage system, gas venting system and mitigation wetland. This inspection will also identify the presence of any vectors on the site. This inspection will be performed at the same time as the quarterly sampling round for the Environmental Monitoring Program. An example field inspection form is provided at the back of this plan.

Repairs which are required to any of the systems identified below shall be performed to the level of, and using the same material(s) indicated in, the original construction specifications for this site.

##### **3.1.1 Cap System**

Problems with the landfill cap could include cracking, settlement, erosion or loss of vegetative cover in the cover soils on the top of the landfill or on the side slopes. If the cover soils contain cracks or settlements, the PVC geosynthetic barrier layer will be exposed to determine if it is still operational. If the PVC cap has been damaged, it will be repaired prior to replacing the cover soils and reseeded. Repairs to the PVC cap will include the removal of the protective cover materials beyond the extend of the damage. Any damaged area would be removed and the underlying subgraded would be inspected. The subgrade will be regraded as necessary and a PVC patch, large enough to extend slightly beyond the damaged area, will be solvent seamed to the undamaged portion of the PVC cap. The seam will be probed to test for any defects. The protective cover materials will be replaced and compacted to the same specifications followed during original

placement. Any erosion in the cover soil will be repaired by replacing the eroded soil and compacting it prior to reestablishing the vegetative cover. Any loss in vegetative cover will be repaired by seeding, fertilizing and mulching the unprotected area.

### **3.1.2 Drainage System**

The drainage system inspection will identify any erosion of the ground surface in the area of the toe of slope where water discharges from the gravel drainage layer or adjacent to the shoulder diversion berm. All eroded areas will be repaired by replacing with materials of similar nature to the originally specified material and reseeded to prevent additional erosion.

Emergency spillway structures will be inspected for blockages and overall integrity to ensure proper functioning. Any observed damage or maintenance requirements will be immediately reported and repaired at the earliest opportunity.

### **3.1.3 Gas Venting System**

Inspection of the gas venting system will include checking the vents for any physical damage or plugging and checking the cap adjacent to the vents for any settlement. All plugs or clogs in the vents will be opened up, and any damaged vents will be repaired or, if necessary, replaced. If there are any settlements in the cover soil, the PVC geosynthetic barrier layer within the vicinity of the gas vent will be exposed to determine if the penetration seal is still intact before replacing the cover soil. If the PVC cap has been damaged, it will be repaired in the manner described above prior to repairing (filling) the settled area before placing topsoil, seeding, mulching and fertilizing the disturbed area.

### **3.1.4 Stepped Impoundment System**

Inspection of the stepped impoundment system will include checking the overflow weirs for ease of adjustment, identification of stressed or destroyed vegetation, excessive ponding of water within the impoundments, settlement of the fill within each impoundment, and evidence of surface contaminants beyond (downstream from) the last impoundment. Any observed malfunction, disturbance or indication that the system is not operating correctly will be immediately reported and repaired at the earliest opportunity.

### **3.1.5 Mitigation Wetland**

Inspection of the mitigation wetland will concentrate on the observed condition of the wetland vegetation. Areas of stressed or destroyed vegetation will be immediately identified, reported and repaired at the earliest opportunity.

### **3.1.6 Vectors**

Following closure, the presence of vectors on the site will be monitored. If vectors are identified, actions will be taken to remove them from the site.

### **3.1.7 Structures**

All monitoring well covers, fences, gates and any other on-site structures should be checked to insure that they are undamaged and have been secured. Any damaged structures should be repaired using suitable methods based on the nature of the damage. All structures should be re-secured immediately.

### **3.2 Mowing Requirements**

The vegetative cover will be mowed twice per year, with the first mowing occurring after the grass has gone to seed in the spring. The mowing should be performed with a tractor, taking care not to create deep ruts and other damage to the landfill cap.

## **4.0 CONTINGENCY PLANS**

### **4.1 Fire Control**

The possibility of a fire at the landfill or in the on-site equipment is a potential hazard associated with the closure of a landfill. In most situations, cover soil can be an effective and practical means of fire control. If available, water from the adjacent wetland can be used to supplement the use of soil. If a fire breaks out on the landfill and the Operator is successful in controlling it with soil, it is still recommended that the Mooers Fire Department be called to the site. The Fire Department will be able to saturate the area with water and prevent continued burning of refuse under the cover soil.

### **4.2 Dust**

During dry periods, fugitive dust may be a nuisance resulting from the closure operation. Cover soil has the potential to create a dust problem, especially when being applied. If dust does become a problem, a water truck should be made available to control the situation.

### **4.3 Litter**

Litter is not expected to be a problem at the site since the site is closed and covered.

### **4.4 Odor**

Odors are not expected to be a problem since the landfill has been covered for approximately 3 years.



#### **4.5 Noise**

Since the closed landfill is relatively removed from local residences, noise associated with post-closure monitoring and maintenance operations should not be a problem.

#### **4.6 Vectors**

Vectors are not anticipated to present a prolific problem since the landfill has been covered for approximately 3 years. However, if vectors are identified, steps to remove them from the site will be taken as necessary.

#### **4.7 Severe Weather Conditions**

Various unusual weather conditions will directly affect the monitoring and maintenance of the landfill and must be dealt with accordingly. Some of these possible climatic conditions and associated remedial measures are as follows.

##### **4.7.1 Heavy Rains**

Heavy rains can create muddy situations on the landfill. The control of drainage and repairs to the perimeter access roads may be required to permit vehicular movement.

##### **4.7.2 Snow**

During winter weather, the County will be responsible for clearing the entrance roads to the site for purposes of environmental monitoring. Snow should be piled in areas that promote drainage away from the fill area. The control of drainage and repairing of perimeter access roads may be required during this time also.

#### 4.8 Leachate Outbreaks

The capping system at the closed landfill consists of a geomembrane with an additional 2-1/2 feet of protective soil cover. The potential for leachate to outbreak through this capping system is nearly impossible; therefore, no contingency plan is presented.

#### 4.9 Emergency Contacts

The following contacts are provided in the event of an emergency or unplanned occurrence which would require outside or support service:

CONTACT	PERSON OR AGENCY	PHONE NUMBER
Clinton County Representatives	Albert Rascoe Francis LaBarge	(518) 565-4626 (518) 565-4626
NYSDEC Region 5 Regional Engineer	Daniel Steenberge	(518) 897-1200
Clinton County Health Department	Director of Environmental Health	(518) 565-4870
Law Enforcement	New York State Police	(518) 298-5200
Fire Department	Mooers Fire Department	Dial 911
Ambulance	Mooers Ambulance Service	Dial 911
Hospital	CVPH Medical Center	(518) 561-2000
B&L Project Manager	Mark Chauvin	(315) 457-5200
B&L Principal-In-Charge	Paul Dudden	(315) 457-5200

# FORMS



BARTON & LOGUIDICE, P.C.

**SAMPLING DATA SHEET**

SITE: \_\_\_\_\_ SAMPLE LOCATION: \_\_\_\_\_  
CLIENT: \_\_\_\_\_ JOB #: \_\_\_\_\_  
Weather Conditions: \_\_\_\_\_ Temp: \_\_\_\_\_

**SAMPLE TYPE:** Groundwater  Surface Water  Leachate   
Sediment  Other (specify): \_\_\_\_\_

**WATER LEVEL DATA**

Static Water Level (feet)*:	_____
Measured Well Depth (feet)*:	_____
Well Casing Diameter (inches):	_____
Volume in Well Casing (gallons):	_____

\* depth from measuring point

Measuring Point: Top of Riser   
Other (specify) \_\_\_\_\_  
Measured by: \_\_\_\_\_  
Time: \_\_\_\_\_ Date: \_\_\_\_\_

**PURGING METHOD**

*Equipment:* Bailer  Submersible Pump  Air Lift System   
Bladder Pump  Foot Valve  Peristaltic Pump   
Dedicated  Non-dedicated

*Volume of Water Purged (gallons):* \_\_\_\_\_  
Did well purge dry? No  Yes   
Did well recover? No  Yes  Recovery Time : \_\_\_\_\_

**SAMPLING METHOD**

*Equipment:* Bailer  Submersible Pump  Air Lift System   
Bladder Pump  Foot Valve  Peristaltic Pump   
Dedicated  Non-dedicated

Sampled by: \_\_\_\_\_ Time: \_\_\_\_\_ Date: \_\_\_\_\_

**SAMPLING DATA**

*Sample Appearance*  
Color \_\_\_\_\_ Sediment \_\_\_\_\_  
Odor \_\_\_\_\_ Product: No  Yes  Thickness \_\_\_\_\_

*Field Measured Parameters*

pH (Standard Units)	_____	Sp. Conductivity (umhos/cm)	_____
Temperature (° F)	_____	Eh-Redox Potential (mV)	_____
Turbidity (NTUs)	_____	Dissolved Oxygen (mg/l)	_____
Explosive Gases	%LEL _____ ppm _____	Total Organic Vapors (ppm)	_____

*Samples Collected (Number/Type)* \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*Samples Delivered to:* \_\_\_\_\_ Time: \_\_\_\_\_ Date: \_\_\_\_\_

**COMMENTS:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



BARTON & LOGUIDICE, P.C.

FIELD INSPECTION FORM  
Mooers Landfill

Date: \_\_\_\_\_

Barometric Pressure: \_\_\_\_\_

Weather Conditions: \_\_\_\_\_

1. GAS MONITORING

On-site structures	(%LEL)
Transfer Facility	
Emergency Spillway Manhole #1	
Emergency Spillway Manhole #2	

Gas Monitoring Wells	(%LEL)
GW-1	
GW-2	

Location of Soil Cracks / Stressed Vegetation	(%LEL)

2. GENERAL SITE MAINTENANCE

Check gas vents for plugging; Check cap surface for evidence of erosion, cracking, settlement, and loss of vegetation; Check all surface water control measures (swales, toe drains, culverts and emergency spillways) for evidence of erosion; Check stepped impoundments for areas of stressed or dead vegetation, erosion, settlement and approximate water levels; Check weirs for proper height and adjustability; Check monitoring wells for general condition, evidence of tampering and condition of concrete surface seals; Indicate observed evidence of vectors or trespassers, condition of perimeter fence and gates. Describe findings below:

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3. ADDITIONAL COMMENTS

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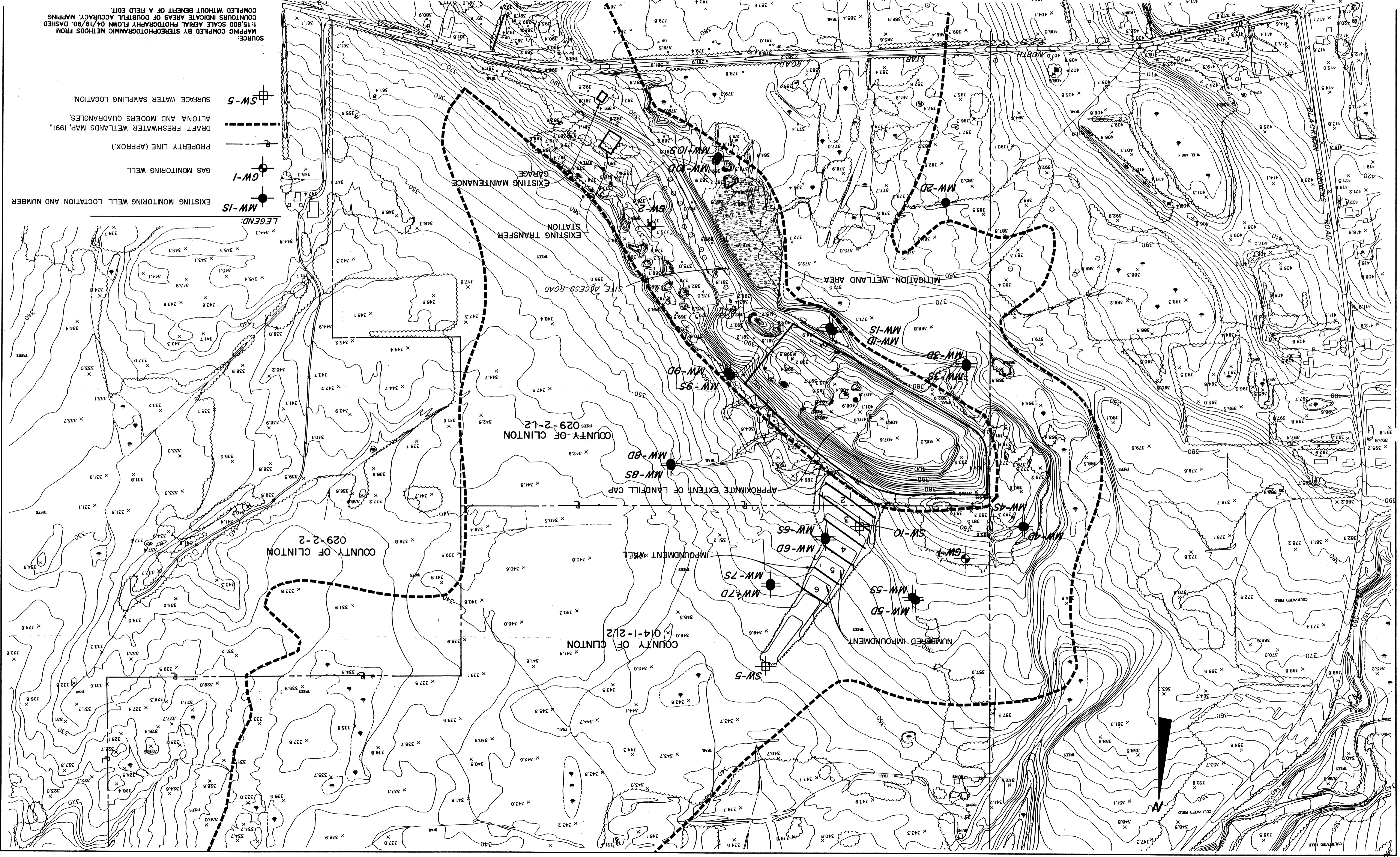
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# Chain Of Custody Record

Client:		Client Project # / Project Name					No. of Con- tain- ers	1)	2)	3)	4)	5)	6)	7)	8)	9)	10)	Special Turnaround Time _____ (Lab Notification required)  Remarks
Client Contact:	Phone #	Site Location (city/state)																
Sample Location:	Date	Time	Matrix	Grab or Comp.	Internal Use Only													
parameter and method		sample bottle:		type	size	pres.	Sampled by: (Please Print)					Internal Use Only Delivery (check one): <input type="checkbox"/> ULI Sampled <input type="checkbox"/> Pickup <input type="checkbox"/> Dropoff <input type="checkbox"/> CC _____						
1)							Company:					Relinquished by: (Signature)    Date    Time    Received by: (Signature)						
2)												Relinquished by: (Signature)    Date    Time    Received by: (Signature)						
3)												Relinquished by: (Signature)    Date    Time    Received by: (Signature)						
4)												Relinquished by: (Signature)    Date    Time    Received by: (Signature)						
5)												Relinquished by: (Signature)    Date    Time    Received by: (Signature)						
6)												Relinquished by: (Signature)    Date    Time    Received by: (Signature)						
7)												Relinquished by: (Signature)    Date    Time    Received by: (Signature)						
8)												Relinquished by: (Signature)    Date    Time    Received by: (Signature)						
9)												Relinquished by: (Signature)    Date    Time    Received by: (Signature)						
10)												Relinquished by: (Signature)    Date    Time    Rec'd for Lab by: (Signature)						
<p>Note: The numbered columns above cross-reference with the numbered columns in the upper right-hand corner.</p>																		



**LEGEND:**

- MW-15** EXISTING MONITORING WELL LOCATION AND NUMBER
- GM-1** GAS MONITORING WELL
- PROPERTY LINE (APPROX.)
- DRAFT FRESHWATER WETLANDS MAP, 1991, ALTONA AND MOERS QUADRANGLES.
- SW-5** SURFACE WATER SAMPLING LOCATION

**SOURCE:**  
 MAPPING COMPILED BY STEREOPHOTOGRAMMETRIC METHODS FROM 1:16,000 SCALE AERIAL PHOTOGRAPHY FLOWN 04/19/90. DASHED COUNTOURS INDICATE AREAS OF DOUBTFUL ACCURACY. MAPING COMPILED WITHOUT BENEFIT OF A FIELD EDIT.

**COUNTY OF CLINTON 029-2-2**

**COUNTY OF CLINTON 014-1-212**

**COUNTY OF CLINTON 029-2-12**

APPROXIMATE EXTENT OF LANDFILL CAP

EXISTING TRANSFER STATION

EXISTING MAINTENANCE GARAGE

MITIGATION WETLAND AREA

EXISTING WETLAND AREA

ELWOOD AVENUE ROAD

CLINTON COUNTY ROAD