



TOWN OF HUNTINGTON

FRANK P. PETRONE, *Supervisor*

ENVIRONMENTAL WASTE MANAGEMENT

August 17, 2004

John Strang, P. E.
Environmental Engineer
NYS Dept. of Environmental Conservation
Division of Environmental Remediation
Bureau of Hazardous Site Control, 11th Floor
625 Broadway
Albany, New York 12233-7014

Re. Huntington/East Northport Landfill
NYSDEC Site # 1-52-040

Dear John,

As required by the Record of Decision for the above referenced site, transmitted herewith please find a copy of the "Landfill Gas and Control System Monitoring Report" for the East Northport Landfill for the month of June 2004 and a copy of the Groundwater and Surface Water Report for the first half of 2004. I have also enclosed a Quarterly Site Inspection Report for the 2nd quarter of 2004.

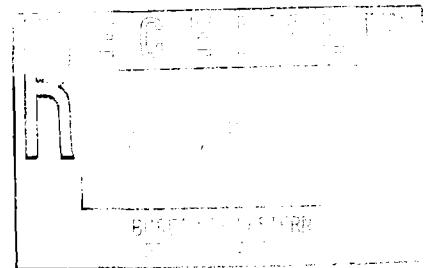
Please do not hesitate to call me if you have any questions or comments.

Truly Yours,


Richard C. Koopmann
Sr. Environmental Analyst

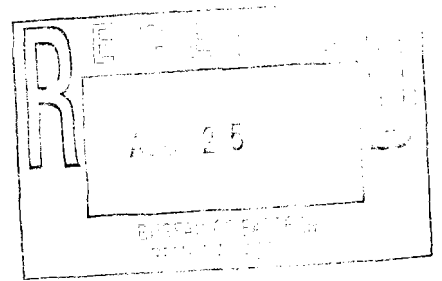
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RCK:rk
Encl. (3)



WRITEUP ONLY.

DATA Summary in latest
GW and SW Report. JKS.
01/30/06.



**Groundwater and Surface Water
Sampling & Analysis
East Northport Landfill
East Northport, New York
June, 2004**

Prepared For:

**Town of Huntington Department of Environmental Waste Management
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TABLE OF CONTENTS

	Page
Introduction	1
Scope of Work	1
Sampling Methodology	2
Quality Assurance/Quality Control	2
Summary of Analytical Results	3
QA/QC Samples	3
Groundwater	3
Surface Water	4
Historical Analysis	4

Section HA-1A

Tabulated comparison of historical analytical results in order as follows: CW1-S, CW1-M, CW2-M, CW4-S, CW4-M, EN1-M, EN6-S, EN6-M, EN7-M, EN9-M, EN10-M, SW-1, SW-2, SW-3, SW-4, SW-5, SW-6, SW-7

Figure

	Following Page
Figure 1. Groundwater and Surface Water Sampling Locations	1

Summary Tables

	Following Page
Table 1. Field Data	2
Table 2. Analytical Results-GW (Volatile Organic Compounds)	5
Table 2A. Analytical Results-GW (Metals & Leachate Indicators)	5
Table 3. Analytical Results-SW (Volatile Organic Compounds)	5
Table 3A. Analytical Results-SW (Leachate Indicators)	5

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Appendix

Appendix 1. Laboratory Analytical Data

**Groundwater and Surface Water Sampling & Analysis
East Northport Landfill
East Northport, New York
June, 2004**

Introduction

Presented herein are the results of June, 2004 groundwater and surface water sampling and analyses performed as stipulated by the Record of Decision (ROD) for the East Northport Landfill Remedial Investigation/Feasibility Study. The ROD specifically requires the performance of "semi-annual sampling and analysis of eleven groundwater monitoring wells and seven surface water locations for leachate parameters." Figure 1 illustrates groundwater and surface water sampling locations. The scope-of-work performed each semi-annual event is presented below. A description of sampling methodology, quality assurance/quality control procedures, and a summary of analytical results follows.

Scope-of-Work

The scope-of-work includes performance of the following items:

- 1) sampling of groundwater monitoring wells CW1-S, CW1-M, CW2-M, CW4-S, CW4-M, EN1-M, EN6-S, EN6-M, EN7-M, EN9-M, EN10-M and surface water locations SW-1 through SW-7;
- 2) analyzing collected groundwater samples for *Volatile Organic Compounds* by EPA method 624 with TCL parameter list and ASP category B reporting of data; *Metals* (Aluminum, Arsenic, Chromium, Cadmium, Calcium, Iron, Lead, Magnesium, Mercury, Potassium, Sodium); and *Leachate Indicators* (Alkalinity/Bicarbonate, Ammonia, Nitrate, Chloride, TDS, Hardness, Sulfate);
- 3) analyzing collected surface water samples for *Volatile Organic Compounds* and *Leachate Indicators* (as above); and
- 4) measuring and recording appropriate field data including Temperature, pH, Specific Conductivity, Dissolved Oxygen, Salinity and Turbidity.

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Sampling Methodology

Groundwater sampling methodology consists of evacuating a minimum of 3-5 casing volumes of water from each monitoring well - via a submersible centrifugal pump (Grundfos Redi-Flo2) with per-well dedicated tubing - prior to collecting samples. During well-water evacuation activities, dissolved oxygen, specific conductivity, temperature, pH, salinity and turbidity are measured and recorded on a per-casing-volume basis. Groundwater samples are collected following the stabilization of these values to within 10 %. The Grundfos Redi-Flo2 is cleaned internally and externally with an Alconox and water solution, followed by two fresh water rinses, between each sampling location.

Surface water sampling methodology includes immersing laboratory-provided containers at specific sampling locations and allowing water to flow smoothly into them. In addition, surface water samples are collected during a dry period (minimum of 3 days sans precipitation prior to sampling) to minimize the influence of surface water runoff from adjacent land surfaces and roadways. Collected surface water samples, therefore, reflect stream base-flow and, for the most part, the quality of groundwater.

Groundwater samples from monitoring wells CW2-M, EN1-M, EN6-S, EN6-M, EN7-M and EN9-M were collected June 2, 2004. Groundwater samples from monitoring wells CW1-S, CW1-M, CW4-S, CW4-M, and EN10-M were collected June 3, 2004. All seven surface water samples were collected June 4, 2004. Upon the completion of sampling activities, collected samples were submitted under chain-of-custody control to New York State Department of Health certified Chemtech for chemical analysis. A copy of the original laboratory "Sample Data Summary Package" is presented in Appendix 1.

A summary of field data measured and recorded at all sampling locations is presented on Table 1. Data associated with groundwater monitoring well sampling points reflects the last value measured during purging activities.

Quality Assurance/Quality Control

A narrative discussion (conformance/nonconformance summary) of QA/QC procedures practiced by Chemtech - which entails instrument calibrations, analysis of method blanks, matrix spike blanks and percent-recovery of surrogates (system monitoring compounds) - is included in the above-mentioned "Sample Data Summary Package" presented in Appendix 1. Matrix spike/matrix spike duplicates (MS/MSD's) were collected to support both groundwater and surface water analyses. The MS/MSD samples were collected from monitoring well EN7-M and sampling location SW-3 for groundwater and surface

Table 1
Summary of Field Data
Measured June 2-4, 2004
East Northport Landfill, East Northport, NY

Sampling Point	Dissolved Oxygen (mg/l)	Conductivity (umhos)	Temperature (°centigrade)	pH (units)	Salinity (‰)	Turbidity (ntu)
CW1-S	5.60	750	23.5	7.10	0.0	15.80
CW1-M	5.40	275	24.0	6.40	0.0	15.80
CW2-M	5.00	115	15.0	6.18	0.0	0.11
CW4-S	8.60	40	17.0	6.64	0.0	6.35
CW4-M	8.30	130	16.0	6.30	0.0	0.08
EN1-M	7.90	90	13.0	5.79	0.0	0.05
EN6-S	8.30	110	13.0	5.16	0.0	4.10
EN6-M	5.40	150	12.0	6.08	0.0	0.10
EN7-M	5.10	225	12.5	6.69	0.0	0.03
EN9-M	6.30	110	12.0	6.21	0.0	1.25
EN10-M	7.90	110	17.0	5.63	0.0	0.99
SW-1	9.90	130	15.0	6.20	0.0	0.91
SW-2	8.30	150	16.5	6.40	0.0	3.16
SW-3	9.20	85	16.0	6.50	0.0	0.03
SW-4	9.00	130	15.0	6.10	0.0	1.21
SW-5	6.90	220	18.0	6.04	0.0	5.22
SW-6	6.50	180	22.0	6.32	0.0	5.06
SW-7	6.50	1000	20.0	6.57	0.5	6.50

water QA/QC purposes, respectively. Furthermore, trip blanks representative of groundwater (TB-GW) and surface water samples (TB-SW) were analyzed for volatile organic compounds. A field blank (FB10-9), representative of groundwater sampling activities, was also analyzed for volatile organic compounds.

The accuracy of reported analytical results is assessed via the analysis of "blind duplicates" collected for groundwater sampled from monitoring well CW1-M (identified as GW-B) and surface water sampling location SW-2 (identified as SW-B). Blind duplicate samples GW-B and SW-B were analyzed for all groundwater and surface water parameters, respectively.

Summary of Analytical Results

QA/QC Samples

Targeted analytes (i.e., volatile organic compounds) were not detected in either of the aforementioned trip blanks, nor the field blank. In addition, analytical results relative to blind duplicates and representative groundwater and surface water samples are similar (see Tables 2, 2A, 3 and 3A). Consequently, the results of groundwater and surface water analyses summarized below are considered valid.

Groundwater

The results of groundwater analyses - with comparisons to New York State Department of Environmental Conservation (NYSDEC) Class GA drinking water standards - for volatile organic compounds and metals/leachate indicators, are summarized on Table 2 and Table 2A, respectively.

As shown on Table 2, volatile organic compounds detected in excess of NYSDEC drinking water standards include *trichloroethene* (EN7-M) and *tetrachloroethene* (EN6-M, EN7M).

As shown on Table 2A, metals detected in excess of NYSDEC drinking water standards include *arsenic* (CW1-S), *chromium*, (CW4-M, EN1-M), *iron* (CW1-S, CW1-M, CW4-S, CW4-M), *magnesium* (EN7-M) and *sodium* (CW1-S, CW1-M, CW2-M, EN6-S, EN6-M, EN7-M, EN9-M). Leachate indicators detected in excess of NYSDEC drinking water standards include *ammonia* (CW1-S, CW1-M, EN6-S), *chloride* (EN7-M) and *sulfate* (EN7-M).

Surface Water

The results of surface water analyses - with comparisons to NYSDEC Class GA drinking water standards - for volatile organic compounds and leachate indicators, are summarized on Table 3 and Table 3A, respectively.

As shown on Table 3, volatile organic compounds were not detected in any of the collected surface water samples.

As shown on Table 3A, the leachate indicators *ammonia*, *chloride* and *sulfate* were detected in excess of NYSDEC Class GA drinking water standards in surface water sample SW-7. As previously reported, the historical detection of elevated concentrations of chloride and sulfate at this sampling point is attributable to the influence of saline surface water (sampling point SW-7 is within the tidal portion of Sunken Meadow Creek).

Historical Analysis

Section HA-1A presents a per sampling-point tabulated comparison of historical analytical results for the period-of-record dating from June, 1996 to June, 2004. A summary of inconsistencies with the most recent analyses, completed October, 2003, is presented below. With the exception of the below-listed inconsistencies, June, 2004 analytical results, as summarized above, continue to be consistent with past events (i.e., June, 1996, April & September, 1997, April & September, 1998, April & September, 1999, April & September, 2000, April & September, 2001, April & September, 2002, April & October, 2003).

Groundwater

* The concentration of *tetrachloroethene* increased in groundwater sampled from monitoring well EN6-M from 2.5 micrograms per liter ($\mu\text{g/l}$), to 5.1 $\mu\text{g/l}$, a concentration slightly above NYSDEC's drinking water standard of 5.0 $\mu\text{g/l}$.

* The concentration of *chromium* increased in groundwater sampled from monitoring wells CW4-M and EN1-M from 3.8 $\mu\text{g/l}$ and 1.4 $\mu\text{g/l}$, respectively, to 114.0 $\mu\text{g/l}$ and 64.6 $\mu\text{g/l}$, respectively, concentrations above NYSDEC's drinking water standard of 50.0 $\mu\text{g/l}$.

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* The concentration of *iron* increased in groundwater sampled from monitoring wells CW1-M, CW4-S and CW4-M from 191.0 µg/l, 237.0 µg/l and 78.1 µg/l, respectively, to 7,400.0 µg/l, 310.0 µg/l and 409.0 µg/l, respectively, concentrations above NYSDEC's drinking water standard of 300.0 µg/l. The concentration of this constituent decreased in groundwater sampled from monitoring well EN6-S from 482.0 µg/l to 66.6 µg/l.

* The concentration of ammonia increased in groundwater sampled from monitoring well EN6-S from 0.4 milligrams per liter (mg/l) to 2.5 mg/l, a concentration above NYSDEC's drinking water standard of 2.0 mg/l.

Surface Water

* The concentration of *ammonia* increased at sampling point SW-7 from 0.4 milligrams per liter (mg/l) to 2.8 mg/l, a concentration above NYSDEC's drinking water standard of 2.0 mg/l.

Table 2 continued

Contaminant	CW1-S	CW1-M	CW2-M	CW4-S	CW4-M	EN1-M	EN6-S	EN6-M	EN7-M	EN9-M	EN10-M	GW-B	TB-GW	FB10-9	NYSDEC Class GA Standard
Ethylbenzene	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	5.0
1,2-Dichlorobenzene	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	3.0
1,3-Dichlorobenzene	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	3.0
1,4-Dichlorobenzene	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	3.0

Note:

ND(): Compound not detected at the method detection limit

NYSDEC Class GA Standards: New York State Department of Environmental Conservation Ambient Water Quality Standards for Source of Drinking Water Title 6 Part 703 (per June 1998 revision)

GV: NYSDEC Guidance Value for Source of Drinking Water

NS/GV: No NYSDEC Standard or Guidance Value Established

J: Indicates an estimated value; compound is present at a concentration less than specified detection limit

*Standard of 0.4 applies to sum of cis and trans 1,3-Dichloropropene

Table 2A

Summary of Analytical Results-Groundwater
 East Northport Landfill, East Northport, NY
 Sampled June 2-3, 2004
 Metals and Leachate Indicators

Reported in Micrograms per Liter (µg/l) and Milligrams per Liter (mg/l)

Metals (µg/l)	CW1-S	CW1-M	CW2-M	CW4-S	CW4-M	EN1-M	EN6-S	EN6-M	EN7-M	EN9-M	EN10-M	GW-B	NYSDEC Class GA Standard
Aluminum	56.2 J	75.9 J	53.4 J	64.4 J	39.2 J	38.0 J	59.2 J	46.8 J	55.0 J	43.1 J	46.8 J	81.6 J	NS/GV
Arsenic	59.1	41.9	ND(5.5)	ND(5.5)	ND(5.5)	ND(5.5)	ND(5.5)	ND(5.5)	ND(5.5)	ND(5.5)	ND(5.5)	38.6	25.0
Cadmium	ND(0.57)	ND(0.57)	ND(0.57)	1.3 J	ND(0.57)	ND(0.57)	ND(0.57)	ND(0.57)	ND(0.57)	ND(0.57)	ND(0.57)	ND(0.57)	5.0
Calcium	16,800.0	14,400.0	26,400.0	5,650.0	21,200.0	25,200.0	12,200.0	78,900.0	91,700.0	21,500.0	20,200.0	13,900.0	NS/GV
Chromium	125.0	25.1	16.4	4.2 J	114.0	64.6	7.9 J	4.0 J	2.5 J	12.0	9.6 J	1.4 J	50.0
Iron	4,370.0	7,400.0	92.2 J	310.0	409.0	218.0	66.6 J	ND(0.91)	ND(0.91)	16.9 J	30.1 J	6,940.0	300.0
Lead	4.5 J	7.3	6.6	6.0	5.4	4.0 J	4.4 J	6.3	6.2	5.1	4.6 J	4.9 J	25.0
Magnesium	19,100.0	11,700.0	9,240.0	288.0 J	8,220.0	9,400.0	5,660.0	21,500.0	40,200.0	9,960.0	7,560.0	11,200.0	35,000.0 GV
Mercury	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	0.7
Potassium	116,000.0	44,800.0	8,760.0	2,040.0 J	1,200.0 J	1,380.0 J	1,540.0 J	4,530.0 J	5,040.0	1,800.0 J	1,230.0 J	43,700.0	NS/GV
Sodium	219,000.0	54,100.0	22,800.0	1,380.0 J	10,700.0	15,600.0	25,200.0	57,100.0	252,000.0	25,800.0	12,600.0	51,000.0	20,000.0
Leachate Indicators (mg/l)													
Ammonia	39.0	39.0	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	2.5	1.7	ND(0.2)	0.5	0.4	39.0	2.0
Bicarbonate	900.0	280.0	71.0	11.0	32.0	23.0	9.5	150.0	330.0	31.0	16.0	280.0	NS/GV
Chloride	130.0	36.0	32.0	2.5	22.0	32.0	48.0	120.0	270.0	79.0	26.0	35.0	250.0
Nitrate	ND(0.5)	0.7	7.7	0.9	7.3	9.6	6.3	5.1	0.6	0.8	8.2	0.8	10.0
Sulfate	28.0	110.0	62.0	14.0	39.0	46.0	23.0	180.0	350.0	19.0	42.0	88.0	250.0
Alkalinity	910.0	280.0	71.0	11.0	32.0	23.0	9.5	150.0	330.0	31.0	16.0	280.0	NS/GV
TDS	858.0	376.0	221.0	38.0	172.0	215.0	172.0	526.0	1,106.0	273.0	205.0	371.0	NS/GV
Hardness	120.0	83.0	104.0	15.0	88.0	102.0	54.0	286.0	395.0	95.0	82.0	81.0	NS/GV

Note:

ND(): Compound not detected at the method detection limit

NYSDEC Class GA Standards: New York State Department of Environmental Conservation Ambient Water Quality Standards for Source of Drinking Water Title 6 Part 703 (per June 1998 revision)

GV: NYSDEC Guidance Value for Source of Drinking Water

NS/GV: No NYSDEC Standard or Guidance Value Established

B: Reported value less than contract required detection limit but greater than or equal to instrument detection limit

J: Indicates an estimated value; compound is present at a concentration less than specified detection limit

Table 3 continued

Contaminant	NYSDEC Class GA Standard										
	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-B	TB-SW		
Ethylbenzene	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	ND(0.17)	5.0
1,2-Dichlorobenzene	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	3.0
1,3-Dichlorobenzene	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	ND(0.28)	3.0
1,4-Dichlorobenzene	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	ND(0.30)	3.0

Note:

ND(): Compound not detected at the method detection limit

NYSDEC Class GA Standards: New York State Department of Environmental Conservation Ambient Water Quality Standards for Source of Drinking Water Title 6 Part 703 (per June 1998 revision)

GV: NYSDEC Class GA Guidance Value for Source of Drinking Water

NS/GV: No NYSDEC Standard or Guidance Value Established

*Standard of 0.4 applies to sum of cis and trans 1,3-Dichloropropene

J: Indicates an estimated value; compound is present at a concentration less than specified detection limit

Table 3A

**Summary of Analytical Results-Surface Water
East Northport Landfill, East Northport, NY
Sampled June 4, 2004
Leachate Indicators**

Reported in Milligrams per Liter

Parameter	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-B	NYSDEC Class GA Standard
Ammonia	0.7	0.3	1.8	0.9	ND(0.2)	ND(0.2)	2.8	0.3	2.0
Bicarbonate	26.0	47.0	18.0	29.0	50.0	42.0	46.0	47.0	NS/GV
Chloride	55.0	68.0	33.0	65.0	90.0	100.0	1,500.0	68.0	250.0
Nitrate	2.2	0.9	3.8	2.3	3.6	ND(0.5)	ND(0.5)	0.9	10.0
Sulfate	4.3	38.0	22.0	26.0	41.0	17.0	440.0	39.0	250.0
Alkalinity	26.0	47.0	18.0	29.0	50.0	42.0	46.0	47.0	NS/GV
TDS	198.0	253.0	166.0	212.0	343.0	280.0	6,010.0	299.0	NS/GV
Hardness	70.0	102.0	60.0	65.0	130.0	59.0	209.0	104.0	NS/GV

Note:

ND(): Compound not detected at the method detection limit

NYSDEC Class GA Standards: New York State Department of Environmental Conservation Ambient Water Quality Standards for Source of Drinking Water Title 6 Part 703 (per June 1998 revision)

NS/GV: No NYSDEC Standard or Guidance Value Established