New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, New York, 14203-2999
Phone:
(716) 851-7220 FAX: (716) 851-7226

John P. Cahill
Commissioner

December 14, 1999

Ms. Barbara A. Brewer
Project Manager
URS Greiner Woodward Clyde
Buffalo, N.Y. 14202-1805

Re: Lockport City Landfill
Operation and Maintenance

Dear Ms. Brewer,

Enclosed, please find the Department's groundwater quality tables for the Lockport City Landfill, Site Registry Number 9-32-010. Note that our analytical results are in parenthesis for the sample splits taken on September 8, 1999. Questions or concerns can be addressed by contacting the site engineer, John Hyden or me at 716-851-7220.

Sincerely,

Brian P. Sadowski
Environmental Engineering Technician
Division of Environmental Remediation
Region 9

BPS:lj

cc: Mr. Daniel King, Division of Environmental Remediation - Region 9 w/o att.
Mr. John Hyden, Division of Environmental Remediation - Region 9 w/att.

TABLE 1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
LOCKPORT CITY LANDFILL
(All results in ppb)

			MW-8D (UPGRADIENT)							
PARAMETER - VOC	ARAR + (ppb)	Action * Level (ppb)	RI/FS		O & M					
			3/21/90	4/3/91	6/13,16/97	11/5/97	9/21/98 URS(DEC)	9/8/99 URS(DEC)		
Tetrachloroethene	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
Trichloroethene**	5	260	51	130	2.4	4	5 (ND)	2 (ND)		
1,2-Dichloroethene (Total)**	5	1580	460	790	100	90	110 (5J)	18 (17)		
Vinyl Chloride**	2	162	23 J	81	ND	ND	ND (1J)	ND (2J)		
1,1-Dichloroethane	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
1,2-Dichloroethane	0.6		ND	ND	0.54	ND	ND (ND)	ND (ND)		
Benzene	1		ND	ND	ND	ND	ND (ND)	ND (ND)		
Toluene	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
Total Xylenes	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
Methylene Chloride	50		R	15 J	ND	ND	ND (ND)	ND (ND)		
Chlorobenzene	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
Acetone	50		R	R	ANM	ND	ND (ND)	ND (ND)		

\+ NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998.
* Action levels are from the Long Term Monitoring Plan dated March 1994.
G Guidance value.
J Indicates the value is less than the sample quantification limit but greater than zero.
B Indicates the value is less than the quantification limit but greater than or equal to the instrument detection limit.
ND Indicates the value is not detected.
ANM Analyte not measured.
R Analyte rejected due to blank contamination.
( ) Department split sample results.
Shaded values equal or exceed groundwater standards or guidance values (ARARs).
** Compound of Interest by approved LTM plan.

TABLE 1
SUMMARY OF GROUNDWATER AND SEEP ANALYTICAL RESULTS
LOCKPORT CITY LANDFILL
(All results in ppb)

			MW-9I (DOWNGRADIENT)							
PARAMETER - VOC	ARAR + (ppb)	Action * Level (ppb)	RI/FS		O & M					
			3/20/90	4/1/91	6/13,16/97	11/5/97	9/21/98 URS(DEC)	9/8/99 URS(DEC)		
Tetrachloroethene	5		ND	ND	ND	1.5	ND (ND)	ND (ND)		
Trichloroethene**	5	------	ND	ND	1.6	2	2 (ND)	1 (ND)		
1,2-Dichloroethene (Total)**	5	42	17	21	8.4	6	6 (ND)	5 (3J)		
Vinyl Chloride**	2	24	12	11	ND	ND	ND (ND)	ND (1J)		
1,1-Dichloroethane	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
1,2-Dichloroethane	0.6		ND	ND	ND	ND	ND (ND)	ND (ND)		
Benzene	1		ND	ND	ND	ND	ND (ND)	ND (ND)		
Toluene	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
Total Xylenes	5		3 J	ND	ND	ND	ND (ND)	ND (ND)		
Methylene Chloride	50		ND	ND	ND	ND	ND (ND)	ND (ND)		
Chlorobenzene	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
Acetone	50		R	5 J	ANM	ND	ND (ND)	ND (ND)		

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G Guidance value.
J Indicates the value is less than the sample quantification limit but greater than zero.
B Indicates the value is less than the quantification limit but greater than or equal to the instrument detection limit.
ND Indicates the value is not detected.
ANM Analyte not measured.
R Analyte rejected due to blank contamination.
( ) Department split sample results.
Shaded values equal or exceed groundwater standards or guidance values (ARARs).
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TABLE 1
SUMMARY OF GROUNDWATER AND SEEP ANALYTICAL RESULTS
LOCKPORT CITY LANDFILL
(All results in ppb)

			L2 (OUTFALL)							
PARAMETER - VOC	ARAR + (ppb)	Action * Level (ppb)	RI/FS		O & M					
			12/4/89	3/19/91	6/13,16/97	11/5/97	9/21/98 URS(DEC)	9/8/99		
Tetrachloroethene	5		ND	ND	ND	ND	ND	ND		
Trichloroethene**	5	------	ND	ND	ND	3 J	ND	ND		
1,2-Dichloroethene (Total)**	5	280	ND	140	ND	2 J	ND	ND		
Vinyl Chloride**	2	94	ND	47	ND	ND	ND	ND		
1,1-Dichloroethane	5		ND	ND	ND	ND	ND	ND		
1,2-Dichloroethane	0.6		ND	ND	ND	ND	ND	ND		
Benzene	1		0.9 J	2 J	ND	ND	ND	ND		
Toluene	5		R	ND	ND	ND	ND	ND		
Total Xylenes	5		ND	ND	ND	ND	ND	ND		
Methylene Chloride	50		ND	ND	ND	ND	ND	ND		
Chlorobenzene	5		1 J	ND	1.7	ND	ND	ND		
Acetone	50		R	R	ANM	390	ND	ND		

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G Guidance value.
J Indicates the value is less than the sample quantification limit but greater than zero.
B Indicates the value is less than the quantification limit but greater than or equal to the instrument detection limit.
ND Indicates the value is not detected.
ANM Analyte not measured.
R Analyte rejected due to blank contamination.
( ) Department split sample results.
Shaded values equal or exceed groundwater standards or guidance values (ARARs).
** Compound of Interest by approved LTM plan.

TABLE 1
SUMMARY OF GROUNDWATER AND SEEP ANALYTICAL RESULTS
LOCKPORT CITY LANDFILL
(All results in ppb)

			MW-3S (DOWNGRADIENT)							
PARAMETER - VOC	ARAR + (ppb)	Action * Level (ppb)	RI/FS		O & M					
			3/19/90	4/1/91	6/13,16/97	11/5/97	9/21/98 URS(DEC)	9/8/99 URS(DEC)		
Tetrachloroethene	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
Trichloroethene**	5	-----	ND	ND	ND	ND	ND (ND)	ND (ND)		
1,2-Dichloroethene (Total)**	5	6	3 J	ND	3.3	ND	3J (3J)	4 (3)		
Vinyl Chloride**	2	-----	ND	ND	ND	ND	ND (ND)	ND (ND)		
1,1-Dichloroethane	5		ND	ND	0.67	ND	ND (ND)	1 (ND)		
1,2-Dichloroethane	0.6		ND	ND	ND	ND	ND (ND)	ND (ND)		
Benzene	1		ND	ND	ND	ND	ND (ND)	ND (ND)		
Toluene	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
Total Xylenes	5		6	ND	ND	ND	ND (ND)	ND (ND)		
Methylene Chloride	50		ND	ND	ND	ND	ND (ND)	ND (ND)		
Chlorobenzene	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
Acetone	50		ND	ND	ANM	R	ND (ND)	ND (ND)		

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* Action levels are from the Long Term Monitoring Plan dated March 1994.
G Guidance value.
J Indicates the value is less than the sample quantification limit but greater than zero.
B Indicates the value is less than the quantification limit but greater than or equal to the instrument detection limit.
ND Indicates the value is not detected.
ANM Analyte not measured.
R Analyte rejected due to blank contamination.
( ) Department split sample results.
Shaded values equal or exceed groundwater standards or guidance values (ARARs).
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TABLE 1
SUMMARY OF GROUNDWATER AND SEEP ANALYTICAL RESULTS
LOCKPORT CITY LANDFILL
(All results in ppb)

			MW-6D (UPGRADIENT)							
PARAMETER - VOC	ARAR + (ppb)	Action * Level (ppb)	RI/FS		O & M					
			3/21/90	4/2/91	6/13,16/97	11/5/97	9/21/98 URS(DEC)	9/8/99		
Tetrachloroethene	5		ND	ND	ND	ND	DRY	DRY		
Trichloroethene**	5		ND	ND	ND	ND	DRY	DRY		
1,2-Dichloroethene (Total)**	5		ND	ND	ND	ND	DRY	DRY		
Vinyl Chloride**	2		ND	ND	ND	ND	DRY	DRY		
1,1-Dichloroethane	1		ND	ND	ND	ND	DRY	DRY		
1,2-Dichloroethane	0.6		ND	ND	ND	ND	DRY	DRY		
Benzene	1		ND	ND	ND	ND	DRY	DRY		
Toluene	5		ND	ND	ND	5 J	DRY	DRY		
Total Xylenes	5		ND	ND	ND	3 J	DRY	DRY		
Methylene Chloride	50		R	ND	ND	ND	DRY	DRY		
Chlorobenzene	5		ND	ND	ND	ND	DRY	DRY		
Acetone	50		R	ND	ANM	R	DRY	DRY		

\+ NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998.
* Action levels are from the Long Term Monitoring Plan dated March 1994.
G Guidance value.
J Indicates the value is less than the sample quantification limit but greater than zero.
B Indicates the value is less than the quantification limit but greater than or equal to the instrument detection limit.
ND Indicates the value is not detected.
ANM Analyte not measured.
R Analyte rejected due to blank contamination.
( ) Department split sample results.
Shaded values equal or exceed groundwater standards or guidance values (ARARs).
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TABLE 1
SUMMARY OF GROUNDWATER AND SEEP ANALYTICAL RESULTS
LOCKPORT CITY LANDFILL
(All results in ppb)

			MW-9S (DOWNGRADIENT)							
PARAMETER - VOC	ARAR + (ppb)	Action * Level (ppb)	RI/FS		O & M					
			3/20/90	4/1/91	6/13,16/97	11/5/97	9/21/98 URS (DEC)	9/8/99 URS(DEC)		
Tetrachloroethene	5		ND	ND	ND	ND	ND (5J)	ND (ND)		
Trichloroethene**	5	-----	ND	ND	ND	ND	ND (ND)	ND (ND)		
1,2-Dichloroethene (Total)**	5	18	7	9	ND	ND	ND (130)	ND (ND)		
Vinyl Chloride**	2	8	ND	4 J	ND	ND	ND (ND)	ND (ND)		
1,1-Dichloroethane	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
1,2-Dichloroethane	0.6		ND	ND	ND	ND	ND (ND)	ND (ND)		
Benzene	1		R	3 J	ND	ND	ND (ND)	ND (ND)		
Toluene	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
Total Xylenes	5		3 J	ND	ND	ND	ND (ND)	ND (ND)		
Methylene Chloride	50		ND	ND	ND	ND	ND (ND)	ND (ND)		
Chlorobenzene	5		ND	ND	ND	ND	ND (ND)	ND (ND)		
Acetone	50		R	16	ANM	R	ND (ND)	ND (ND)		

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G Guidance value.
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B Indicates the value is less than the quantification limit but greater than or equal to the instrument detection limit.
ND Indicates the value is not detected.
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( ) Department split sample results.
Shaded values equal or exceed groundwater standards or guidance values (ARARs).
** Compound of Interest by approved LTM plan.

URS Greiner Woodward Clyde
A Division of URS Corporation

282 Delaware Avenue
Buffalo, NY 14202-1805
Tel: 716.856.5636
Fax: 716.856.2545
Offices Worldwide

November 4, 1999

Mr. Allan R. Rutter
Director of Engineering
City of Lockport
Lockport Municipal Building
One Locks Plaza
Lockport, New York 14094

RE: LOCKPORT CITY LANDFILL
LONG TERM MONITORING

Dear Mr. Rutter:

URS Greiner Woodward Clyde (URSGWC) is pleased to submit two (2) copies of the sampling and analysis report (Year Three) regarding the long term monitoring at the above mentioned facility for your information and use. The work was completed in accordance with the long term monitoring plan approved by the NYSDEC. The report presents the results of our sampling of five groundwater wells conducted at the Lockport Landfill on September 8, 1999. There were no exceedances above the specified action levels; therefore, contingent sampling and analysis is not warranted. The next sampling event will be during the third quarter (July – September, 2000) in Year 4 of this Long Term Monitoring program.

If you have any questions or if you require any additional information, please contact us.

Very truly,

URS Greiner Woodward Clyde

Barbara A. Brewer
Project Manager

Enclosure

cc: J. Hyden, NYSDEC
Jim Lehnen, URSGWC
File: 05-35507.00 (R-1)

SAMPLING AND ANALYSIS REPORT
(YEAR 3)

FOR

THE LOCKPORT CITY LANDFILL
NYSDEC SITE NO. 932010

Prepared For:

CITY OF LOCKPORT, NEW YORK
DEPARTMENT OF PUBLIC WORKS

Prepared by:
URS GREINER WOODWARD CLYDE.
282 DELAWARE AVENUE
BUFFALO, NEW YORK 14202

NOVEMBER 1999

INTRODUCTION

The Lockport City Landfill site is located on Oakhurst Street in the City of Lockport, Niagara County, New York. The landfill has been assigned the site registry number 9-32-010 and is the subject of this report.

The Remedial Action Design for the site included a Long-Term Monitoring Plan and Operation and Maintenance Plan that were approved by the NYSDEC. The purpose of the Long-Term Monitoring Plan is to provide information necessary to evaluate and monitor the long-term effectiveness of the remedial measure. The Operation and Maintenance Plan includes regular site inspections to identify any potential problems at the landfill that are not being adequately addressed by routine maintenance, and to document the current condition of the landfill. The purpose of this sampling and analysis report is to present the findings of the fourth sampling event (Year 3) conducted at the Lockport Landfill on September 8, 1999.

LONG-TERM MONITORING

In accordance with the NYSDEC approved long-term monitoring plan included in the Operation and Maintenance Plan, water sampling of four groundwater wells and one surface water outlet was conducted by URSGWC on September 8, 1999. Well MW-6D was dry and therefore not sampled. The remaining samples were delivered to Ecology and Environment, Inc. (E&E) of Lancaster, NY. E&E analyzed all samples for Schedule A parameters, as specified in the Work Plan, according to the required methods. In addition, one sample was collected from well MW-9S for BOD_5 analysis, because it was over-diluted in the previous round of sampling. Laboratory results are provided in Attachment A and field results including field observations in Attachment B. The data was reviewed for compliance with the reference methods and the deliverable criteria. Attachment C summarizes the assessment of the chemical data and Table C-1 summarizes data usability. All sample results were determined to be fully usable.

Based on the results of the analytical testing there were no exceedances above the specified action levels identified in the long term monitoring plan as shown in the summary of results on the following page. Because exceedances did not occur, contingent sampling and analysis is not needed. Therefore, the next sampling event will take place in year 4 during the third quarter, July – September, 2000.

SAMPLE RESULTS SUMMARY

Compound of Interest	Concentration (μ/L)														
	MW-8D					MW-9I					MW-L2				
	Action Level	Detected Level				Action Level	Detected Level				Action Level	Detected Level			
		6/97	11/97	9/98	9/99		6/97	11/97	9/98	9/99		6/97	11/97	9/98	9/99
Vinyl chloride	162	ND	ND	ND	ND	24	ND	ND	ND	ND	94	ND	ND	ND	ND
1,2-Dichloroethene (total)	1580	100	90	110	18	42	8.4	6	6	5	280	ND	2	ND	ND
Trichloroethene	260	2.4	4	5	2	-----	1.6	2	2	1	-----	ND	3	ND	ND

ND: Not Detected.

ATTACHMENT A

LABORATORY RESULTS

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

LCLL2

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9909061 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: 05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1813

Level: (low/med) LOW Date Received: 09/08/99

% Moisture: not dec. Date Analyzed: 09/13/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

.A

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

LCLMW3S

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9909061 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: 01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1809

Level: (low/med) LOW Date Received: 09/08/99

% Moisture: not dec. Date Analyzed: 09/13/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	1	J
540-59-0	1,2-Dichloroethene (total)	4	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.: LCLMW8D

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9909061 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: 02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1810

Level: (low/med) LOW Date Received: 09/08/99

% Moisture: not dec. Date Analyzed: 09/13/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	18	
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	2	J
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.: LCLMW9I

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9909061 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: 04A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1812

Level: (low/med) LOW Date Received: 09/08/99

% Moisture: not dec. Date Analyzed: 09/13/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	5	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	1	J
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

LCLMW9S

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9909051 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: 03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1811

Level: (low/med) LOW Date Received: 09/08/99

% Moisture: not dec. Date Analyzed: 09/13/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.: LCLTB

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9509061 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: 06A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1814

Level: (low/med) LOW Date Received: 09/08/99

% Moisture: not dec. Date Analyzed: 09/14/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

VBLKW1

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9909061 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: VBLKW1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1808

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/13/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

Ecology and Environment, Inc.

Analytical Services Center

4493 Walden Avenue

Lancaster, New York 14086-

Laboratory Results

NYS ELAP ID#: 10486

Phone: (716) 685-8080

CLIENT: URS Greiner Woodward Clyde
Work Order: 9909061
Project: Lockport Landfill

QC SUMMARY REPORT

Method Blank

Biochemical Oxygen Demand, 5-Day Test Code: *1_5210B_BOD5_W* Units: mg/L

Sample ID: **MBlank**

Run Batch ID: **YSI_990908A** SeqNo: **61521** Analysis Date: **9/8/99** Prep Batch ID: **990908130R** Prep Date: **9/8/99**

Analyte	Result	RL	Spike Value	Orig Result	%REC	LowLimit	HighLimit	%RPD	RPDLimit [1]	Qual
A Biochemical Oxygen Demand	ND	2								

Definitions: ND - Not Detected at the Reporting Limit; * - LCS Recovery outside limits; M - Matrix Spike Recovery outside limits; RL -Reporting Limit; J - Analyte detected below reporting limits; B - Analyte detected in the associated Method Blank; R - RPD outside recovery limits (for Samp/Duplicates < 5X RL Difference <2X RL is Acceptable); 1 - Represents RSD Limit for Quad Analysis

ATTACHMENT B

FIELD RESULTS

CHAIN OF CUSTODY RECORD

URS Greiner

PROJECT NO. 35507-20 | SITE NAME Lockport City Landfill

SAMPLERS (PRINT/SIGNATURE) Kevin S Kearney / Kevin S Kearney

LAB E&E | COOLER 1 of 1 | PAGE 1 of 1

DELIVERY SERVICE: Hand Carry AIRBILL NO.: N/A

TESTS: 8260 VOCs | 8270 BNAs

BOTTLE TYPE AND PRESERVATIVE: 40 ml VOA Vials HCl | 1 Liter Amber Glass

LOCATION IDENTIFIER	DATE	TIME	COMP/ GRAB	SAMPLE ID	MATRIX	TOTAL NO.# OF CONTAINERS	40 ml VOA Vials HCl	1 Liter Amber Glass	REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO.# (IRPIMS ONLY)
MW-3S	9/8/99	1015	Grab	LCL-MW3S	WG	1	2	-		N1			
MW-8D	9/8/99	1410	Grab	LCL-MW8D	WG	2	2	-		N1			
MW-9S	9/8/99	1355	Grab	LCL-MW9S	WG	3	2	1		N1			
MW-9I	9/8/99	1150	Grab	LCL-MW9I	WG	2	2	-		N1			
L-2	9/8/99	1330	Grab	LCL-L2	WG	2	2	-		N1			
Trip Blank	9/8/99	—	Grab	LCL-TB	WQ	2	2	-		TB1			

MATRIX CODES
AA - AMBIENT AIR; SE - SEDIMENT; SH - HAZARDOUS SOLID WASTE; SL - SLUDGE; WP - DRINKING WATER; WW - WASTE WATER; WG - GROUND WATER; SO - SOIL; DC - DRILL CUTTINGS; WL - LEACHATE; GS - SOIL GAS; WC - DRILLING WATER; WO - OCEAN WATER; WS - SURFACE WATER; WQ - WATER FIELD QC; LH - HAZARDOUS LIQUID WASTE; LF - FLOATING/FREE PRODUCT ON GW TABLE

SAMPLE TYPE CODES
TB# - TRIP BLANK; SD# - MATRIX SPIKE DUPLICATE; RB# - RINSE BLANK; FR# - FIELD REPLICATE; N# - NORMAL ENVIRONMENTAL SAMPLE; MS# - MATRIX SPIKE; (# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME
Kevin S Kearney	9/8/99	1600	[illegible]	9/9/99	[illegible]

SPECIAL INSTRUCTIONS

Distribution: Original accompanies shipment, copy to coordinator field files

URSF-075C/1 OF 1/CofCR/GCM

URS GREINER, INC.
PURGE AND SAMPLE LOG

PROJECT: Lockport LandFill SUBJECT: Groundwater Sampling.

DATE: 9-8-99

PURGING INFORMATION

Well Identification:	MW 8D	PID Reading:	— ppm
Depth to Water:	72 30 Ft	Depth to Bottom:	76.72 Ft
Volume/Casing:	0.75 Gallons	Start Time:	0945
Volume Purged:	2.25 Gallons	Stop Time:	1005

Method: Dedicated HDPE bailer and nylon twine.

Comments:

Note: **0.17 gallons per foot in 2-inch diameter well**
0.66 gallons per foot in 4-inch diameter well

FIELD PARAMETERS

Parameter	Initial	Final	Sample
pH	6.24 SU	6.19 SU	6.49 SU
Conductivity	2654 umhos	3182 umhos	3550 umhos
Turbidity	3 NTU	222 NTU	15 NTU
Temperature	12.2 C	12.1 C	13.4 C
Dissolved Oxygen	4.53 ppm	1.66 ppm	1.85 ppm
ORP	95.2 ppm	91.0 ppm	13.5 ppm
Appearance	clear	light tan	clear

SAMPLING INFORMATION

Sample Identification: MW-8D Time Sampled: 1410

Parameters: VOC

Comments:

Samplers: Kevin S Kearney

URS GREINER, INC.
PURGE AND SAMPLE LOG

PROJECT: Lockport Landfill SUBJECT: Groundwater Sampling

DATE: 9-8-99

PURGING INFORMATION

Well Identification:	MW 6D	PID Reading:	— ppm
Depth to Water:	— Ft	Depth to Bottom:	77.15 Ft
Volume/Casing:	_____ Gallons	Start Time:	_____
Volume Purged:	_____ Gallons	Stop Time:	_____

Method: _____

Comments: _____

Note: 0.17 gallons per foot in 2-inch diameter well
0.66 gallons per foot in 4-inch diameter well

FIELD PARAMETERS

Parameter	Initial	Final	Sample
pH	_____ SU	_____ SU	_____ SU
Conductivity	_____ umhos	_____ umhos	_____ umhos
Turbidity	_____ NTU	_____ NTU	_____ NTU
Temperature	_____ C	_____ C	_____ C
Dissolved Oxygen	_____ ppm	_____ ppm	_____ ppm
ORP	_____ ppm	_____ ppm	_____ ppm
Appearance	_____	_____	_____

SAMPLING INFORMATION

Sample Identification: MW 6D Time Sampled: _____

Parameters: VOC

Comments: "NO WATER"

Samplers: _____

URS GREINER, INC.
PURGE AND SAMPLE LOG

PROJECT: Lockport Landfill SUBJECT: Groundwater Sampling

DATE: 9-8-99

PURGING INFORMATION

Well Identification:	MW 9I	PID Reading:	— ppm
Depth to Water:	5.97 Ft	Depth to Bottom:	20.13 Ft
Volume/Casing:	2.40 Gallons	Start Time:	1115
Volume Purged:	8 Gallons	Stop Time:	1140

Method: Dedicated HDPE bailer and nylon twine.

Comments:

Note: 0.17 gallons per foot in 2-inch diameter well
0.66 gallons per foot in 4-inch diameter well

FIELD PARAMETERS

Parameter	Initial	Final	Sample
pH	10.00 SU	7.77 SU	7.76 SU
Conductivity	3192 umhos	3260 umhos	3272 umhos
Turbidity	60 NTU	24 NTU	14 NTU
Temperature	16.2 C	14.0 C	16.2 C
Dissolved Oxygen	0.50 ppm	0.95 ppm	0.65 ppm
ORP	-93.8 ppm	-14.3 ppm	-12.2 ppm
Appearance	light orange	light orange	light orange

SAMPLING INFORMATION

Sample Identification: MW 9I Time Sampled: 1150

Parameters: VOC

Comments:

Samplers: Kevin S. Kearney

URS GREINER, INC.
PURGE AND SAMPLE LOG

PROJECT: Lockport Landfill SUBJECT: Groundwater Sampling

DATE: 9.8.99

PURGING INFORMATION

Well Identification:	MW 9S	PID Reading:	— ppm
Depth to Water:	6.63 Ft	Depth to Bottom:	12.40 Ft
Volume/Casing:	0.98 Gallons	Start Time:	1200
Volume Purged:	3 Gallons	Stop Time:	1225

Method: Dedicated HDPE bailer and nylon twine

Comments:

Note: 0.17 gallons per foot in 2-inch diameter well
0.66 gallons per foot in 4-inch diameter well

FIELD PARAMETERS

Parameter	Initial	Final	Sample
pH	10.37 SU	9.85 SU	10.02 SU
Conductivity	3464 umhos	3485 umhos	3875 umhos
Turbidity	353 NTU	424 NTU	312 NTU
Temperature	17.6 C	16.9 C	17.2 C
Dissolved Oxygen	4.30 ppm	2.12 ppm	3.10 ppm
ORP	-142.6 ppm	-144.5 ppm	-143.5 ppm
Appearance	light tan	light tan	light tan

SAMPLING INFORMATION

Sample Identification: MW 9S Time Sampled: 1345

Parameters: VOC + BOD

Comments:

Samplers: Kevin S. Kearney

URS GREINER, INC.
PURGE AND SAMPLE LOG

PROJECT: Lockport Landfill SUBJECT: Groundwater Sampling

DATE: 9-8-99

PURGING INFORMATION

Well Identification:	MW 35	PID Reading:	— ppm
Depth to Water:	2.85' Ft	Depth to Bottom:	16.43' Ft
Volume/Casing:	1.68 Gallons	Start Time:	1250
Volume Purged:	5.04 Gallons	Stop Time:	1310

Method: Dedicated HDPE bailer and nylon twine

Comments:

Note: 0.17 gallons per foot in 2-inch diameter well
0.66 gallons per foot in 4-inch diameter well

FIELD PARAMETERS

Parameter	Initial	Final	Sample
pH	10.85 SU	9.62 SU	9.40 SU
Conductivity	2612 umhos	2604 umhos	3967 umhos
Turbidity	57 NTU	102 NTU	32 NTU
Temperature	16.7 C	15.9 C	15.6 C
Dissolved Oxygen	2.50 ppm	1.99 ppm	1.92 ppm
ORP	-116.5 ppm	-125.2 ppm	-178.5 ppm
Appearance	clear	clear	clear

SAMPLING INFORMATION

Sample Identification: MW 35 Time Sampled: 1315

Parameters: VOC

Comments:

Samplers: Kevin S. Kearney

URS GREINER, INC.
PURGE AND SAMPLE LOG

PROJECT: Lockport Landfill SUBJECT: Leachate Sampling

DATE: 9-8-99

PURGING INFORMATION

Well Identification:	L-2	PID Reading:	_____ ppm
Depth to Water:	_____ Ft	Depth to Bottom:	_____ Ft
Volume/Casing:	_____ Gallons	Start Time:	_____
Volume Purged:	_____ Gallons	Stop Time:	_____

Method: Hold sample containers under flow.

Comments: Leachate Sampling

Note: 0.17 gallons per foot in 2-inch diameter well
0.66 gallons per foot in 4-inch diameter well

FIELD PARAMETERS

Parameter	Initial	Final	Sample
pH	_____ SU	_____ SU	7.87 SU
Conductivity	_____ umhos	_____ umhos	1611 umhos
Turbidity	_____ NTU	_____ NTU	106 NTU
Temperature	_____ C	_____ C	15.6 C
Dissolved Oxygen	_____ ppm	_____ ppm	4.50 ppm
ORP	_____ ppm	_____ ppm	-159.7 ppm
Appearance	_____	_____	Clear orange tint

K.S K

SAMPLING INFORMATION

Sample Identification: LCL-L2 Time Sampled: 1330

Parameters: VOC

Comments: _____

Samplers: Kevin S. Kearney

ATTACHMENT C

ANALYTICAL DATA ASSESSMENT

ATTACHMENT C

ANALYTICAL DATA ASSESSMENT
ROUTINE MONITORING OF THE LOCKPORT CITY LANDFILL
LOCKPORT, NEW YORK

Four groundwater samples and one surface water outlet sample were collected from the Lockport City Landfill, Lockport, New York, on September 8, 1999 and sent to Ecology and Environment, Inc., (Lancaster, New York,) for analysis. All samples (plus one trip blank) were analyzed for Target Compound List (TCL) volatiles in accordance with NYSDEC ASP Method 95-1. In addition, one of the samples was analyzed for biochemical oxygen demand (BOD_5) by EPA Method 405.1.

The data was reviewed for compliance with the referenced methods and USEPA Region II CLP Organic Data Review, SOP No. HW-6, Rev. #11, June 1996. All samples were analyzed within the required holding times. All data was found to be usable as reported.

Table C-1 summarizes our assessment of data usability on a sample-by-sample and fraction-by fraction basis. In evaluating this data, we have established four (4) categories which are, for the most part, gradational in nature. These categories are defined as follows:

Category 1a-Usable and Defensible- Fully usable, despite possible minor deviations from ASP criteria.

Category 1b-Usable Though Not Fully Defensible- Usable with caution; cumulative deviations from ASP criteria are greater than Category 1a, although not considered so significant as to jeopardize the chemical representativeness of the sample results.

Category 2a- Rejected Fraction(s)/Compound(s) Due to Holding Time Violations- The analysis did not comply with ASP holding times.

Category 2b- Rejected Fraction(s)/Compound(s) Due to Various ASP Deviations- In a sample fraction, some compounds may be usable and defensible, other compounds may be rejected, or the sample fraction may be rejected due to various deviations from ASP.

TABLE C-1

ANALYTICAL DATA ASSESSMENT

MATRIX: GROUNDWATER/WASTEWATER
Laboratory Report Numbers: 9909.061
Assessment Categories: 1a, 1b, 2a, 2b

Sample Location ID	VOA	BOD_5	Notes
MW-6D	NS	NA	--
MW-8D	1a	NA	--
MW-9I	1a	NA	--
MW-9S	1a	1a	--
MW-3S	1a	NA	--
L2	1a	NA	-

Notes:

NA = Not Applicable (sampled during previous monitoring events)
NS = Not Sampled because the well was dry

URS Greiner Woodward Clyde
A Division of URS Corporation

282 Delaware Avenue
Buffalo, NY 14202-1805
Tel: 716.856.5636
Fax: 716.856.2545
Offices Worldwide

JWH

November 4, 1999

Mr. Allan R. Rutter
Director of Engineering
City of Lockport
Lockport Municipal Building
One Locks Plaza
Lockport, New York 14094

RE: LOCKPORT CITY LANDFILL
LONG TERM MONITORING

Dear Mr. Rutter:

URS Greiner Woodward Clyde (URSGWC) is pleased to submit two (2) copies of the sampling and analysis report (Year Three) regarding the long term monitoring at the above mentioned facility for your information and use. The work was completed in accordance with the long term monitoring plan approved by the NYSDEC. The report presents the results of our sampling of five groundwater wells conducted at the Lockport Landfill on September 8, 1999. There were no exceedances above the specified action levels; therefore, contingent sampling and analysis is not warranted. The next sampling event will be during the third quarter (July – September, 2000) in Year 4 of this Long Term Monitoring program.

If you have any questions or if you require any additional information, please contact us.

Very truly,

URS Greiner Woodward Clyde

Barbara A. Brewer
Project Manager

Enclosure

cc: J. Hyden, NYSDEC
Jim Lehnen, URSGWC
File: 05-35507.00 (R-1)

SAMPLING AND ANALYSIS REPORT
(YEAR 3)

FOR

THE LOCKPORT CITY LANDFILL
NYSDEC SITE NO. 932010

Prepared For:

CITY OF LOCKPORT, NEW YORK
DEPARTMENT OF PUBLIC WORKS

Prepared by:

URS GREINER WOODWARD CLYDE.
282 DELAWARE AVENUE
BUFFALO, NEW YORK 14202

NOVEMBER 1999

INTRODUCTION

The Lockport City Landfill site is located on Oakhurst Street in the City of Lockport, Niagara County, New York. The landfill has been assigned the site registry number 9-32-010 and is the subject of this report.

The Remedial Action Design for the site included a Long-Term Monitoring Plan and Operation and Maintenance Plan that were approved by the NYSDEC. The purpose of the Long-Term Monitoring Plan is to provide information necessary to evaluate and monitor the long-term effectiveness of the remedial measure. The Operation and Maintenance Plan includes regular site inspections to identify any potential problems at the landfill that are not being adequately addressed by routine maintenance, and to document the current condition of the landfill. The purpose of this sampling and analysis report is to present the findings of the fourth sampling event (Year 3) conducted at the Lockport Landfill on September 8, 1999.

LONG-TERM MONITORING

In accordance with the NYSDEC approved long-term monitoring plan included in the Operation and Maintenance Plan, water sampling of four groundwater wells and one surface water outlet was conducted by URSGWC on September 8, 1999. Well MW-6D was dry and therefore not sampled. The remaining samples were delivered to Ecology and Environment, Inc. (E&E) of Lancaster, NY. E&E analyzed all samples for Schedule A parameters, as specified in the Work Plan, according to the required methods. In addition, one sample was collected from well MW-9S for BOD_5 analysis, because it was over-diluted in the previous round of sampling. Laboratory results are provided in Attachment A and field results including field observations in Attachment B. The data was reviewed for compliance with the reference methods and the deliverable criteria. Attachment C summarizes the assessment of the chemical data and Table C-1 summarizes data usability. All sample results were determined to be fully usable.

Based on the results of the analytical testing there were no exceedances above the specified action levels identified in the long term monitoring plan as shown in the summary of results on the following page. Because exceedances did not occur, contingent sampling and analysis is not needed. Therefore, the next sampling event will take place in year 4 during the third quarter, July – September, 2000.

SAMPLE RESULTS SUMMARY

Compound of Interest	Concentration (μ/L)														
	MW-8D					MW-9I					MW-L2				
	Action Level	Detected Level				Action Level	Detected Level				Action Level	Detected Level			
		6/97	11/97	9/98	9/99		6/97	11/97	9/98	9/99		6/97	11/97	9/98	9/99
Vinyl chloride	162	ND	ND	ND	ND	24	ND	ND	ND	ND	94	ND	ND	ND	ND
1,2-Dichloroethene (total)	1580	100	90	110	18	42	8.4	6	6	5	280	ND	2	ND	ND
Trichloroethene	260	2.4	4	5	2	-----	1.6	2	2	1	-----	ND	3	ND	ND

ND: Not Detected.

ATTACHMENT A

LABORATORY RESULTS

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.: LCLL2

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9909061 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: 05A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1813

Level: (low/med) LOW Date Received: 09/08/99

% Moisture: not dec. Date Analyzed: 09/13/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.: LCLMW3S

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9909061 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: 01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1809

Level: (low/med) LOW Date Received: 09/08/99

% Moisture: not dec. Date Analyzed: 09/13/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	1	J
540-59-0	1,2-Dichloroethene (total)	4	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.: LCLMW8D

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9909061 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: 02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1810

Level: (low/med) LOW Date Received: 09/08/99

% Moisture: not dec. Date Analyzed: 09/13/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	18	
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	2	J
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

LCLMW9I

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9909061 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: 04A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1812

Level: (low/med) LOW Date Received: 09/08/99

% Moisture: not dec. Date Analyzed: 09/13/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	5	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	1	J
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

LCLMW9S

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9909051 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: 03A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1811

Level: (low/med) LOW Date Received: 09/08/99

% Moisture: not dec. Date Analyzed: 09/13/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

LCLTB

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9509061 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: 06A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1814

Level: (low/med) LOW Date Received: 09/08/99

% Moisture: not dec. Date Analyzed: 09/14/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.: VBLKW1

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9909061 SAS No.: SDG No.: LCLMW3S

Matrix: (soil/water) WATER Lab Sample ID: VBLKW1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: J1808

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/13/99

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

Ecology and Environment, Inc.
Analytical Services Center
4493 Walden Avenue
Lancaster, New York 14086-

Laboratory Results

NYS ELAP ID#: 10486
Phone: (716) 685-8080

CLIENT: URS Greiner Woodward Clyde
Work Order: 9909061
Project: Lockport Landfill

QC SUMMARY REPORT
Method Blank

Biochemical Oxygen Demand, 5-Day Test Code: *1_5210B_BOD5_W* Units: mg/L

Sample ID: **MBlank**

Run Batch ID: YSI_990908A SeqNo: **61521** Analysis Date: **9/8/99** Prep Batch ID: **990908130R** Prep Date: **9/8/99**

Analyte		Result	RL	Spike Value	Orig Result	%REC	LowLimit	HighLimit	%RPD	RPDLimit [1]	Qual
A	Biochemical Oxygen Demand	ND	2								

Definitions: ND - Not Detected at the Reporting Limit; * - LCS Recovery outside limits; M - Matrix Spike Recovery outside limits; RL -Reporting Limit
J - Analyte detected below reporting limits; B - Analyte detected in the associated Method Blank; R - RPD outside recovery limits (for Samp/Duplicates < 5X RL Difference <2X RL is Acceptable)
1 - Represents RSD Limit for Quad Analysis

ATTACHMENT B

FIELD RESULTS

CHAIN OF CUSTODY RECORD

URS Greiner

PROJECT NO. 25507-010

SITE NAME Lockport City Landfill

SAMPLERS (PRINT/SIGNATURE) Kevin S. Kearney / Kevin S. Kearney

LAB E&E

COOLER 1 of 1

PAGE 1 of 1

DELIVERY SERVICE: Hand Deliver AIRBILL NO.: N/A

LOCATION IDENTIFIER	DATE	TIME	COMP/ GRAB	SAMPLE ID	MATRIX	TOTAL NO.# OF CONTAINERS	TESTS: 8260	TESTS: 8260 SIM	BOTTLE TYPE AND PRESERVATIVE						REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO.# (IRPIMS ONLY)
MW-3S	9/8/99	1215	Grab	LCL-MW3S	WG	2	2	-								N1			
MW-8D	9/8/99	1410	Grab	LCL-MW8D	WG	2	2	-								N1			
MW-9S	9/8/99	1355	Grab	LCL-MW9S	WG	3	2	1								N1			
MW-9I	9/8/99	1150	Grab	LCL-MW9I	WG	2	2	-								N1			
LL2	9/8/99	1330	Grab	LCL-LL2	WG	2	2	-								N1			
Trip Blank	9/8/99	-	Grab	LCL-TB	WQ	2	2	-								TB1			

MATRIX CODES

AA - AMBIENT AIR; SE - SEDIMENT; SH - HAZARDOUS SOLID WASTE; SL - SLUDGE; WP - DRINKING WATER; WW - WASTE WATER; WG - GROUND WATER; SO - SOIL; DC - DRILL CUTTINGS; WL - LEACHATE; GS - SOIL GAS; WC - DRILLING WATER; WO - OCEAN WATER; WS - SURFACE WATER; WQ - WATER FIELD QC; LH - HAZARDOUS LIQUID WASTE; LF - FLOATING/FREE PRODUCT ON GW TABLE

SAMPLE TYPE CODES

TB# - TRIP BLANK; SD# - MATRIX SPIKE DUPLICATE; RB# - RINSE BLANK; FR# - FIELD REPLICATE; N# - NORMAL ENVIRONMENTAL SAMPLE; MS# - MATRIX SPIKE

(# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME	SPECIAL INSTRUCTIONS
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME	
Kevin S. Kearney	9/8/99	1600	[illegible]	9/9/99	11:00	

Distribution: Original accompanies shipment, copy to coordinator field files

URSF-075C/1 OF 1/ColCR/GCM

URS GREINER, INC.
PURGE AND SAMPLE LOG

PROJECT: Lockport Land Fill SUBJECT: Groundwater Sampling.

DATE: 9-8-99

PURGING INFORMATION

Well Identification:	MW 8D	PID Reading:	— ppm
Depth to Water:	72 30 Ft	Depth to Bottom:	76.72 Ft
Volume/Casing:	0.75 Gallons	Start Time:	0945
Volume Purged:	2.25 Gallons	Stop Time:	1005

Method: Dedicated HDPE bailer and nylon twine.

Comments:

Note: 0.17 gallons per foot in 2-inch diameter well
0.66 gallons per foot in 4-inch diameter well

FIELD PARAMETERS

Parameter	Initial	Final	Sample
pH	6.24 SU	6.19 SU	6.49 SU
Conductivity	2654 umhos	3182 umhos	3550 umhos
Turbidity	3 NTU	222 NTU	15 NTU
Temperature	12.2 C	12.1 C	13.4 C
Dissolved Oxygen	4.53 ppm	1.66 ppm	1.85 ppm
ORP	95.2 ppm	91.0 ppm	13.5 ppm
Appearance	Clear	light tan	clear

SAMPLING INFORMATION

Sample Identification: MW-8D Time Sampled: 1410

Parameters: VOC

Comments:

Samplers: Kevin S Kearney

URS GREINER, INC.
PURGE AND SAMPLE LOG

PROJECT: Lockport Landfill SUBJECT: Groundwater Sampling

DATE: 9-8-99

PURGING INFORMATION

Well Identification:	MW 6D	PID Reading:	— ppm
Depth to Water:	— Ft	Depth to Bottom:	77.15 Ft
Volume/Casing:	_____ Gallons	Start Time:	_____
Volume Purged:	_____ Gallons	Stop Time:	_____

Method: _____

Comments: _____

Note: **0.17 gallons per foot in 2-inch diameter well**
0.66 gallons per foot in 4-inch diameter well

FIELD PARAMETERS

Parameter	Initial	Final	Sample
pH	_____ SU	_____ SU	_____ SU
Conductivity	_____ umhos	_____ umhos	_____ umhos
Turbidity	_____ NTU	_____ NTU	_____ NTU
Temperature	_____ C	_____ C	_____ C
Dissolved Oxygen	_____ ppm	_____ ppm	_____ ppm
ORP	_____ ppm	_____ ppm	_____ ppm
Appearance	_____	_____	_____

SAMPLING INFORMATION

Sample Identification: MW 6D Time Sampled: _____

Parameters: VOC

Comments: "NO WATER"

Samplers: _____

URS GREINER, INC.
PURGE AND SAMPLE LOG

PROJECT: Lockport Landfill SUBJECT: Groundwater Sampling

DATE: 9-8-99

PURGING INFORMATION

Well Identification:	MW 9I	PID Reading:	— ppm
Depth to Water:	5.97 Ft	Depth to Bottom:	20.13 Ft
Volume/Casing:	2.40 Gallons	Start Time:	1115
Volume Purged:	8 Gallons	Stop Time:	1140

Method: Dedicated HDPE bailer and nylon twine.

Comments:

Note: 0.17 gallons per foot in 2-inch diameter well
0.66 gallons per foot in 4-inch diameter well

FIELD PARAMETERS

Parameter	Initial	Final	Sample
pH	10.00 SU	7.77 SU	7.76 SU
Conductivity	3192 umhos	3260 umhos	3272 umhos
Turbidity	60 NTU	24 NTU	14 NTU
Temperature	16.2 C	14.0 C	16.2 C
Dissolved Oxygen	0.50 ppm	0.95 ppm	0.65 ppm
ORP	-93.8 ppm	-14.3 ppm	-12.2 ppm
Appearance	light orange	light orange	light orange

SAMPLING INFORMATION

Sample Identification: MW 9I Time Sampled: 1150

Parameters: VOC

Comments:

Samplers: Kevin S. Kearney

URS GREINER, INC.
PURGE AND SAMPLE LOG

PROJECT: Lockport Landfill SUBJECT: Groundwater Sampling

DATE: 9.8.99

PURGING INFORMATION

Well Identification:	MW 9S	PID Reading:	— ppm
Depth to Water:	6.63 Ft	Depth to Bottom:	12.40 Ft
Volume/Casing:	0.98 Gallons	Start Time:	1200
Volume Purged:	3 Gallons	Stop Time:	1225

Method: Dedicated HDPE bailer and nylon twine

Comments:

Note: 0.17 gallons per foot in 2-inch diameter well
0.66 gallons per foot in 4-inch diameter well

FIELD PARAMETERS

Parameter	Initial	Final	Sample
pH	10.37 SU	9.85 SU	10.02 SU
Conductivity	3464 umhos	3485 umhos	3875 umhos
Turbidity	353 NTU	424 NTU	312 NTU
Temperature	17.6 C	16.9 C	17.2 C
Dissolved Oxygen	4.30 ppm	2.12 ppm	3.10 ppm
ORP	-142.6 ppm	-144.5 ppm	-143.5 ppm
Appearance	light tan	light tan	light tan

SAMPLING INFORMATION

Sample Identification: MW 9S Time Sampled: 1345

Parameters: VOC + BOD

Comments:

Samplers: Kevin S. Kearney

URS GREINER, INC.
PURGE AND SAMPLE LOG

PROJECT: Lockport Landfill SUBJECT: Groundwater Sampling

DATE: 9-8-99

PURGING INFORMATION

Well Identification:	MW 35	PID Reading:	— ppm
Depth to Water:	2.85' Ft	Depth to Bottom:	16.43' Ft
Volume/Casing:	1.68 Gallons	Start Time:	1250
Volume Purged:	5.04 Gallons	Stop Time:	1310

Method: Dedicated HDPE bailer and nylon twine

Comments:

Note: 0.17 gallons per foot in 2-inch diameter well
0.66 gallons per foot in 4-inch diameter well

FIELD PARAMETERS

Parameter	Initial	Final	Sample
pH	10.85 SU	9.62 SU	9.40 SU
Conductivity	2612 umhos	2604 umhos	3967 umhos
Turbidity	57 NTU	102 NTU	32 NTU
Temperature	16.7 C	15.9 C	15.6 C
Dissolved Oxygen	2.50 ppm	1.99 ppm	1.92 ppm
ORP	-118.5 ppm	-125.2 ppm	-178.5 ppm
Appearance	clear	clear	clear

SAMPLING INFORMATION

Sample Identification: MW 35 Time Sampled: 1315

Parameters: VOC

Comments:

Samplers: Kevin S. Kearney

URS GREINER, INC.
PURGE AND SAMPLE LOG

PROJECT: Lockport Landfill SUBJECT: Leachate Sampling

DATE: 9.8.99

PURGING INFORMATION

Well Identification:	L-2	PID Reading:	_____ ppm
Depth to Water:	_____ Ft	Depth to Bottom:	_____ Ft
Volume/Casing:	_____ Gallons	Start Time:	_____
Volume Purged:	_____ Gallons	Stop Time:	_____

Method: Hold sample containers under flow.

Comments: Leachate Sampling

Note: 0.17 gallons per foot in 2-inch diameter well
0.66 gallons per foot in 4-inch diameter well

FIELD PARAMETERS

Parameter	Initial	Final	Sample
pH	_____ SU	_____ SU	7.87 SU
Conductivity	_____ umhos	_____ umhos	1611 umhos
Turbidity	_____ NTU K.S K	_____ NTU	106 NTU
Temperature	_____ C	_____ C	15.6 C
Dissolved Oxygen	_____ ppm	_____ ppm	4.50 ppm
ORP	_____ ppm	_____ ppm	-159.7 ppm
Appearance	_____	_____	Clear orange tint

SAMPLING INFORMATION

Sample Identification: LCL-L2 Time Sampled: 1330

Parameters: VOC

Comments: _____

Samplers: Kevin S. Kearney

ATTACHMENT C

ANALYTICAL DATA ASSESSMENT

ATTACHMENT C

ANALYTICAL DATA ASSESSMENT
ROUTINE MONITORING OF THE LOCKPORT CITY LANDFILL
LOCKPORT, NEW YORK

Four groundwater samples and one surface water outlet sample were collected from the Lockport City Landfill, Lockport, New York, on September 8, 1999 and sent to Ecology and Environment, Inc., (Lancaster, New York,) for analysis. All samples (plus one trip blank) were analyzed for Target Compound List (TCL) volatiles in accordance with NYSDEC ASP Method 95-1. In addition, one of the samples was analyzed for biochemical oxygen demand (BOD_5) by EPA Method 405.1.

The data was reviewed for compliance with the referenced methods and USEPA Region II CLP Organic Data Review, SOP No. HW-6, Rev. #11, June 1996. All samples were analyzed within the required holding times. All data was found to be usable as reported.

Table C-1 summarizes our assessment of data usability on a sample-by-sample and fraction-by fraction basis. In evaluating this data, we have established four (4) categories which are, for the most part, gradational in nature. These categories are defined as follows:

Category 1a-Usable and Defensible- Fully usable, despite possible minor deviations from ASP criteria.

Category 1b-Usable Though Not Fully Defensible- Usable with caution; cumulative deviations from ASP criteria are greater than Category 1a, although not considered so significant as to jeopardize the chemical representativeness of the sample results.

Category 2a- Rejected Fraction(s)/Compound(s) Due to Holding Time Violations- The analysis did not comply with ASP holding times.

Category 2b- Rejected Fraction(s)/Compound(s) Due to Various ASP Deviations- In a sample fraction, some compounds may be usable and defensible, other compounds may be rejected, or the sample fraction may be rejected due to various deviations from ASP.

TABLE C-1

ANALYTICAL DATA ASSESSMENT

MATRIX: GROUNDWATER/WASTEWATER
Laboratory Report Numbers: 9909.061
Assessment Categories: 1a, 1b, 2a, 2b

Sample Location ID	VOA	BOD_5	Notes
MW-6D	NS	NA	--
MW-8D	1a	NA	--
MW-9I	1a	NA	--
MW-9S	1a	1a	--
MW-3S	1a	NA	--
L2	1a	NA	-

Notes:

NA = Not Applicable (sampled during previous monitoring events)
NS = Not Sampled because the well was dry

33-19-1 (11/87)—9d

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPLICATION FOR ACCESS TO RECORDS

(See Instructions on Reverse Side)

NUMBER

APPLICANT

- **TO THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION:**

I hereby apply to inspect the following records under the provisions of the Freedom of Information Law:

Misc Records re Lockport Landfill Project # 932010

After inspection, should I desire copies of all or part of the records inspected, I will identify the records to be copied and hereby offer to promptly pay the established fees. (Cost of reproduction or 25¢ per page as applicable). Contact me if cost will exceed $ _____.

Name (Print or type) E. Gerard Hogan Telephone No. 716-433-5907

Attention of: same

Mailing Address P.O. Box 450, Lockport N.Y. 14095

Signature _____ Date 8/9/99

RECORDS CUSTODIAN

- **TO THE APPLICANT:**

—Records Provided

☐ The reproduction costs for the records provided are $ _____

☐ Records have been (partially, fully) provided. (If not fully provided, date when records are expected to be fully provided: _____)

—Records Not Available

☐ Records cannot be found after diligent search

☐ The Department is not the custodian for records indicated

—Records Denied

I hereby certify that access to the records—or part of the records—circled above has been denied to the applicant for the reason(s) checked below:

☐ Specifically exempt by other statute

☐ Unwarranted invasion of personal privacy

☐ Would impair present or imminent contract awards or collective bargaining negotations

☐ Are examination questions or answers

☐ Are inter-agency or intra-agency materials that are not:
- statistical or factual tabulations or data
- instructions to staff that affect the public
- final agency policy or determinations; or
- external audits,including but not limited to audits performed by the comptroller and the federal government

☐ Would endanger the life or safety of any person

☐ Are compiled for law enforcement purposes and which, if disclosed would:
- interfere with law enforcement investigations or judicial proceedings
- deprive a person of the right to a fair trial or impartial adjudication
- identify a confidential source or disclose confidential information relating to a criminal investigation, or
- reveal criminal investigative techniques or procedures, except routine techniques and procedures

☐ Are computer access codes

☐ Are trade secrets

Identification of records withheld (attach listing if additional space is required) and/or explanation if appropriate:

Records Custodian Signature _____ Title _____ Date _____

URS Greiner Woodward Clyde
A Division of URS Corporation

282 Delaware Avenue
Buffalo, NY 14202-1805
Tel: 716.856.5636
Fax: 716.856.2545
Offices Worldwide

July 23, 1999

Mr. Allan R. Rutter
Director of Engineering
City of Lockport
Lockport Municipal Building
One Locks Plaza
Lockport, New York 14094

Re: Lockport City Landfill
Revisions of the March 1994 Operation and Maintenance Plan

Dear Mr. Rutter:

During a March 25, 1998 meeting between NYSDEC, the City of Lockport and URS Greiner, the New York State Department of Environmental Conservation (NYSDEC) stated that the Agency was interested in developing a plan to convert the Lockport City Landfill into a "mini ecotone" between the Gulf and Hickory Park. Subsequently, Tim Spierto of the NYSDEC's Fish and Wildlife visited the site (4/2/98), to investigate the existing vegetation and animal life and develop a revised mowing schedule.

The NYSDEC sent a letter to Mr. Allan R. Rutter dated July 21, 1998 that outlined an alternative mowing schedule on the vegetative cover of the landfill. A copy of that letter is included here as Attachment A, and presents suggested changes for Sections 2.0, 3.0, and 4.0 of the March 1994 Operation and Maintenance (O&M) Plan for the City of Lockport Landfill. Under the revised plan, the landfill is divided into three areas, namely: a southern area (Zone A), a northern area (Zone B), and a western corridor (Zone C) leading from the gate to the area near the toe of the downchute. According to this plan, Zone A will be mowed once per year, Zone B will be mowed once every other year on odd-numbered years, and Zone C will not have a regular mowing schedule. These three areas have been transferred to Figure 1 as Zones I, II, and III respectively. Figure 1 shows the up-to-date features of the landfill.

Starting with the 1998 mowing season, the City has decided to implement the schedule suggested by NYSDEC.

The O&M Plan will be revised so that it includes Attachment A as an addendum. Any future action related to maintaining the function and integrity of the landfill cap, should conform to the O&M Plan as revised by the inclusion of Attachment A.

If you have any questions or if you require any additional information, please contact us.

Sincerely,

URS Greiner Woodward Clyde

Ronald R. Cavalieri, P.E.
Project Manager

Enclosures

cc: J. Hyden, NYSDEC
D. Papademetriou, URSGWC
File: 05-35507.00 (R-1)

RRC/sgw

J:\35507.00\CAD\ 1=200 III/II/98-2 ELB

N

LOCATION A

LOCATION F

LOCATION F

PERIMETER DRAINAGE DITCH 'A'

LIMIT OF FINAL COVER

LOCATION C

PERIMETER DRAINAGE DITCH 'B'

LOCATION I

LOCATION G

DOWNCHUTE

PERIMETER DRAINAGE DITCH 'C'

MW 8D

MW 6D

ACCESS ROAD

RAILROAD STREET

NIAGARA STREET

SOMERSET RAILROAD

DRAINAGE SWALE 'B'

LOCATION D

LIMIT OF FINAL COVER

DRAINAGE SWALE 'A'

LIMIT OF FINAL COVER

DRAINAGE SWALE 'A'

LOCATION J

LOCATION K

LIMIT OF FINAL COVER

MW 9T

MW 9S

LIMIT OF FINAL COVER

MW 3S

L-2

APPROXIMATE AREA OF IV:2H SLOPE

LIMIT OF FINAL COVER

20% SLOPE AREA

DOWNCHUTE

36" DIA. OUTFALL

APPROXIMATE LOCATION OF INSTALLED FENCING

LOCATION L

AREA OF SURFACE SLOUPHING

LOCATION E

LOCATION B

200 0 200

SCALE IN FEET

LEGEND

ZONE I: MOW ONCE ANNUALLY

ZONE II: MOW ONCE BIANNUALLY IN ODD YEARS

ZONE III: NO REGULAR MOWING

LOCKPORT CITY LANDFILL
SITE PLAN

URS CONSULTANTS, INC.

FIGURE 1

CC-5887 (COLOR)

ATTACHMENT A

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, New York, 14203-2999
Phone: (716) 851-7220 FAX: (716) 851-7226

John P. Cahill
Commissioner

July 21, 1998

Mr. Allan R. Rutter
Director of Engineering
City of Lockport
One Locks Plaza
Lockport, NY 14094

Dear Mr. Rutter:

Lockport City Landfill
Operation and Maintenance
No. 932010

This letter provides comments on your May 4, 1998 proposal to extend the restrictive fence for the landfill at two locations and to present our suggested alternative mowing schedule for the vegetative cover of the landfill. The comments and recommendations given here are intended to reflect our previous discussions of these two items.

It appears that the proposed extensions to the fences will be effective in reducing, if not preventing, trespass on the landfill and the resultant damage to the protective soil cover. Therefore, we concur with these modifications. The fence line extensions should be recorded as revisions to the September 1995 Record Drawings, e.g. Drawing No. 12, Landscape Plan.

Regarding the mowing schedule for the landfill cover, our suggested changes to Sections 2.0, 3.0 and 4.0 of the March 1994 Operation and Maintenance (O&M) Plan are enclosed for your consideration. These changes were developed in conjunction with our Division of Natural Resources staff to enhance wildlife habitat, particularly those modifications that would be beneficial to bird populations, while maintaining the function and integrity of the landfill cap. Should the City choose to implement the suggested mowing program at the landfill, the most expeditious way to record and incorporate the applicable modifications to these procedures is to issue a revised O&M Plan reflecting the changes. Should the City choose to undertake the suggested changes given in this correspondence, the mowing schedule can be modified with the first mowing this fall, with the appropriately revised O&M Plan submitted later this year. This office would also entertain other modified mowing programs should the City so choose.

If you have questions on this correspondence or wish to discuss either of these items further, please contact me at 716/851-7220.

Sincerely yours,

John W. Hyden, PhD, P.E.
Environmental Engineer

JWH:sz

Enclosures

CITY OF LOCKPORT LANDFILL
OPERATION AND MAINTENANCE PLAN, MARCH 1994

SUGGESTED MOWING PROGRAM MODIFICATIONS

DEC Inactive Hazardous Waste Site No. 932010
July 1994

The New York State Department of Environmental Conservation has evaluated the mowing program outlined in the March 1994 Operation and Maintenance Plan. Modifications to this mowing program offer the opportunity to enhance area wildlife habitat, particularly that associated with local bird populations. The following addenda and modifications to Sections 2.0, 3.0 and 4.0 of the March 1994 Operation and Maintenance Plan are suggested to improve this habitat, while maintaining the function and integrity of the landfill cap:

Section 2.0, Scheduled Maintenance: The first bullet of the second paragraph should be changed to the following:

- The vegetation on the final cover and grass lined ditches and swales in each of the three zones shown on the map, attached to this memorandum as Figure 1, shall be mowed according to the following schedule:

  - Zone A (pink area): once annually;
  - Zone B (green area): once biennially, in the odd numbered years; and
  - Zone C (orange area): no regular mowing schedule.

  Generally, all mowing scheduled for a given year will be done after September 1. If conditions require mowing before September 1, to minimize the possibility of injuring or killing ground nesting birds, the mower height shall be set to a minimum of twelve inches. No grasses in any of the three zones shall be allowed to exceed a height of 36 inches. Woody plant species encountered during mowing will be removed by mechanical mowing, application(s) of herbicide (Roundup or its equivalent, as described in the attached catalog cut), or manually. Any herbicides shall be applied by a New York State licensed applicator, and all manufacturer's instructions shall be followed. Given the proximity of the site to the Gulf watershed, the minimum dose of herbicides necessary to achieve the desired effect shall be applied.

Section 3.0, Inspection: The second bullet should be changed to the following, to add provisions for addressing problems caused by burrowing animals:

- Landscaping - The vigor and density of the vegetative cover on the cap, ditches and swales will be assessed. The location and extent of bare, sparse and undernourished vegetation will be noted. Areas of significant weeds and areas of woody vegetation will be noted. The presence of rodents will be assessed, and the location of burrows in the landfill cap will be noted.

Section 4.0, Additional Maintenance: Paragraph 4.1 should be expanded to include the following verbiage:

4.1 Landscaping and Condition of the Cap: Any significant areas of sparse vegetation on the landfill cover or on the surface water drainage features shall be repaired as necessary, reseeded, mulched and maintained. Weeds and woody plant species on the landfill cap shall removed as outlined in Section 2.0. Burrows by rodents, such as woodchucks, shall be filled in or otherwise removed. Generally, it is expected that the presence of raptors (birds of prey) and other predators will keep the majority of the rodent population under control. However, if the population of rodents cannot be controlled by these natural processes, such measures as shooting and/or active trapping shall be incorporated. All observations and corrective actions will be reported as "Other Items" on the Inspection Log Sheet.

N

E 12300

N 10400

E 11100

N 10100

HEATH STREET

E 12300

N 11700

OAKHURST STREET

RUIN

PILES

NIAGARA STREET

RAILROAD STREET

FENCE EXTENSION

583

580

570

560

570

CITY OF LOCKPORT

TOWN OF LOCKPORT

PILES

SOL. PILES

560

550

SOL. PILES

540

530

520

510

500

490

480

THE GULF

WATER

HARRISON RADIATOR WASTE WATER TREATMENT PLANT

E 11100

N 10100

LEGEND

550 — SITE GRADING CONTOURS

DRAINAGE SWALE

LIMIT OF STEEP EMBANKMENT

APPROXIMATE LIMITS OF FILL

NOTE:
ALL PROPERTY LINES SHOWN ARE TAKEN FROM CITY AND TOWN OF LOCKPORT TAX MAPS AND ARE APPROXIMATE IN THEIR LOCATION. PHYSICAL FEATURES (AND CONTOURS WHEN SHOWN) ARE TAKEN FROM PHOTOGRAMMETRIC MAPPING PLOTTED BY LOCKWOOD SUPPORT SERVICES, ROCHESTER, N.Y., USING APRIL 1988 AERIAL PHOTOGRAPHY.

Zone A (pink area): once annually
B (green -"-) : -"- bi -"- in odd # years
C (orange -"-) : no regular mowing

SCALE
0 100 200 FEET

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
		REVISIONS			

DESIGNED BY:
DRAWN BY: KLW
CHECKED BY:
PROJ. ENGR.:

URS Consultants, Inc.
CONSULTING ENGINEERS
NEW YORK NEW JERSEY

JOB No. 35180

FEASIBILITY STUDY

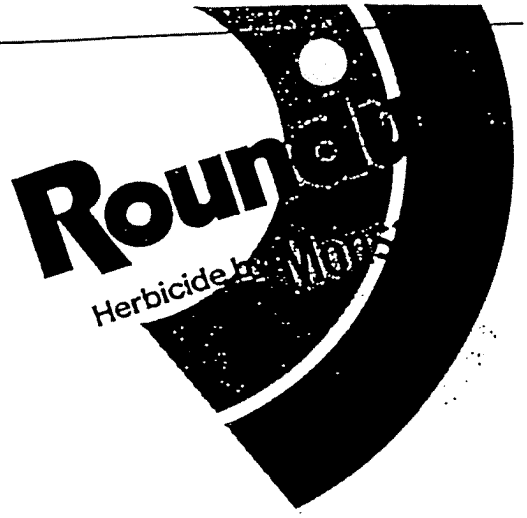
LOCKPORT CITY LANDFILL

SITE GRADING PLAN

AS
Date: Dec 91

FIGURE 1

C-2387



Complete Directions for Use

EPA Reg. No. 524-445

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

*Roundup is a registered trademark of Monsanto Company.

1994-2 21001S1-28/CG

Read each of these sections of this label for essential product performance information.

Read the entire label before using this product.

Use only according to label instructions.

Read "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once unopened.

REFORMULATION IS PROHIBITED. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

LIMIT OF WARRANTY AND LIABILITY

This Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement.

Hazards to Humans and Domestic Animals

Keep out of reach of children.

WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY.

HARMFUL IF SWALLOWED OR INHALED.

Do not get in eyes or on clothing.

Avoid breathing vapor or spray mist.

FIRST AID: IF IN EYES, immediately hold eyelids open and flush with plenty of water for at least 15 minutes. Get medical attention.

IF INHALED, remove individual to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

IF SWALLOWED, this product will cause gastrointestinal tract irritation. Immediately dilute by swallowing water or milk. Get medical attention. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Personal Protective Equipment

Applicators and other handlers must wear long-sleeved shirt and long pants, shoes plus socks, and protective eyewear. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

In case of an emergency involving this product,
Call Collect, day or night, (314) 694-4000.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

ACTIVE INGREDIENT:	
*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt	41.0%
INERT INGREDIENTS:	59.0%
	100.0%

*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patent No. 4,405,531. Other patents pending. No license granted under any non-U.S. patent(s).

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, waterproof gloves, shoes plus socks, and protective eyewear.

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

For more product information, call toll-free 1-800-332-3111.

Storage and Disposal

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

See container label for STORAGE AND DISPOSAL instructions.

GENERAL INFORMATION

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

This product, a water soluble liquid, mixes readily with water to be applied as a foliar spray for the control or destruction of most herbaceous plants. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water in accordance with label instructions.

This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

Unless otherwise specified on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the "WEEDS CONTROLLED" section of this label. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow. For this reason, best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per acre within the recommended range when (1) weed growth is heavy or dense, or (2) weeds are growing in an undisturbed (noncultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

Rainfall or irrigation occurring within 6 hours after application may reduce effectiveness. Heavy rainfall or irrigation within 2 hours after application may wash the chemical off the foliage and a repeat treatment may be required.

This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statemei l all other information appearing on the labels of all herbicides used.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

DOMESTIC ANIMALS: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES. DO NOT APPLY WHEN WIND OR OTHER CONDITIONS FAVOR DRIFT. HAND-GUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOID SPRAYING DESIRABLE PLANTS. NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

MIXING

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product (see the "DIRECTIONS FOR USE" and "WEEDS CONTROLLED" sections of this label) near the end of the filling process and mix well. Remove hose from tank immediately after filling to avoid siphoning back into the carrier source. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

TANK MIXTURES

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20 to 35 mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
4. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
5. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
6. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
7. Where nonionic surfactant is recommended, add this to the spray tank before completing the filling process.
8. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water soluble liquid followed by surfactant.

Sweet Potato, wild/Thistle, artichoke—Apply this product as a 2 percent solution using hand-held equipment. Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications may be required. Allow the plant to reach the recommended stage of growth before retreatment. Allow 7 or more days before tillage.

Thistle, Canada—Apply 2 to 3 quarts of this product per acre. Apply to actively growing thistles when most are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression of Canada thistle, apply 1 quart per acre of this product, or 1 pint of this product plus 0.5 pound a.i. 2,4-D per acre, plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

Torpedograss—Apply 4 to 5 quarts of this product per acre to provide partial control of torpedograss. Apply to actively growing torpedograss when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost. Allow 7 or more days after application before tillage.

Trumpetcreeper—For control, apply 2 quarts of this product per acre in 5 to 10 gallons of water per acre. Apply to actively growing plants in late September or October, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Other perennials listed on this label—Apply 3 to 5 quarts of this product per acre. Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.

WOODY BRUSH AND TREES

When applied as recommended under the conditions described, this product CONTROLS or PARTIALLY CONTROLS the following woody brush, plants and trees:

Alder
Alnus spp.

Ash*
Fraxinus spp.

Aspen, quaking
Populus tremuloides

Bearmat (Bearclover)
Chamaebatia foliolosa

Beech
Fagus grandifolia

Birch
Betula spp.

Blackberry
Rubus spp.

Blackgum
Nyssa spp.

Bracken
Peridium spp.

Broom:
French
Cytisus monspessulanus
Scotch
Cytisus scoparius

Buckwheat, California*
Eriogonum fasciculatum

Cascara*
Rhamnus purshiana

Catsclaw*
Acacia greggi

Ceanothus*
Ceanothus spp.

Chamise
Adenostoma fasciculatum

Cherry:
Bitter
Prunus emarginata
Black
Prunus serotina
Pin
Prunus pensylvanica

Coyote brush
Baccharis consanguinea

Creeper, Virginia*
Parthenocissus quinquefolia

Dewberry
Rubus trivialis

Dogwood*
Cornus spp.

Elderberry
Sambucus spp.

Elm*
Ulmus spp.

Eucalyptus
Eucalyptus spp.

Gorse
Ulex europaeus

Hasardia*
Haplopappus squamosus

Hawthorn
Crataegus spp.

Hazel
Corylus spp.

Hickory*
Carya spp.

Holly, Florida/ Brazilian Peppertree*
Schinus terebinthifolius

Honeysuckle
Lonicera spp.

Hornbeam, American*
Carpinus caroliniana

Kudzu
Pueraria lobata

Locust, black*
Robinia pseudoacacia

Madrone
Arbutus menziesii

Manzanita
Arctostaphylos spp.

Maple:
Red**
Acer rubrum
Sugar
Acer saccharum
Vine*
Acer circinatum

Monkey Flower*
Mimulus guttatus

Oak:
Black*
Quercus velutina
Northern Pin
Quercus palustris
Post
Quercus stellata
Red
Quercus rubra
Southern Red
Quercus falcata
White*
Quercus alba

Persimmon*
Diospyros spp.

Pine
Pinus spp.

Poison Ivy
Rhus radicans

Poison Oak
Rhus toxicodendron

Poplar, yellow*
Liriodendron tulipifera

Raspberry
Rubus spp.

Redbud, eastern
Cercis canadensis

Rose, multiflora
Rosa multiflora

Russian-olive
Elaeagnus angustifolia

Sage: black, white
Salvia spp.

Sagebrush, California
Artemisia californica

Salmonberry
Rubus spectabilis

Salt cedar
Tamarix spp.

Sassafras
Sassafras albidum

Sourwood
Oxydendrum arboreum

Sumac:
Poison*
Rhus vernix
Smooth*
Rhus glabra
Winged*
Rhus copallina

Sweetgum
Liquidambar styraciflua

Swordfern*
Polystichum munitum

Tallowtree, Chinese
Sapium sebiferum

Tan Oak
Lithocarpus densiflorus

Thimbleberry
Rubus parviflorus

Tobacco, tree*
Nicotiana glauca

Trumpetcreeper
Campsis radicans

Waxmyrtle, southern*
Myrica cerifera

Willow
Salix spp.

*Partial control

**See below for control or partial control instructions.

NOTE: If brush has been mowed or tilled or trees have been cut, do not treat until regrowth has reached the recommended stages of growth.

Apply this product when plants are actively growing and, unless otherwise directed, after full leaf expansion. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when application is made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

See "DIRECTIONS FOR USE" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for labeled uses and specific application instructions.

Apply this product as follows to control or partially control the following woody brush and trees.

Alder/Dewberry/Honeysuckle/Post Oak/Raspberry—For control, apply 3 to 4 quarts per acre of this product as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment.

Maintain good agitation at all times until the co of the tank are sprayed. If the spray mixture is allowed to settle, thorough ..ation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near bottom of tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh. Carefully select proper nozzle to avoid spraying a fine mist. For best results with conventional ground application equipment, use flat fan nozzles.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water.

ADDITIVES

SURFACTANTS

Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

AMMONIUM SULFATE

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, and this product plus 2,4-D, Banvel™ or residual herbicide tank mixtures on annual and perennial weeds. The improvement in performance may be apparent where environmental stress is a concern. Low-quality ammonium sulfate may contain material that will not readily dissolve, which could result in nozzle tip plugging. To determine quality, perform a jar test by adding 1/3 cup of ammonium sulfate to 1 gallon of water and agitate for 1 minute. If undissolved sediment is observed, predissolve the ammonium sulfate in water and filter prior to addition to the spray tank. If ammonium sulfate is added directly to the spray tank, add slowly with agitation. Adding too quickly may clog outlet line. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides or surfactant. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

NOTE: The use of ammonium sulfate as an additive does not preclude the need for additional surfactant. Do not use herbicide rates lower than recommended in this label.

COLORANTS OR DYES

Agriculturally-approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

Aerial—Fixed Wing and Helicopter

Broadcast Spray

Controlled Droplet Applicator (CDA)—Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

Hand-Held and High-Volume Spray Equipment—Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

*This product is not registered in California or Arizona for use in mistblowers.

Selective equipment—Recirculating sprayers, shielded sprayers and wiper applicators.

See the appropriate part of this section for specific instructions and rates of application.

AERIAL EQUIPMENT

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. See the "WEEDS CONTROLLED" section of this label for specific rates. Unless otherwise specified, do not exceed 1 quart per acre. **Aerial applications of this product may be made in annual cropping conventional tillage systems, fallow and reduced tillage systems and preharvest applications. Refer to the individual use area sections of this label for recommended volumes and application rates. FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.**

Avoid direct application to any body of water.

AVOID DRIFT—DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application—To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR ARE MOST SUSCEPTIBLE. The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

This product plus Oust™, Banvel or 2,4-D tank mixtures may not be applied by air in California.

BROADCAST EQUIPMENT

For control of annual or perennial weeds listed on this label using broadcast equipment—Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified on this label. See the "WEEDS CONTROLLED" section of this label for specific rates. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzle to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

CONTROLLED DROPLET APPLICATION (CDA)

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

For the control of labeled annual weeds with hand-held CDA units, apply a 20 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 MPH (1 quart per acre). For the control of labeled perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (2 to 4 quarts per acre).

Controlled droplet application equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

HAND-HELD and HIGH-VOLUME EQUIPMENT

Use coarse sprays only.

Mix this product in clean water and apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff.

For control of annual weeds listed on this label, apply a 0.5 percent solution of this product plus nonionic surfactant to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. Allow three or more days before tillage or mowing.

For annual weeds over 6 inches tall, or when not using additional surfactant, or unless otherwise specified, use a 1 percent solution. For best results, use a 2 percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods which result in less than complete coverage, use a 5 percent solution for annual and perennial weeds and a 5 to 10 percent solution for woody brush and trees.

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

Aspen, quaking/Cherry: bitter, black, pin/Hawthorn, southern red/Sweetgum/Trumpetcreeper— For control, apply 2 to 3 quarts of this product per acre as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment.

Birch/Elderberry/Hazel/Salmonberry/ Thimbleberry—For control, apply 2 quarts per acre of this product as a broadcast spray or as a 1 percent solution with hand-held equipment.

Blackberry—For control, apply 3 to 4 quarts per acre of this product as a broadcast spray, or 1 to 1.5 percent solution with hand-held equipment. Make application after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. After berries have set or dropped in late fall, blackberry can be controlled by applying a 3/4 percent solution of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume with hand-held equipment. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.

Broom: French, Scotch—For control, apply a 1.5 to 2 percent solution with hand-held equipment.

Buckwheat, California/Hasardia/Monkey Flower/ Tobacco, tree—For partial control of these species, apply a 1 to 2 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

Catsclaw—For partial control, apply as a 1 to 1.5 percent solution with hand-held equipment.

Coyote Brush—For control, apply a 1.5 to 2 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

Eucalyptus—For control of eucalyptus resprouts, apply a 2 percent solution of this product with hand-held equipment when resprouts are 6 to 12 feet tall. Ensure complete coverage. Apply when plants are growing actively. Avoid application to drought-stressed plants.

Kudzu—For control, apply 4 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications will be required to maintain control.

Madrone resprouts—For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.

Maple, red—For control, apply as a 1 to 1.5 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre as a broadcast spray.

Maple, sugar/Oak, northern pin/Oak, red—For control, apply as a 1 to 1.5 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

Poison Ivy/Poison Oak—For control, apply 4 to 5 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.

Rose, multiflora—For control, apply 2 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Treatments should be made prior to leaf deterioration by leaf-feeding insects.

Sage, black/Sagebrush, California/Chamisa/Tallowtree, Chinese—For control of these species, apply a 1 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

Tan oak resprouts—For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with fall applications.

Willow—For control, apply 3 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment.

Other Woody Brush and Trees listed on this label—For partial control, apply 2 to 5 quarts of this product per acre as a broadcast spray or as a 1 to 2 percent solution with hand-held equipment.

NONCROP USES

See "GENERAL INFORMATION" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for essential product performance information and the following "NONCROP" sections for specific recommended uses.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE TURFGRASSES, TREES, SHRUBS OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

This product does not provide residual weed control. For subsequent weed control, follow a label-approved herbicide program.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

INDUSTRIAL, RECREATIONAL AND PUBLIC AREAS

When applied as directed for "NONCROP USES", under conditions described, this product controls annual and perennial weeds listed on this label growing in areas such as airports, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial plant sites, lumber yards, parking areas, parks, petroleum tank farms and pumping installations, railroads, roadsides, schools, storage areas, utility substations, other public areas and similar industrial or noncrop areas.

For specific rates of application and instructions for control of various annual and perennial weeds and woody brush and trees, see the "WEEDS CONTROLLED" section of this label.

This product may be applied with recirculating sprayers, shielded applicators, or wiper applicators in any noncrop site specified on this label. See the Selective Equipment part of "APPLICATION EQUIPMENT and TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

TANK MIXTURES FOR INDUSTRIAL SITES

■ **Roundup® plus OUST™** ■

Use on industrial sites including airports, industrial plants, lumberyards, petroleum tank farms, pumping stations, railroads, roadsides, storage areas or other similar sites where bare ground is desired.

When applied as directed for "NONCROP USES" under the conditions described, this product plus Oust provides control of annual weeds listed in the "WEEDS CONTROLLED" section of the label for this product and Oust, and control or partial control of the perennial weeds listed below.

Apply 1 to 2 quarts of this product with 2 to 4 ounces of Oust in 10 to 40 gallons of spray solution per acre as a broadcast spray to actively growing weeds.

When applied by air, use the recommended rates in 5 to 15 gallons of spray solution per acre.

This product plus Oust tank mixtures may not be applied by air in California.

For control of annual weeds, use the lower rates of these products.

For control of the listed perennial weeds, use the higher rates of both products. For partial control, use the lower rates.

Bahiagrass
Paspalum notatum

Bermudagrass*
Cynodon dactylon

Broomsedge
Andropogon virginicus

Dock, curly
Rumex crispus

Dogfennel
Eupatorium capillifonium

Fescue, tall
Festuca arundinacea

Johnsongrass**
Sorghum halepense

Poorjoe**
Diodia teres

Quackgrass
Agropyron repens

Trumpetcreeper*
Campsis radicans

Vaseygrass
Paspalum urvillei

Vervain, blue
Verbena hastata

*Suppression at the higher rates only.

**Control at the lower rates.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

TANK MIXTURES NONCROP SITES

When applied as a tank mixture, this product provides control of the emerged annual weeds and partial control of the emerged perennial weeds listed in this label. When applied as a tank mixture, the following residual herbicides will provide preemergence control of the weeds listed in the individual product labels.

■ **Roundup® plus DIURON** ■

■ **Roundup plus KROVAR™ I** ■

■ **Roundup plus KROVAR II** ■

From: Brian Sadowski
To: jwhyden
Date: 6/16/99 10:16am
Subject: Lockport City Landfill - Report Correction

Jack,

I called Demetra Papademetriou of URS Greiner Woodward Clyde at approx. 0930 this morning. On page 5, last bullet. She will make the change from U.S Fish and Wildlife to NYSDEC Fish and Wildlife. This correction will appear on the next submitted inspection report.

Lockport L. Fill
Site 932010

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, New York, 14203-2999
Phone:
(716) 851-7220 FAX: (716) 851-7226

John P. Cahill
Commissioner

April 27,1999

Ms. Demetra Papatemetriou
URS Greiner Consultants, Inc.
282 Delaware Avenue
Buffalo, New York 14202

Dear Ms. Papatemetriou:

Lockport City Landfill
Operation and Maintenance

As discussed during our site inspection on April 14, 1999; please find the Department's groundwater quality tables for the Lockport City Landfill; Site Registry Number 9-32-010. Note that our analytical results are in parenthesis for the sample splits taken on September 21,1998. Questions or concerns can be addressed by contacting the site engineer, John Hyden or me at 716-851-7220.

Sincerely,

Brian P. Sadowski
Environmental Engineering Technician
Division of Environmental Remediation
Region 9

BPS:lj

cc: Mr. Daniel King, Regional Hazardous Waste Remediation Engineer
Mr. John Hyden, Environmental Engineer (w/attach.)

(a:newltr.hed)

TABLE 1
SUMMARY OF GROUNDWATER AND SEEP ANALYTICAL RESULTS
LOCKPORT CITY LANDFILL
(All results in ppb)

			MW-3S (DOWNGRADIENT)							
PARAMETER - VOC	ARAR + (ppb)	Action * Level (ppb)	RI/FS		O & M					
			3/19/90	4/1/91	6/13,16/97	11/5/97	9/21/98 URS(DEC)			
Tetrachloroethene	5		ND	ND	ND	ND	ND(ND)			
Trichloroethene**	5	-----	ND	ND	ND	ND	ND(ND)			
1,2-Dichloroethene (Total)**	5	6	3 J	ND	3.3	ND	3J(3J)			
Vinyl Chloride**	2	-----	ND	ND	ND	ND	ND(ND)			
1,1-Dichloroethane	5		ND	ND	0.67	ND	ND(ND)			
1,2-Dichloroethane	0.6		ND	ND	ND	ND	ND(ND)			
Benzene	1		ND	ND	ND	ND	ND(ND)			
Toluene	5		ND	ND	ND	ND	ND(ND)			
Total Xylenes	5		6	ND	ND	ND	ND(ND)			
Methylene Chloride	50		ND	ND	ND	ND	ND(ND)			
Chlorobenzene	5		ND	ND	ND	ND	ND(ND)			
Acetone	50		ND	ND	ANM	R	ND(ND)			

\+ NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998.
* Action levels are from the Long Term Monitoring Plan dated March 1994.
G Guidance value.
J Indicates the value is less than the sample quantification limit but greater than zero.
B Indicates the value is less than the quantification limit but greater than or equal to the instrument detection limit.
ND Indicates the value is not detected.
ANM Analyte not measured.
R Analyte rejected due to blank contamination.
( ) Department split sample results.
Shaded values equal or exceed groundwater standards or guidance values (ARARs).
** Compound of Interest by approved LTM plan.

TABLE 1
SUMMARY OF GROUNDWATER AND SEEP ANALYTICAL RESULTS
LOCKPORT CITY LANDFILL
(All results in ppb)

			MW-6D (UPGRADIENT)							
PARAMETER - VOC	ARAR + (ppb)	Action * Level (ppb)	RI/FS		O & M					
			3/21/90	4/2/91	6/13,16/97	11/5/97	9/21/98 URS(DEC)			
Tetrachloroethene	5		ND	ND	ND	ND	DRY			
Trichloroethene**	5		ND	ND	ND	ND	DRY			
1,2-Dichloroethene (Total)**	5		ND	ND	ND	ND	DRY			
Vinyl Chloride**	2		ND	ND	ND	ND	DRY			
1,1-Dichloroethane	1		ND	ND	ND	ND	DRY			
1,2-Dichloroethane	0.6		ND	ND	ND	ND	DRY			
Benzene	1		ND	ND	ND	ND	DRY			
Toluene	5		ND	ND	ND	5 J	DRY			
Total Xylenes	5		ND	ND	ND	3 J	DRY			
Methylene Chloride	50		R	ND	ND	ND	DRY			
Chlorobenzene	5		ND	ND	ND	ND	DRY			
Acetone	50		R	ND	ANM	R	DRY			

\+ NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998.
* Action levels are from the Long Term Monitoring Plan dated March 1994.
G Guidance value.
J Indicates the value is less than the sample quantification limit but greater than zero.
B Indicates the value is less than the quantification limit but greater than or equal to the instrument detection limit.
ND Indicates the value is not detected.
ANM Analyte not measured.
R Analyte rejected due to blank contamination.
( ) Department split sample results.
Shaded values equal or exceed groundwater standards or guidance values (ARARs).
** Compound of Interest by approved LTM plan.

TABLE 1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
LOCKPORT CITY LANDFILL
(All results in ppb)

			MW-8D (UPGRADIENT)							
PARAMETER - VOC	ARAR + (ppb)	Action * Level (ppb)	RI/FS		O & M					
			3/21/90	4/3/91	6/13,16/97	11/5/97	9/21/98 URS(DEC)			
Tetrachloroethene	5		ND	ND	ND	ND	ND(ND)			
Trichloroethene**	5	260	51	130	2.4	4 J	5J(ND)			
1,2-Dichloroethene (Total)**	5	1580	460	790	100	90	110(5J)			
Vinyl Chloride**	2	162	23 J	81	ND	ND	ND(1J)			
1,1-Dichloroethane	5		ND	ND	ND	ND	ND(ND)			
1,2-Dichloroethane	0.6		ND	ND	0.54	ND	ND(ND)			
Benzene	1		ND	ND	ND	ND	ND(ND)			
Toluene	5		ND	ND	ND	ND	ND(ND)			
Total Xylenes	5		ND	ND	ND	ND	ND(ND)			
Methylene Chloride	50		R	15 J	ND	ND	ND(ND)			
Chlorobenzene	5		ND	ND	ND	ND	ND(ND)			
Acetone	50		R	R	ANM	ND	ND(ND)			

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* Action levels are from the Long Term Monitoring Plan dated March 1994.
G Guidance value.
J Indicates the value is less than the sample quantification limit but greater than zero.
B Indicates the value is less than the quantification limit but greater than or equal to the instrument detection limit.
ND Indicates the value is not detected.
ANM Analyte not measured.
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Shaded values equal or exceed groundwater standards or guidance values (ARARs).
** Compound of Interest by approved LTM plan.

TABLE 1
SUMMARY OF GROUNDWATER AND SEEP ANALYTICAL RESULTS
LOCKPORT CITY LANDFILL
(All results in ppb)

			MW-9S (DOWNGRADIENT)							
PARAMETER - VOC	ARAR + (ppb)	Action * Level (ppb)	RI/FS		O & M					
			3/20/90	4/1/91	6/13,16/97	11/5/97	9/21/98 URS(DEC)			
Tetrachloroethene	5		ND	ND	ND	ND	ND(5J)			
Trichloroethene**	5	-----	ND	ND	ND	ND	ND(ND)			
1,2-Dichloroethene (Total)**	5	18	7	9	ND	ND	ND(130)			
Vinyl Chloride**	2	8	ND	4 J	ND	ND	ND(ND)			
1,1-Dichloroethane	5		ND	ND	ND	ND	ND(ND)			
1,2-Dichloroethane	0.6		ND	ND	ND	ND	ND(ND)			
Benzene	1		R	3 J	ND	ND	ND(ND)			
Toluene	5		ND	ND	ND	ND	ND(ND)			
Total Xylenes	5		3 J	ND	ND	ND	ND(ND)			
Methylene Chloride	50		ND	ND	ND	ND	ND(ND)			
Chlorobenzene	5		ND	ND	ND	ND	ND(ND)			
Acetone	50		R	16	ANM	R	ND(ND)			

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* Action levels are from the Long Term Monitoring Plan dated March 1994.
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B Indicates the value is less than the quantification limit but greater than or equal to the instrument detection limit.
ND Indicates the value is not detected.
R Analyte rejected due to blank contamination.
( ) Department split sample results.
Shaded values equal or exceed groundwater standards or guidance values (ARARs).
** Compound of Interest by approved LTM plan.

TABLE 1
SUMMARY OF GROUNDWATER AND SEEP ANALYTICAL RESULTS
LOCKPORT CITY LANDFILL
(All results in ppb)

			MW-9I (DOWNGRADIENT)							
PARAMETER - VOC	ARAR + (ppb)	Action * Level (ppb)	RI/FS		O & M					
			3/20/90	4/1/91	6/13,16/97	11/5/97	9/21/98 URS(DEC)			
Tetrachloroethene	5		ND	ND	ND	1.5	ND(ND)			
Trichloroethene**	5	------	ND	ND	1.6	2	2J(ND)			
1,2-Dichloroethene (Total)**	5	42	17	21	8.4	6	6J(ND)			
Vinyl Chloride**	2	24	12	11	ND	ND	ND(ND)			
1,1-Dichloroethane	5		ND	ND	ND	ND	ND(ND)			
1,2-Dichloroethane	0.6		ND	ND	ND	ND	ND(ND)			
Benzene	1		ND	ND	ND	ND	ND(ND)			
Toluene	5		ND	ND	ND	ND	ND(ND)			
Total Xylenes	5		3 J	ND	ND	ND	ND(ND)			
Methylene Chloride	50		ND	ND	ND	ND	ND(ND)			
Chlorobenzene	5		ND	ND	ND	ND	ND(ND)			
Acetone	50		R	5 J	ANM	ND	ND(ND)			

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B Indicates the value is less than the quantification limit but greater than or equal to the instrument detection limit.
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ANM Analyte not measured.
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TABLE 1
SUMMARY OF GROUNDWATER AND SEEP ANALYTICAL RESULTS
LOCKPORT CITY LANDFILL
(All results in ppb)

			L2 (OUTFALL)							
PARAMETER - VOC	ARAR + (ppb)	Action * Level (ppb)	RI/FS		O & M					
			12/4/89	3/19/91	6/13,16/97	11/5/97	9/21/98 URS(DEC)			
Tetrachloroethene	5		ND	ND	ND	ND	ND			
Trichloroethene**	5	------	ND	ND	ND	3 J	ND			
1,2-Dichloroethene (Total)**	5	280	ND	140	ND	2 J	ND			
Vinyl Chloride**	2	94	ND	47	ND	ND	ND			
1,1-Dichloroethane	5		ND	ND	ND	ND	ND			
1,2-Dichloroethane	0.6		ND	ND	ND	ND	ND			
Benzene	1		0.9 J	2 J	ND	ND	ND			
Toluene	5		R	ND	ND	ND	ND			
Total Xylenes	5		ND	ND	ND	ND	ND			
Methylene Chloride	50		ND	ND	ND	ND	ND			
Chlorobenzene	5		1 J	ND	1.7	ND	ND			
Acetone	50		R	R	ANM	390	ND			

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Lockport L.F. Site 932010

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, New York, 14203-2999
Phone:
(716) 851-7220 FAX: (716) 851-7226

John P. Cahill
Commissioner

Releasable
Non-Releasable X

April 27,1999

Ms. Demetra Papatemetriou
URS Greiner Consultants, Inc.
282 Delaware Avenue
Buffalo, New York 14202

Dear Ms. Papatemetriou:

Lockport City Landfill
Operation and Maintenance

As discussed during our site inspection on April 14, 1999; please find the Department's groundwater quality tables for the Lockport City Landfill; Site Registry Number 9-32-010. Note that our analytical results are in parenthesis for the sample splits taken on September 21,1998. Questions or concerns can be addressed by contacting the site engineer, John Hyden or me at 716-851-7220.

Sincerely,

Brian P. Sadowski
Environmental Engineering Technician
Division of Environmental Remediation
Region 9

BPS:lj

cc: Mr. Daniel King, Regional Hazardous Waste Remediation Engineer
Mr. John Hyden, Environmental Engineer (w/attach.)

(a:newltr.hed)

Lockport L.F. Site 932010

DKK/ Ltr/ JH

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
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Phone: (716) 851-7220 FAX: (716) 851-7226

Releasable
Non-Releasable X

John P. Cahill
Commissioner

To: Will Welling
From: Brian P. Sadowski B. P. Sadowski
Subject: Inactive Hazardous Waste Site Operations and Maintenance Review Report 1998; Lockport City Landfill; Registry Number 932010.
Date: March 18, 1999

Enclosed, please find the third annual review report for the Lockport City Landfill Site; Registry Number 932010. Questions or concerns can be addressed by contacting the site engineer, John Hyden or me at 716-851-7220.

BS:lj

Enclosure

cc: Daniel K. King - RO9 w/o attachment
John Hyden, RO9
Gerald Rider - CO w/o attachment

UPPER MOUNTAIN
LOCKPORT L.F
SITE 932010 2001

ENVIRONMENTAL DIVISION

(716) 439-7444
Fax: (716) 439-7440

NIAGARA COUNTY
HEALTH DEPARTMENT
5467 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK 14094-1899

March 11, 1999

RECEIVED
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FOIL
X REL UNREL

Timothy W. Arlington, P.E.
Apex Consulting Services, P.C.
197 East Avenue
Lockport, NY 14094

Re: Old Upper Mountain Road Site
Douglas Snow Property

Dear Mr. Arlington:

As per our recent phone conversations, the department understands that your firm has been contracted by Mr. Snow with plans to erect a garage structure at the above noted site.

This site has been previously utilized for waste disposal and to date has undergone two rounds of sampling (Fall 96 by NYSDEC and Fall 98 by NYSDOH. (Enclosed) The results of these samplings are enclosed.

The department remains concerned about the levels of contamination which have been found in surface soil at this site and is working with the NYSDOH & NYSDEC to determine what additional actions are required.

These actions may include further investigation, remediation, and/or other institutional controls.

We advise that any plans of development be brought to the attention of this department so that we may discuss the relevance of existing data as well as any needed data to properly evaluate the significance of all portions of the property.

Please call me at 439-7595 if you have any questions.

Very truly yours,

Paul Dicky, P.E.
Assistant Public Health Engineer

PD:lj
Cc: Douglas Snow
7078 Academy Lane
Lockport, NY 14094
M. Forcucci
D. King
J. Hyden

Upper Mountain
Inactive Lockport L.F. Site
Site 932010

ENVIRONMENTAL DIVISION

(716) 439-7444
Fax: (716) 439-7440

NIAGARA COUNTY
HEALTH DEPARTMENT
5467 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK 14094-1899

March 11, 1999

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Assistant Public Health Engineer

PD:lj
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