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HYDROGEOLOGIC EVALUATION

TAYLOR'S LANE COMPOST SITE

VILLAGE OF MAMARONECK, NEW YORK

Prepared for

Village of Mamaroneck
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DRAWINGS

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1 INTRODUCTION

The Taylor's Lane Compost Site is located in the Village of Mamaroneck, New York. The site was a former municipal dump from the 1950s to early 1970s. After that, the southern portion of the site was used to compost leaves and to dispose of tree trunks and wood chips. The northeastern corner of the site has been used as a stockyard for a local plant nursery. A Remedial Investigation/Feasibility Study was performed for the site (Malcolm Pirnie, 1992a). The Record of Decision (ROD) for the site ordered the primary remedy of a final cover. The closure of the Taylor's Lane Compost Site was completed in the Spring of 1997 with the completion of the final cover construction.

Activities at the site are governed by the post-closure operations and maintenance procedures in the Post-Closure Operation and Maintenance Plan (O&M Plan). These activities include the quarterly sampling and analysis of three shallow/deep monitoring well couplets downgradient of the facility along Taylor Lane.

Earlier this year the Weinstein residence adjacent to the site notified the Village that groundwater seeping into the basement contained what appeared to be iron staining. The concern was that the staining suggested that landfill waste water from the site was discharging into the basement. The Markowitz residence reported increased water seepage and a problem with the discharge pipe connection from the sump pump. The purpose of this investigation was to collect groundwater elevation and water quality data from the site and surrounding area to determine if the site is the source of the staining observed in the water discharging into the basements.

2 FIELD PROGRAM

2.1 Groundwater Flow Evaluation

The groundwater flow evaluation involved using historical and recently obtained groundwater elevation data to determine shallow groundwater flow directions in the area

On August 24, 2004, a complete round of water level readings was taken from the remaining monitoring wells on the site. The water level elevations are shown on Table 2-1. A shallow groundwater contour map was prepared using this data and is shown on Drawing 1.

This is consistent with a water table map prepared as part of the remedial investigation conducted on the site in the early 1990s. The shallow groundwater flow direction was indicated to be from the northeast to the southwest (Malcolm Pirnie, 1992a). Other shallow groundwater contour maps prepared for that investigation (Malcolm Pirnie, 1992b) show the same results.

It should also be noted that precipitation over this summer has been one of the highest historically on record. This would result in a higher water table and lead to the unusually high seepage in basements and along Taylor's Lane. When precipitation and water levels return to more normal levels, seepage at the locations should decrease or return to more normal levels.

An additional issue related to the high water levels pertains to the downgradient monitoring wells (MW-94-1S, MW-94-1D, MW-94-2S, MW-94-2D, MW-94-3S, MW-94-3D, Drawing 1). These wells are located in Taylor Lane and therefore are flush mount installations with manhole type covers. Because of the high water levels, groundwater is frequently flowing out of the wells onto Taylor Lane, which in winter is a potential hazard due to the water freezing and creating icy conditions.

2.2 Water Quality Sampling and Analysis

To provide water quality data for this investigation, shallow groundwater samples were taken from several locations at the site and surrounding area. On-site, shallow groundwater samples were taken at shallow upgradient monitoring well MW-9S screened in the overburden soils, shallow monitoring well MW-14S screened in the fill, and shallow downgradient monitoring wells MW-2S and MW-3S screened in the overburden soils. Off-site, shallow groundwater samples were taken from the storm sewer draining the shallow groundwater interceptor trench (see Drawing 1) which was installed one or two feet below the ground surface between the site and adjacent properties to the east. This interceptor trench consisting of perforated pipe was installed during landfill closure of the site to lower the water table in the area so that water would not pond on the ground surface. The other off-site shallow groundwater samples taken were from groundwater seeping into basements of adjacent landowners to the east of the site (see Weinstein and Markowitz residences on Drawing 1).

The shallow groundwater samples were tested for the New York State Department of Environmental Conservation (NYSDEC) Part 360 Leachate Indicator Parameters from the Routine Analysis List as well as the volatile organics list (Method 524.2). Given the historical groundwater sampling results from this facility, these parameters would provide the best results for evaluating potential impacts.

The results of the shallow groundwater sampling and analysis are provided in Appendices A and B. In Appendix A the results are tabulated and compared to the NYSDEC GA Water Quality Standards. The instances where the result exceeded the State standard are shown by a bold number in the results column.

2.3 NYSDEC Report

The NYSDEC also conducted an investigation at the site, at locations downgradient of the site, and at the surrounding residences (Appendix D). They sampled iron flocculate (precipitate) samples in downgradient and residential locations and noted at some locations, elevated concentrations of arsenic. They attributed the iron flocculate and elevated arsenic results to the adjacent landfill. They also concluded that the sampling locations were not likely being impacted by concentrated or high strength leachate.

3 DISCUSSION OF RESULTS

3.1 Groundwater Flow Evaluation

Based on the shallow groundwater flow contours, the Markowitz and Weinstein residences are crossgradient of the site, not downgradient. A crossgradient location would not result in groundwater flow from the Village facility to the residences, and the groundwater in the residential areas would not be impacted by the Village facility. This is especially evident for the Weinstein residence, where only a very small portion of the Village site could supply groundwater flow to the house, even if current groundwater flow patterns were shifted more to the east (Drawing 1). However, there are two scenarios that would provide a mechanism for flow from the Village facility to the Markowitz and Weinstein residences given the current groundwater flow data. The first is that pumping water out of the basements is creating a localized cone of depression around the house(s) causing groundwater to flow from the Village site toward the residences. The second is that there is shallow groundwater flow toward the residences. However, further investigation including additional water level measuring locations between the facility and the residences would need to be conducted to investigate this possibility.

To address the problem with the downgradient monitoring wells in Taylor Lane, it is proposed that the existing wells be abandoned and that replacement wells be installed north of Taylor Lane. Currently the well spacing for the couplets is less than 200 feet. Under normal conditions, a 500 foot spacing is allowed under current NYSDEC Part 360 regulations. Given that analytical results from the three locations are not extremely variable, and that the geologic environment in that area is also not that variable, it is proposed that the existing monitoring wells be replaced by two couplets at approximately the two locations shown on Drawing 1.

3.2 Water Quality Sampling and Analysis

To aid in the interpretation of the analytical results, Stiff diagrams were constructed for each sampling location (Appendix C). The Stiff plotting technique uses four parallel horizontal axes extending on each side of a vertical zero axis. Concentrations of four parameters (anions) are plotted to the right of the zero line and the concentrations of four parameters (cations) are plotted to the left of the zero line. The resulting points are

connected to give an irregular polygonal shape or pattern. The Stiff patterns can be a relatively distinctive method of showing water composition differences and similarities.

Review of the water quality results for the monitoring well screened in the fill (MW-14S) and the downgradient wells (MW-2S, MW-3S) (Appendix A) are what would be expected. As a group, the State standard exceedances in total dissolved solids and various metals could be interpreted as impact from the facility. An occasional volatile detection is also consistent with past results. The Stiff diagrams for the downgradient wells (Appendix C) are more similar to the Stiff diagram for the fill well (MW-14S) than the upgradient well (MW-9S) suggesting some influence from the on-site fill.

The results from the interceptor pipe sample shows State standard exceedances in three of the parameters exceeded in the fill and downgradient wells, and therefore could be intercepting groundwater from the facility. The Stiff diagram for the interceptor pipe (Appendix C) is more similar to the Stiff diagram for the fill well (MW-14S) than the upgradient well (MW-9S) suggesting some influence from the on-site fill.

The sample from the Markowitz residence exceeds the State standards for total dissolved solids and sodium. These parameters by themselves are not good indicators of impact from the adjacent site, given that road salting or influx of saline water by tidal fluctuations are also possible mechanisms that would result in these types of results. Impact from the adjacent site would more likely result in the exceedance of more of the parameters discussed above in addition to sodium and TDS. However, the Stiff diagram for the Markowitz residence is similar in shape to the Stiff diagram for the interceptor trench, and to a certain extent to the fill well (MW-14S). Therefore, the water obtained from the basement of the Markowitz residence may be influenced to some extent by the adjacent site.

Like the interceptor pipe sample, the Weinstein residence sample exceeds three of the parameters that were also were exceeded in the fill and downgradient samples, and arsenic which was not exceeded in the fill and downgradient samples. The Stiff diagram for the Weinstein residence is similar in shape to the Stiff diagrams for the downgradient well MW-3S and the interceptor trench. In addition, total organic carbon is elevated in the basement water. This suggests that it is possible that the groundwater from the Weinstein residence basement is impacted from the adjacent site.

However, there are observations that complicate the conclusions reached by the discussion of the interceptor pipe and Markowitz/Weinstein residences results discussed above. The first is that the upgradient sample (MW-9S) also exceeds many of the parameters exceeded by the fill, downgradient, interceptor pipe, and Markowitz/Weinstein samples. One of the purposes of an upgradient sample is to provide an indication of whether an outside influence upgradient of the facility is impacting water quality on the site. The results for this upgradient sample indicate that

an off-site source may also be influencing water quality in this area. For example, with the high iron concentrations at the upgradient location (MW-9S), the iron water quality exceedances at the other sampling locations cannot be definitely attributed to the Village site at this time. The high iron could be a characteristic of groundwater flowing onto the site from an upgradient location.

However, the report (Malcolm Pirnie, 1992a) of a thin layer of fill (2 inches) in the area of the upgradient well further complicates the interpretation of the upgradient well groundwater quality results. Although it is believed that the 2 inches of fill was clean fill, if it was not, the fill layer may be impacting groundwater at this location and MW-9S would not truely be an upgradient well.

3.3 NYSDEC Report

The NYSDEC report (Appendix D) documented an investigation performed at the site that entailed the sampling of water, sediments and soils. The results of the study indicated elevated levels of arsenic in an iron flocculate (precipitate) found in seeps and streams in the vicinity of the landfill. The NYSDEC investigation is acknowledged, but there is not concurrence with the conclusions in this report at this time. The presence of iron seeps and elevated arsenic does not necessarily indicate an impact from the landfill.

The Department indicates that the presence of iron flocculate is characteristic of leachate discharge zones downgradient of landfills. It is important to note that the presence of iron flocculate is often observed in natural environments that are not impacted by any known sources of contamination and further, that elevated metals, including arsenic, can accumulate in these materials. This is because naturally occurring organic matter can create reducing conditions which solubilize iron and other metals which are natural components of soils. Upon re-oxidation, the iron precipitates creating a flocculate with concurrent accumulation of naturally occurring arsenic and other metals into the precipitate.

The area of the Mamaroneck landfill is characterized by wetlands and potentially reducing environments that could, in effect create the conditions that promote solubilization and re-oxidation of iron, and accumulation of arsenic and other metals in the iron precipitate. Accordingly, subsequent investigations should be performed to characterize iron flocculate deposits and sediments in areas where there is no potential for impacts from the landfill.

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

In response to concerns about staining in groundwater seeping into the basement of an adjacent landowner and other water related problems at the residences, a hydrogeologic investigation was conducted to determine if the Village of Mamaroneck's Taylor Lane Compost Site was the source of the stained water. The investigation consisted of evaluation of groundwater flow directions and on-site and off-site groundwater quality. The shallow groundwater samples obtained from the fill within the Village facility and downgradient of the facility indicated State standard exceedances of several parameters, suggesting impact from the facility. A groundwater interceptor pipe located between the Village facility and adjacent residences had shallow groundwater samples that exceeded the State standards for several parameters that were exceeded in the fill and downgradient wells, and had a Stiff diagram pattern similar to the pattern for the fill well. Shallow groundwater samples taken from residences adjacent to the Village site exceeded the State standards for some of the parameters that were exceeded in the sample taken from the Village facility. Stiff diagrams produced for the residential sampling locations suggest a relationship between the groundwater at the Village site and the residences. Additionally, the NYSDEC believes that iron flocculate samples with high arsenic taken at downgradient and residential locations are attributable to the landfill. Therefore, it is possible that the Village site is impacting groundwater quality at the residences.

However, the upgradient monitoring well groundwater samples exceeded most of the State standards for parameters also exceeded in the on-site and off-site monitoring wells, suggesting that either a source other than the Village facility may be the source of the groundwater quality problems observed in the residences or that the upgradient monitoring well is not truly upgradient from site impacts. A report of a thin layer of fill in the area of the upgradient well further complicates the interpretation of the upgradient well groundwater quality results suggesting that the well may not truly be upgradient, but more data from sources further upgradient from the site is necessary to draw any conclusive opinion relative to this hypothesis. Regarding the results of the NYSDEC study, the presence of iron flocculate is often observed in natural environments that are not impacted by any known sources of contamination and further, that elevated metals, including arsenic, can accumulate in these materials. Shallow groundwater flow directions also did not indicate flow from the Village facility to the residences. However,

groundwater flow data in the area between the Village facility and the residences are not available, so localized shallow groundwater flow in this area is not known. Therefore, based on current available data and sampling locations it can not be determined conclusively whether or not that the Village facility is the source of the groundwater problems at the nearby residences.

4.2 Recommendations

To determine if the Village facility is the sole source of the groundwater quality problems in the nearby residential areas the following actions are recommended:

1. Install piezometer couplets between the Village facility and the residences to determine if the local horizontal and vertical groundwater flow directions are toward the residences.

2. Obtain a shallow groundwater sample(s) from off-site locations definitely known to be upgradient of the Village facility and compare the results with the existing water quality data to determine potential off-site impacts.

3. Take samples of iron flocculate at nearby wetland locations, not downgradient of the facility, to determine arsenic concentrations for comparison with site and downgradient results.

4. Prepare a supplemental report providing the results of the recommendations discussed above and conclusions reached from the data that is obtained.

Additionally, it is recommended that the current downgradient monitoring wells located in Taylor Lane be abandoned, and replaced by monitoring wells located north of Taylor Lane.

REFERENCES

Malcolm Pirnie, 1992a, Mamaroneck Taylor Lane Leaf Compost Site Remedial Investigation, June 1992.

Malcolm Pirnie, 1992b, Mamaroneck Taylor Lane Leaf Compost Site Final Supplemental Remedial Investigation, September 1992.

TABLES

Table 2-1`
Taylor Lane Compost Site
Monitoring Well Water Levels
August 24, 2004

Well ID	Well Size (inches)	Water Level from Top of PVC (feet)	Water Level from Top of Casing (feet)	Elevation of Water in Well (feet)	Notes
MW-9D	4	11.54	12.30	20.56	
MW-9S	2	9.86	10.02	22.96	
MW-14S	2	3.23	3.17	14.02	PVC above casing by 0.06'
MW-14D	2	2.09	2.48	14.85	
MW-15D	2	3.35	3.90	15.39	
94-1D	2	1.13	Not Applicable	17.37	Utilizing a 2 foot standpipe
94-1S	2	1.62	Not Applicable	16.88	Utilizing a 2 foot standpipe
94-2D	2	1.35	Not Applicable	14.70	Utilizing a 2 foot standpipe
94-2S	2	1.63	Not Applicable	14.42	Utilizing a 2 foot standpipe
94-3D	2	1.39	Not Applicable	13.86	Utilizing a 2 foot standpipe
94-3S	2	1.96	Not Applicable	13.86	Utilizing a 2 foot standpipe

APPENDIX A

GROUNDWATER QUALTITY ANALYSIS RESULTS

Taylor's Lane Compost Site
Inorganic Analysis
MW-3S (Downgradient)
September 24, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
AMMONIA	0.05	2	0.05U
BOD-5	2	NA	2U
BROMIDE	0.1	NA	1U
CHEMICAL OXYGEN DEMAND	5	NA	12.5
CHLORIDE	0.2	250	184
NITRATE NITROGEN	0.05	10	0.563
SULFATE	0.2	250	49.1
TOTAL ALKALINITY	2	NA	192
TOTAL DISSOLVED SOLIDS	10	200	**530**
TOTAL HARDNESS	2	NA	325
TOTAL KJELDAHL NITROGEN	0.2	NA	0.264
TOTAL ORGANIC CARBON	1	NA	2.5
TOTAL ORGANIC CARBON	1	NA	2.12
TOTAL ORGANIC CARBON	1	NA	2.11
TOTAL ORGANIC CARBON	1	NA	2.15
TOTAL PHENOLICS	0.005	0.001	0.005U
ARSENIC	0.01	0.025	0.01U
CADMIUM	0.005	0.005	0.005U
CALCIUM	0.5	NA	52.2
COPPER	0.02	0.2	**0.0268**
IRON	0.1	0.3	**70**
LEAD	0.005	0.025	0.0125
MAGNESIUM	0.5	35	**51.1**
MANGANESE	0.01	0.3	0.294
MERCURY	0.0003	0.0007	0.0003U
POTASSIUM	2	NA	5.87
SODIUM	0.5	20	**68.4**
ZINC	0.02	NA	0.0341

U = Analyte analyzed for but not detected

Taylor's Lane Compost Site
Volatile Organics Analysis
MW-2S (Downgradinet)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
BENZENE	0.0005	0.001	0.0005U
BROMOBENZENE	0.0005	0.005	0.0005U
BROMOCHLOROMETHANE	0.0005	0.005	0.0005U
BROMODICHLOROMETHANE	0.0005		0.0005U
BROMOFORM	0.0005		0.0005U
BROMOMETHANE	0.0005	0.005	0.0005U
TERT-BUTYL ALCOHOL	0.02	0.005	**0.18**
METHYL-TERT-BUTYL ETHER	0.0005	0.01	**0.36**
TERT-BUTYLBENZENE	0.0005	0.005	0.0005U
SEC-BUTYLBENZENE	0.0005	0.005	0.0005U
N-BUTYLBENZENE	0.0005	0.005	0.0005U
CARBON TETRACHLORIDE	0.0005	0.005	0.0005U
CHLOROBENZENE	0.0005	0.005	0.0005U
CHLOROETHANE	0.0005	0.005	0.0005U
CHLOROFORM	0.0005	0.007	0.0005U
CHLOROMETHANE	0.0005		0.0005U
1,2-DIBROMO-3-CHLOROPROPANE	0.0005	0.00004	0.0005U
2-CHLOROTOLUENE	0.0005	0.005	0.0005U
4-CHLOROTOLUENE	0.0005	0.005	0.0005U
DIBROMOCHLOROMETHANE	0.0005		0.0005U
1,2-DIBROMOETHANE	0.0005		0.0005U
DIBROMOMETHANE	0.0005	0.005	0.0005U
1,2-DICHLOROBENZENE	0.0005	0.003	0.0005U
1,4-DICHLOROBENZENE	0.0005	0.003	0.0005U
1,3-DICHLOROBENZENE	0.0005	0.003	0.0005U
DICHLORODIFLUOROMETHANE	0.0005	0.005	0.0005U
1,1-DICHLOROETHANE	0.0005	0.0006	0.0005U
1,2-DICHLOROETHANE	0.0005	0.0006	0.0005U
1,1-DICHLOROETHENE	0.0005	0.005	0.0005U
TRANS-1,2-DICHLOROETHENE	0.0005	0.005	0.0005U
CIS-1,2-DICHLOROETHENE	0.0005	0.005	0.0005U
2,2-DICHLOROPROPANE	0.0005	0.005	0.0005U
1,2-DICHLOROPROPANE	0.0005	0.001	0.0005U
1,3-DICHLOROPROPANE	0.0005	0.005	0.0005U
1,1-DICHLOROPROPENE	0.0005	0.005	0.0005U
TRANS-1,3-DICHLOROPROPENE	0.0005	0.0004	0.0005U
CIS-1,3-DICHLOROPROPENE	0.0005	0.0004	0.0005U
ETHYLBENZENE	0.0005	0.005	0.0005U
HEXACHLOROBUTADIENE	0.0005	0.0005	0.0005U

Taylor's Lane Compost Site
Volatile Organics Analysis
MW-2S (Downgradinet)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
ISOPROPYLBENZENE	0.0005	0.005	0.0005U
P-ISOPROPYLTOLUENE	0.0005	0.005	0.0005U
METHYLENE CHLORIDE	0.0005	0.005	0.0005U
NAPHTHALENE	0.0005		0.0005U
N-PROPYLBENZENE	0.0005	0.005	0.0005U
STYRENE	0.0005	0.005	0.0005U
1,1,1,2-TETRACHLOROETHANE	0.0005	0.005	0.0005U
1,1,2,2-TETRACHLOROETHANE	0.0005	0.005	0.0005U
TETRACHLOROETHENE	0.0005	0.005	0.0005U
TOLUENE	0.0005	0.005	0.0005U
1,2,4-TRICHLOROBENZENE	0.0005	0.005	0.0005U
1,2,3-TRICHLOROBENZENE	0.0005	0.005	0.0005U
1,1,1-TRICHLOROETHANE	0.0005	0.005	0.0005U
1,1,2-TRICHLOROETHANE	0.0005	0.001	0.0005U
TRICHLOROETHENE	0.0005	0.005	0.0005U
TRICHLOROFLUOROMETHANE	0.0005	0.005	0.0005U
1,2,3-TRICHLOROPROPANE	0.0005	0.00004	0.0005U
1,3,5-TRIMETHYLBENZENE	0.0005	0.005	0.0005U
1,2,4-TRIMETHYLBENZENE	0.0005	0.005	0.0005U
VINYL CHLORIDE	0.0005	0.002	0.00059
M+P-XYLENE	0.0005	0.005	0.0005U
O-XYLENE	0.0005	0.005	0.0005U

U = Analyte analyzed for but not detected
E = Concentrations exceeded laboratory equipment calibration

Taylor's Lane Compost Site
Inorganic Analysis
MW-14S (Fill)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
AMMONIA	0.05	2	**2.55**
BOD-5	2	NA	27.2
BROMIDE	0.1	NA	1U
CHEMICAL OXYGEN DEMAND	5	NA	150
CHLORIDE	0.2	250	139
NITRATE NITROGEN	0.05	10	0.5U
SULFATE	0.2	250	2U
TOTAL ALKALINITY	2	NA	345
TOTAL DISSOLVED SOLIDS	10	200	**564**
TOTAL HARDNESS	2	NA	389
TOTAL KJELDAHL NITROGEN	0.2	NA	4.35
TOTAL ORGANIC CARBON	1	NA	9.8
TOTAL ORGANIC CARBON	1	NA	10.1
TOTAL ORGANIC CARBON	1	NA	10.7
TOTAL ORGANIC CARBON	1	NA	10.2
TOTAL PHENOLICS	0.005	0.001	0.005U
ARSENIC	0.01	0.025	0.01U
CADMIUM	0.005	0.005	0.005U
CALCIUM	0.5	NA	92.8
COPPER	0.02	0.2	0.0731
IRON	0.1	0.3	**27**
LEAD	0.005	0.025	**0.376**
MAGNESIUM	0.5	35	32.6
MANGANESE	0.01	0.3	**0.332**
MERCURY	0.0003	0.0007	0.0003U
POTASSIUM	2	NA	19
SODIUM	0.5	20	**56.4**
ZINC	0.02	NA	0.176

U = Analyte analyzed for but not detected

Taylor's Lane Compost Site
Volatile Organics Analysis
MW-14S (Fill)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
BENZENE	0.0005	0.001	0.0005U
BROMOBENZENE	0.0005	0.005	0.0005U
BROMOCHLOROMETHANE	0.0005	0.005	0.0005U
BROMODICHLOROMETHANE	0.0005		0.0005U
BROMOFORM	0.0005		0.0005U
BROMOMETHANE	0.0005	0.005	0.0005U
TERT-BUTYL ALCOHOL	0.02	0.005	**0.088**
METHYL-TERT-BUTYL ETHER	0.0005	0.01	**0.042**
TERT-BUTYLBENZENE	0.0005	0.005	0.0005U
SEC-BUTYLBENZENE	0.0005	0.005	0.0005U
N-BUTYLBENZENE	0.0005	0.005	0.0005U
CARBON TETRACHLORIDE	0.0005	0.005	0.0005U
CHLOROBENZENE	0.0005	0.005	0.0005U
CHLOROETHANE	0.0005	0.005	0.0005U
CHLOROFORM	0.0005	0.007	0.0005U
CHLOROMETHANE	0.0005		0.0005U
1,2-DIBROMO-3-CHLOROPROPANE	0.0005	0.00004	0.0005U
2-CHLOROTOLUENE	0.0005	0.005	0.0005U
4-CHLOROTOLUENE	0.0005	0.005	0.0005U
DIBROMOCHLOROMETHANE	0.0005		0.0005U
1,2-DIBROMOETHANE	0.0005		0.0005U
DIBROMOMETHANE	0.0005	0.005	0.0005U
1,2-DICHLOROBENZENE	0.0005	0.003	0.0005U
1,4-DICHLOROBENZENE	0.0005	0.003	0.0005U
1,3-DICHLOROBENZENE	0.0005	0.003	0.0005U
DICHLORODIFLUOROMETHANE	0.0005	0.005	0.0005U
1,1-DICHLOROETHANE	0.0005	0.0006	0.0005U
1,2-DICHLOROETHANE	0.0005	0.0006	0.0005U
1,1-DICHLOROETHENE	0.0005	0.005	0.0005U
TRANS-1,2-DICHLOROETHENE	0.0005	0.005	0.0005U
CIS-1,2-DICHLOROETHENE	0.0005	0.005	0.0005U
2,2-DICHLOROPROPANE	0.0005	0.005	0.0005U
1,2-DICHLOROPROPANE	0.0005	0.001	0.0005U
1,3-DICHLOROPROPANE	0.0005	0.005	0.0005U
1,1-DICHLOROPROPENE	0.0005	0.005	0.0005U
TRANS-1,3-DICHLOROPROPENE	0.0005	0.0004	0.0005U
CIS-1,3-DICHLOROPROPENE	0.0005	0.0004	0.0005U
ETHYLBENZENE	0.0005	0.005	0.0005U
HEXACHLOROBUTADIENE	0.0005	0.0005	0.0005U

Taylor's Lane Compost Site
Volatile Organics Analysis
MW-14S (Fill)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
ISOPROPYLBENZENE	0.0005	0.005	0.0005U
P-ISOPROPYLTOLUENE	0.0005	0.005	0.0005U
METHYLENE CHLORIDE	0.0005	0.005	0.0005U
NAPHTHALENE	0.0005		0.0005U
N-PROPYLBENZENE	0.0005	0.005	0.0005U
STYRENE	0.0005	0.005	0.0005U
1,1,1,2-TETRACHLOROETHANE	0.0005	0.005	0.0005U
1,1,2,2-TETRACHLOROETHANE	0.0005	0.005	0.0005U
TETRACHLOROETHENE	0.0005	0.005	0.0005U
TOLUENE	0.0005	0.005	0.0005U
1,2,4-TRICHLOROBENZENE	0.0005	0.005	0.0005U
1,2,3-TRICHLOROBENZENE	0.0005	0.005	0.0005U
1,1,1-TRICHLOROETHANE	0.0005	0.005	0.0005U
1,1,2-TRICHLOROETHANE	0.0005	0.001	0.0005U
TRICHLOROETHENE	0.0005	0.005	0.0005U
TRICHLOROFLUOROMETHANE	0.0005	0.005	0.0005U
1,2,3-TRICHLOROPROPANE	0.0005	0.00004	0.0005U
1,3,5-TRIMETHYLBENZENE	0.0005	0.005	0.0005U
1,2,4-TRIMETHYLBENZENE	0.0005	0.005	0.0005U
VINYL CHLORIDE	0.0005	0.002	0.0005U
M+P-XYLENE	0.0005	0.005	0.0005U
O-XYLENE	0.0005	0.005	0.0005U

U = Analyte analyzed for but not detected
E = Concentrations exceeded laboratory equipment calibration

Taylor's Lane Compost Site
Inorganic Analysis
MW-9S (Upgradient)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
AMMONIA	0.05	2	0.05U
BOD-5	2	NA	2U
BROMIDE	0.1	NA	1U
CHEMICAL OXYGEN DEMAND	5	NA	5U
CHLORIDE	0.2	250	32.4
NITRATE NITROGEN	0.05	10	0.912
SULFATE	0.2	250	16.7
TOTAL ALKALINITY	2	NA	46
TOTAL DISSOLVED SOLIDS	10	200	141
TOTAL HARDNESS	2	NA	51.2
TOTAL KJELDAHL NITROGEN	0.2	NA	0.71
TOTAL ORGANIC CARBON	1	NA	2.28
TOTAL ORGANIC CARBON	1	NA	2.36
TOTAL ORGANIC CARBON	1	NA	2.36
TOTAL ORGANIC CARBON	1	NA	2.3
TOTAL PHENOLICS	0.005	0.001	0.005U
ARSENIC	0.01	0.025	0.2U
CADMIUM	0.005	0.005	**0.0138**
CALCIUM	0.5	NA	16
COPPER	0.02	0.2	**0.578**
IRON	0.1	0.3	**382**
LEAD	0.005	0.025	**0.065**
MAGNESIUM	0.5	35	**25.8**
MANGANESE	0.01	0.3	**3.05**
MERCURY	0.0003	0.0007	0.0003U
POTASSIUM	2	NA	16.4
SODIUM	0.5	20	**35.7**
ZINC	0.02	NA	0.112

U = Analyte analyzed for but not detected

Taylor's Lane Compost Site
Volatile Organics Analysis
MW-9S (Upgradient)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
BENZENE	0.0005	0.001	0.0005U
BROMOBENZENE	0.0005	0.005	0.0005U
BROMOCHLOROMETHANE	0.0005	0.005	0.0005U
BROMODICHLOROMETHANE	0.0005		0.0005U
BROMOFORM	0.0005		0.0005U
BROMOMETHANE	0.0005	0.005	0.0005U
TERT-BUTYL ALCOHOL	0.02	0.005	0.02U
METHYL-TERT-BUTYL ETHER	0.0005	0.01	0.0005U
TERT-BUTYLBENZENE	0.0005	0.005	0.0005U
SEC-BUTYLBENZENE	0.0005	0.005	0.0005U
N-BUTYLBENZENE	0.0005	0.005	0.0005U
CARBON TETRACHLORIDE	0.0005	0.005	0.0005U
CHLOROBENZENE	0.0005	0.005	0.0005U
CHLOROETHANE	0.0005	0.005	0.0005U
CHLOROFORM	0.0005	0.007	**0.023**
CHLOROMETHANE	0.0005		0.0005U
1,2-DIBROMO-3-CHLOROPROPANE	0.0005	0.00004	0.0005U
2-CHLOROTOLUENE	0.0005	0.005	0.0005U
4-CHLOROTOLUENE	0.0005	0.005	0.0005U
DIBROMOCHLOROMETHANE	0.0005		0.0005U
1,2-DIBROMOETHANE	0.0005		0.0005U
DIBROMOMETHANE	0.0005	0.005	0.0005U
1,2-DICHLOROBENZENE	0.0005	0.003	0.0005U
1,4-DICHLOROBENZENE	0.0005	0.003	0.0005U
1,3-DICHLOROBENZENE	0.0005	0.003	0.0005U
DICHLORODIFLUOROMETHANE	0.0005	0.005	0.0005U
1,1-DICHLOROETHANE	0.0005	0.0006	0.0005U
1,2-DICHLOROETHANE	0.0005	0.0006	0.0005U
1,1-DICHLOROETHENE	0.0005	0.005	0.0005U
TRANS-1,2-DICHLOROETHENE	0.0005	0.005	0.0005U
CIS-1,2-DICHLOROETHENE	0.0005	0.005	0.0005U
2,2-DICHLOROPROPANE	0.0005	0.005	0.0005U
1,2-DICHLOROPROPANE	0.0005	0.001	0.0005U
1,3-DICHLOROPROPANE	0.0005	0.005	0.0005U
1,1-DICHLOROPROPENE	0.0005	0.005	0.0005U
TRANS-1,3-DICHLOROPROPENE	0.0005	0.0004	0.0005U
CIS-1,3-DICHLOROPROPENE	0.0005	0.0004	0.0005U
ETHYLBENZENE	0.0005	0.005	0.0005U
HEXACHLOROBUTADIENE	0.0005	0.0005	0.0005U

Taylor's Lane Compost Site
Volatile Organics Analysis
MW-9S (Upgradient)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
ISOPROPYLBENZENE	0.0005	0.005	0.0005U
P-ISOPROPYLTOLUENE	0.0005	0.005	0.0005U
METHYLENE CHLORIDE	0.0005	0.005	0.0005U
NAPHTHALENE	0.0005		0.0005U
N-PROPYLBENZENE	0.0005	0.005	0.0005U
STYRENE	0.0005	0.005	0.0005U
1,1,1,2-TETRACHLOROETHANE	0.0005	0.005	0.0005U
1,1,2,2-TETRACHLOROETHANE	0.0005	0.005	0.0005U
TETRACHLOROETHENE	0.0005	0.005	0.0005U
TOLUENE	0.0005	0.005	0.0005U
1,2,4-TRICHLOROBENZENE	0.0005	0.005	0.0005U
1,2,3-TRICHLOROBENZENE	0.0005	0.005	0.0005U
1,1,1-TRICHLOROETHANE	0.0005	0.005	0.0005U
1,1,2-TRICHLOROETHANE	0.0005	0.001	0.0005U
TRICHLOROETHENE	0.0005	0.005	0.0005U
TRICHLOROFLUOROMETHANE	0.0005	0.005	0.0005U
1,2,3-TRICHLOROPROPANE	0.0005	0.00004	0.0005U
1,3,5-TRIMETHYLBENZENE	0.0005	0.005	0.0005U
1,2,4-TRIMETHYLBENZENE	0.0005	0.005	0.0005U
VINYL CHLORIDE	0.0005	0.002	0.0005U
M+P-XYLENE	0.0005	0.005	0.0005U
O-XYLENE	0.0005	0.005	0.0005U

U = Analyte analyzed for but not detected

Taylor's Lane Compost Site
Inorganic Analysis
Sampling Location: SS-1 (Interceptor Trench)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
AMMONIA	0.05	2	0.424
BOD-5	2	NA	2U
BROMIDE	0.1	NA	1U
CHEMICAL OXYGEN DEMAND	5	NA	82.8
CHLORIDE	0.2	250	139
NITRATE NITROGEN	0.05	10	1.05
SULFATE	0.2	250	15.2
TOTAL ALKALINITY	2	NA	220
TOTAL DISSOLVED SOLIDS	10	200	**540**
TOTAL HARDNESS	2	NA	309
TOTAL KJELDAHL NITROGEN	0.2	NA	3.67
TOTAL ORGANIC CARBON	1	NA	10.4
TOTAL ORGANIC CARBON	1	NA	10.7
TOTAL ORGANIC CARBON	1	NA	10.8
TOTAL ORGANIC CARBON	1	NA	11.4
TOTAL PHENOLICS	0.005	0.001	0.005U
ARSENIC	0.01	0.025	0.01U
CADMIUM	0.005	0.005	0.005U
CALCIUM	0.5	NA	89.2
COPPER	0.02	0.2	0.02U
IRON	0.1	0.3	**10.3**
LEAD	0.005	0.025	0.005U
MAGNESIUM	0.5	35	30.1
MANGANESE	0.01	0.3	1.64
MERCURY	0.0003	0.0007	0.0003U
POTASSIUM	2	NA	7.79
SODIUM	0.5	20	**63.4**
ZINC	0.02	NA	0.02U

U = Analyte analyzed for but not detected

Taylor's Lane Compost Site
Volatile Organics Analysis
Sampling Location: SS-1 (Interceptor Trench)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
BENZENE	0.0005	0.001	0.0005U
BROMOBENZENE	0.0005	0.005	0.0005U
BROMOCHLOROMETHANE	0.0005	0.005	0.0005U
BROMODICHLOROMETHANE	0.0005		0.0005U
BROMOFORM	0.0005		0.0005U
BROMOMETHANE	0.0005	0.005	0.0005U
TERT-BUTYL ALCOHOL	0.02	0.005	**0.052**
METHYL-TERT-BUTYL ETHER	0.0005	0.01	**0.015**
TERT-BUTYLBENZENE	0.0005	0.005	0.0005U
SEC-BUTYLBENZENE	0.0005	0.005	0.0005U
N-BUTYLBENZENE	0.0005	0.005	0.0005U
CARBON TETRACHLORIDE	0.0005	0.005	0.0005U
CHLOROBENZENE	0.0005	0.005	0.0005U
CHLOROETHANE	0.0005	0.005	0.0005U
CHLOROFORM	0.0005	0.007	0.0005U
CHLOROMETHANE	0.0005		0.0005U
1,2-DIBROMO-3-CHLOROPROPANE	0.0005	0.00004	0.0005U
2-CHLOROTOLUENE	0.0005	0.005	0.0005U
4-CHLOROTOLUENE	0.0005	0.005	0.0005U
DIBROMOCHLOROMETHANE	0.0005		0.0005U
1,2-DIBROMOETHANE	0.0005		0.0005U
DIBROMOMETHANE	0.0005	0.005	0.0005U
1,2-DICHLOROBENZENE	0.0005	0.003	0.0005U
1,4-DICHLOROBENZENE	0.0005	0.003	0.0005U
1,3-DICHLOROBENZENE	0.0005	0.003	0.0005U
DICHLORODIFLUOROMETHANE	0.0005	0.005	0.0005U
1,1-DICHLOROETHANE	0.0005	0.0006	0.0005U
1,2-DICHLOROETHANE	0.0005	0.0006	0.0005U
1,1-DICHLOROETHENE	0.0005	0.005	0.0005U
TRANS-1,2-DICHLOROETHENE	0.0005	0.005	0.0005U
CIS-1,2-DICHLOROETHENE	0.0005	0.005	0.0005U
2,2-DICHLOROPROPANE	0.0005	0.005	0.0005U
1,2-DICHLOROPROPANE	0.0005	0.001	0.0005U
1,3-DICHLOROPROPANE	0.0005	0.005	0.0005U
1,1-DICHLOROPROPENE	0.0005	0.005	0.0005U
TRANS-1,3-DICHLOROPROPENE	0.0005	0.0004	0.0005U
CIS-1,3-DICHLOROPROPENE	0.0005	0.0004	0.0005U
ETHYLBENZENE	0.0005	0.005	0.0005U
HEXACHLOROBUTADIENE	0.0005	0.0005	0.0005U

Taylor's Lane Compost Site
Volatile Organics Analysis
Sampling Location: SS-1 (Interceptor Trench)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
ISOPROPYLBENZENE	0.0005	0.005	0.0005U
P-ISOPROPYLTOLUENE	0.0005	0.005	0.0005U
METHYLENE CHLORIDE	0.0005	0.005	0.0005U
NAPHTHALENE	0.0005		0.0005U
N-PROPYLBENZENE	0.0005	0.005	0.0005U
STYRENE	0.0005	0.005	0.0005U
1,1,1,2-TETRACHLOROETHANE	0.0005	0.005	0.0005U
1,1,2,2-TETRACHLOROETHANE	0.0005	0.005	0.0005U
TETRACHLOROETHENE	0.0005	0.005	0.0005U
TOLUENE	0.0005	0.005	0.0005U
1,2,4-TRICHLOROBENZENE	0.0005	0.005	0.0005U
1,2,3-TRICHLOROBENZENE	0.0005	0.005	0.0005U
1,1,1-TRICHLOROETHANE	0.0005	0.005	0.0005U
1,1,2-TRICHLOROETHANE	0.0005	0.001	0.0005U
TRICHLOROETHENE	0.0005	0.005	0.0005U
TRICHLOROFLUOROMETHANE	0.0005	0.005	0.0005U
1,2,3-TRICHLOROPROPANE	0.0005	0.00004	0.0005U
1,3,5-TRIMETHYLBENZENE	0.0005	0.005	0.0005U
1,2,4-TRIMETHYLBENZENE	0.0005	0.005	0.0005U
VINYL CHLORIDE	0.0005	0.002	0.0005U
M+P-XYLENE	0.0005	0.005	0.0005U
O-XYLENE	0.0005	0.005	0.0005U

U = Analyte analyzed for but not detected

Taylor's Lane Compost Site
Inorganic Analysis
Sample Location: BWH (Weinstein Residence)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
AMMONIA	0.05	2	0.348
BOD-5	2	NA	4.14J
BROMIDE	0.1	NA	1U
CHEMICAL OXYGEN DEMAND	5	NA	88.6
CHLORIDE	0.2	250	113
NITRATE NITROGEN	0.05	10	0.5U
SULFATE	0.2	250	16.3
TOTAL ALKALINITY	2	NA	257
TOTAL DISSOLVED SOLIDS	10	200	**482**
TOTAL HARDNESS	2	NA	268
TOTAL KJELDAHL NITROGEN	0.2	NA	2.83
TOTAL ORGANIC CARBON	1	NA	63.4
TOTAL ORGANIC CARBON	1	NA	64.2
TOTAL ORGANIC CARBON	1	NA	67.4
TOTAL ORGANIC CARBON	1	NA	68.2
TOTAL PHENOLICS	0.005	0.001	0.005U
ARSENIC	0.01	0.025	**0.0286**
CADMIUM	0.005	0.005	0.005U
CALCIUM	0.5	NA	80.2
COPPER	0.02	0.2	0.0332
IRON	0.1	0.3	**100**
LEAD	0.005	0.025	0.021
MAGNESIUM	0.5	35	21.3
MANGANESE	0.01	0.3	2.58
MERCURY	0.0003	0.0007	0.0003U
POTASSIUM	2	NA	4.73
SODIUM	0.5	20	**75.3**
ZINC	0.02	NA	0.0867

J = Estimated Value
U = Analyte analyzed for but not detected

Taylor's Lane Compost Site
Volatile Organics Analysis
Sample Location: BWH (Weinstein Residence)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
BENZENE	0.0005	0.001	0.0005U
BROMOBENZENE	0.0005	0.005	0.0005U
BROMOCHLOROMETHANE	0.0005	0.005	0.0005U
BROMODICHLOROMETHANE	0.0005		0.0005U
BROMOFORM	0.0005		0.0005U
BROMOMETHANE	0.0005	0.005	0.0005U
TERT-BUTYL ALCOHOL	0.02	0.005	0.02U
METHYL-TERT-BUTYL ETHER	0.0005	0.01	0.0024
TERT-BUTYLBENZENE	0.0005	0.005	0.0005U
SEC-BUTYLBENZENE	0.0005	0.005	0.0005U
N-BUTYLBENZENE	0.0005	0.005	0.0005U
CARBON TETRACHLORIDE	0.0005	0.005	0.0005U
CHLOROBENZENE	0.0005	0.005	0.0005U
CHLOROETHANE	0.0005	0.005	0.0005U
CHLOROFORM	0.0005	0.007	0.0005U
CHLOROMETHANE	0.0005		0.0005U
1,2-DIBROMO-3-CHLOROPROPANE	0.0005	0.00004	0.0005U
2-CHLOROTOLUENE	0.0005	0.005	0.0005U
4-CHLOROTOLUENE	0.0005	0.005	0.0005U
DIBROMOCHLOROMETHANE	0.0005		0.0005U
1,2-DIBROMOETHANE	0.0005		0.0005U
DIBROMOMETHANE	0.0005	0.005	0.0005U
1,2-DICHLOROBENZENE	0.0005	0.003	0.0005U
1,4-DICHLOROBENZENE	0.0005	0.003	0.0005U
1,3-DICHLOROBENZENE	0.0005	0.003	0.0005U
DICHLORODIFLUOROMETHANE	0.0005	0.005	0.0005U
1,1-DICHLOROETHANE	0.0005	0.0006	0.0005U
1,2-DICHLOROETHANE	0.0005	0.0006	0.0005U
1,1-DICHLOROETHENE	0.0005	0.005	0.0005U
TRANS-1,2-DICHLOROETHENE	0.0005	0.005	0.0005U
CIS-1,2-DICHLOROETHENE	0.0005	0.005	0.0005U
2,2-DICHLOROPROPANE	0.0005	0.005	0.0005U
1,2-DICHLOROPROPANE	0.0005	0.001	0.0005U
1,3-DICHLOROPROPANE	0.0005	0.005	0.0005U
1,1-DICHLOROPROPENE	0.0005	0.005	0.0005U
TRANS-1,3-DICHLOROPROPENE	0.0005	0.0004	0.0005U
CIS-1,3-DICHLOROPROPENE	0.0005	0.0004	0.0005U
ETHYLBENZENE	0.0005	0.005	0.0005U
HEXACHLOROBUTADIENE	0.0005	0.0005	0.0005U

Taylor's Lane Compost Site
Volatile Organics Analysis
Sample Location: BWH (Weinstein Residence)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
ISOPROPYLBENZENE	0.0005	0.005	0.0005U
P-ISOPROPYLTOLUENE	0.0005	0.005	0.0005U
METHYLENE CHLORIDE	0.0005	0.005	0.0005U
NAPHTHALENE	0.0005		0.0005U
N-PROPYLBENZENE	0.0005	0.005	0.0005U
STYRENE	0.0005	0.005	0.0005U
1,1,1,2-TETRACHLOROETHANE	0.0005	0.005	0.0005U
1,1,2,2-TETRACHLOROETHANE	0.0005	0.005	0.0005U
TETRACHLOROETHENE	0.0005	0.005	0.0005U
TOLUENE	0.0005	0.005	0.0005U
1,2,4-TRICHLOROBENZENE	0.0005	0.005	0.0005U
1,2,3-TRICHLOROBENZENE	0.0005	0.005	0.0005U
1,1,1-TRICHLOROETHANE	0.0005	0.005	0.0005U
1,1,2-TRICHLOROETHANE	0.0005	0.001	0.0005U
TRICHLOROETHENE	0.0005	0.005	0.0005U
TRICHLOROFLUOROMETHANE	0.0005	0.005	0.0005U
1,2,3-TRICHLOROPROPANE	0.0005	0.00004	0.0005U
1,3,5-TRIMETHYLBENZENE	0.0005	0.005	0.0005U
1,2,4-TRIMETHYLBENZENE	0.0005	0.005	0.0005U
VINYL CHLORIDE	0.0005	0.002	0.0005U
M+P-XYLENE	0.0005	0.005	0.0005U
O-XYLENE	0.0005	0.005	0.0005U

U = Analyte analyzed for but not detected

Taylor's Lane Compost Site
Inorganic Analysis
Sample Location: SMH (Markowitz Residence)
September 23, 2004

Compound	PQL mg/L	GWQS mg/L	Results mg/L
AMMONIA	0.05	2	0.05U
BOD-5	2	NA	2U
BROMIDE	0.1	NA	1U
CHEMICAL OXYGEN DEMAND	5	NA	5U
CHLORIDE	0.2	250	90.9
NITRATE NITROGEN	0.05	10	5.26
SULFATE	0.2	250	39.3
TOTAL ALKALINITY	2	NA	154
TOTAL DISSOLVED SOLIDS	10	200	**363**
TOTAL HARDNESS	2	NA	244
TOTAL KJELDAHL NITROGEN	0.2	NA	0.4U
TOTAL ORGANIC CARBON	1	NA	1.37
TOTAL ORGANIC CARBON	1	NA	1.44
TOTAL ORGANIC CARBON	1	NA	1.45
TOTAL ORGANIC CARBON	1	NA	1.43
TOTAL PHENOLICS	0.005	0.001	0.005U
ARSENIC	0.01	0.025	0.01U
CADMIUM	0.005	0.005	0.005U
CALCIUM	0.5	NA	55.5
COPPER	0.02	0.2	0.02U
IRON	0.1	0.3	0.1U
LEAD	0.005	0.025	0.005U
MAGNESIUM	0.5	35	26.4
MANGANESE	0.01	0.3	0.0419
MERCURY	0.0003	0.0007	0.0003U
POTASSIUM	2	NA	2.91
SODIUM	0.5	20	**34.2**
ZINC	0.02	NA	0.02U

U = Analyte analyzed for but not detected

Mamaroneck
Volatile Organics Analysis
Sample Location: SMH (Markowitz Residence)
September 23, 2004 Sampling

Compound	PQL mg/L	GWQS mg/L	Results mg/L
BENZENE	0.0005	0.001	0.0005U
BROMOBENZENE	0.0005	0.005	0.0005U
BROMOCHLOROMETHANE	0.0005	0.005	0.0005U
BROMODICHLOROMETHANE	0.0005		0.0005U
BROMOFORM	0.0005		0.0005U
BROMOMETHANE	0.0005	0.005	0.0005U
TERT-BUTYL ALCOHOL	0.02	0.005	0.02U
METHYL-TERT-BUTYL ETHER	0.0005	0.01	0.0005U
TERT-BUTYLBENZENE	0.0005	0.005	0.0005U
SEC-BUTYLBENZENE	0.0005	0.005	0.0005U
N-BUTYLBENZENE	0.0005	0.005	0.0005U
CARBON TETRACHLORIDE	0.0005	0.005	0.0005U
CHLOROBENZENE	0.0005	0.005	0.0005U
CHLOROETHANE	0.0005	0.005	0.0005U
CHLOROFORM	0.0005	0.007	0.0017
CHLOROMETHANE	0.0005		0.0005U
1,2-DIBROMO-3-CHLOROPROPANE	0.0005	0.00004	0.0005U
2-CHLOROTOLUENE	0.0005	0.005	0.0005U
4-CHLOROTOLUENE	0.0005	0.005	0.0005U
DIBROMOCHLOROMETHANE	0.0005		0.0005U
1,2-DIBROMOETHANE	0.0005		0.0005U
DIBROMOMETHANE	0.0005	0.005	0.0005U
1,2-DICHLOROBENZENE	0.0005	0.003	0.0005U
1,4-DICHLOROBENZENE	0.0005	0.003	0.0005U
1,3-DICHLOROBENZENE	0.0005	0.003	0.0005U
DICHLORODIFLUOROMETHANE	0.0005	0.005	0.0005U
1,1-DICHLOROETHANE	0.0005	0.0006	0.0005U
1,2-DICHLOROETHANE	0.0005	0.0006	0.0005U
1,1-DICHLOROETHENE	0.0005	0.005	0.0005U
TRANS-1,2-DICHLOROETHENE	0.0005	0.005	0.0005U
CIS-1,2-DICHLOROETHENE	0.0005	0.005	0.0005U
2,2-DICHLOROPROPANE	0.0005	0.005	0.0005U
1,2-DICHLOROPROPANE	0.0005	0.001	0.0005U
1,3-DICHLOROPROPANE	0.0005	0.005	0.0005U
1,1-DICHLOROPROPENE	0.0005	0.005	0.0005U
TRANS-1,3-DICHLOROPROPENE	0.0005	0.0004	0.0005U
CIS-1,3-DICHLOROPROPENE	0.0005	0.0004	0.0005U
ETHYLBENZENE	0.0005	0.005	0.0005U
HEXACHLOROBUTADIENE	0.0005	0.0005	0.0005U

Mamaroneck
Volatile Organics Analysis
Sample Location: SMH (Markowitz Residence)
September 23, 2004 Sampling

Compound	PQL mg/L	GWQS mg/L	Results mg/L
ISOPROPYLBENZENE	0.0005	0.005	0.0005U
P-ISOPROPYLTOLUENE	0.0005	0.005	0.0005U
METHYLENE CHLORIDE	0.0005	0.005	0.0005U
NAPHTHALENE	0.0005		0.0005U
N-PROPYLBENZENE	0.0005	0.005	0.0005U
STYRENE	0.0005	0.005	0.0005U
1,1,1,2-TETRACHLOROETHANE	0.0005	0.005	0.0005U
1,1,2,2-TETRACHLOROETHANE	0.0005	0.005	0.0005U
TETRACHLOROETHENE	0.0005	0.005	0.0005U
TOLUENE	0.0005	0.005	0.0005U
1,2,4-TRICHLOROBENZENE	0.0005	0.005	0.0005U
1,2,3-TRICHLOROBENZENE	0.0005	0.005	0.0005U
1,1,1-TRICHLOROETHANE	0.0005	0.005	0.0005U
1,1,2-TRICHLOROETHANE	0.0005	0.001	0.0005U
TRICHLOROETHENE	0.0005	0.005	0.0005U
TRICHLOROFLUOROMETHANE	0.0005	0.005	0.0005U
1,2,3-TRICHLOROPROPANE	0.0005	0.00004	0.0005U
1,3,5-TRIMETHYLBENZENE	0.0005	0.005	0.0005U
1,2,4-TRIMETHYLBENZENE	0.0005	0.005	0.0005U
VINYL CHLORIDE	0.0005	0.002	0.0005U
M+P-XYLENE	0.0005	0.005	0.0005U
O-XYLENE	0.0005	0.005	0.0005U

U = Analyte analyzed for but not detected

APPENDIX B

ANALYTICAL LABORATORY DATA SHEETS

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

October 19, 2004

Mr. Brian Nichols
Shaw/Emcon/OWT
4 Commerce Dr. So.
Harriman, NY 10926

PROJECT:MAMARONECK
Submission #:R2423097

Dear Mr. Nichols

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Michael K Perry For:

Mark Wilson
Client Service Manager

Enc.

Columbia Analytical Services inc.

1 Mustard ST.
Suite 250
Rochester, NY 14609
(585) 288-5380

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : Shaw/Emcon/OWT
Project Reference: MAMARONECK
Lab Submission # : R2423097
Project Manager : Mark Wilson
Reported : 10/19/04

Report Contains a total of 49 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal.

CASE NARRATIVE

Company: Shaw E & S, Inc.
Project: Mamaroneck
Submission #: R2423097

Water samples were collected on 09/23/04 and received at CAS on 09/24/04 in good condition at cooler temperatures of 1 - 4 °C.

INORGANIC ANALYSIS

Six water samples were analyzed for a Part 360 routine list of Total Metals and other Inorganic and leachate indicators by approved EPA MCAWW and SW-846 methods. These samples were also analyzed for additional Total Metals.

All metals were analyzed by SW-846 ICP method 6010A.

The Inorganic and Leachate Indicators were analyzed using the following methods: Alkalinity by EPA method 310.1, Ammonia by EPA method 350.1, Bromide, Chloride, and Sulfate by EPA method 300.0, BOD5 by EPA method 405.1, COD by EPA method 410.4, Total Hardness by EPA method 130.2, TKN by EPA method 351.2, Total Phenol by SW-846 method 9066, and TDS by EPA method 160.1. The water samples were analyzed for Turbidity by EPA method 180.1, TOC by SW-846 method 9060, and Color by EPA method 110.2.

Wet Chemistry Analyses:

All initial 5-point calibrations produced a correlation coefficient of at least 0.997.

A calibration including a blank and check standard were prepared with every batch of samples analyzed. All blank results were below the PQL. All check standards produced recoveries within the limits.

All Duplicate results and Matrix Spike Recoveries from sample MH32-604 and the Blank Spike recoveries were within established QC limits except the matrix spike recovery for Chloride which has been flagged with a "N"..

No other analytical or QC problems were encountered.

Metals Analyses:

All Initial and Continuing Instrument Calibration, CRDL standard, Initial and Continuing Calibration Blank, Preparation Blank, ICP Interference Check Sample, Matrix spike, Duplicate Sample, Instrument Detection Limit, Interelement Correction Factor, and ICP Linear Range criteria were met in accordance with the SAP Appendix V Validation Checklist, Trace Metals. The only exceptions are one of the Continuing Calibration Blanks for Sodium and the Prep Blank for Iron. In both cases the amounts detected in the samples were greater than 10 times the values detected in the blanks.

The Blank Spike recoveries (LCS) were all within QC limits.

The BOD analysis for sample BWH #4 was flagged with a "J" as estimated since the dissolve oxygen uptake (1.94 mg/l) was slightly less than the method minimum requirement of 2.00 mg/l.

No other analytical or QC problems were encountered.

VOLATILE ORGANICS

Six water samples and one Trip Blank were analyzed for the Drinking Water List of Volatile Organics plus MTBE by EPA method 524.2.

The pH was <2 for all samples at the time of analysis.

All Tuning criteria for BFB were within QC limits.

All the initial and continuing calibration criteria were met for all analytes.

All Internal Standard Areas were within QC limits.

All surrogate standard recoveries were within acceptance limits for all samples.

The Blank Spike (Reference Check) recoveries; and the RPD were all acceptable.

The Method Blanks and Trip Blank associated with these samples were free of contamination.

Samples MW-14S #2 and MW-25 #7 were re-analyzed at dilutions to bring target analytes within the calibration range of the method. Both dilutions were reported with analytes over the calibration range flagged with an "E".

No other analytical or QC problems were encountered.

Columbia Analytical Services, Inc.

This report contains analytical results for the following samples:

Submission #: R2423097

Lab ID	Client ID
760662	MW-35 #1
760663	MW-14S #2
760664	MW-9S #3
760665	BWH #4
760666	SS-1 #5
760667	SMH #6
760668	TRIP BLANK
761351	MW-25 #7

Columbia Analytical Services INC.
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ACCREDITED IN ACCORDANCE WITH nelac

Ethics Service Quality ACIL 2003 SEAL OF EXCELLENCE PROGRAM Environmental

ORGANIC QUALIFIERS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.

P - This flag is used for a pesticide/Aroclor target analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

X - As specified in Case Narrative.

* - This flag identifies compounds associated with a quality control parameter which exceeds laboratory limits.

CAS/Rochester Lab ID # for State Certifications

Army Corp of Engineers Validated
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Massachusetts ID # M-NY032
Navy Facilities Engineering Service Center Approved
Nebraska Accredited
NELAP Accredited
New York ID # 10145
New Jersey ID # NY004
New Hampshire ID # 294100 A/B
Pennsylvania Registration 68-786
Rhode Island ID # 158
South Carolina ID #91012
West Virginia ID # 292

Columbia Analytical Services INC.
An Employee - Owned Company

ACCREDITED IN ACCORDANCE WITH nelac

Service Quality Ethics ACIL 2003 SEAL OF EXCELLENCE PROGRAM Environmental

INORGANIC QUALIFIERS

C (Concentration) qualifier –

B - if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but was greater than or equal to the Instrument Detection Limit (IDL).
U - if the analyte was analyzed for, but not detected

Q qualifier - Specified entries and their meanings are as follows:

D - Spike was diluted out
E - The reported value is estimated because of the presence of interference.
J - Estimated Value
M - Duplicate injection precision not met.
N - Spiked sample recovery not within control limits.
S - The reported value was determined by the Method of Standard Additions (MSA).
W - Post-digestion spike for Furnace AA Analysis is out of control limits (85-115), while sample absorbance is less than 50% of spike absorbance.
* - Duplicate analysis not within control limits.
+ - Correlation coefficient for the MSA is less than 0.995.

M (Method) qualifier:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "PM" for ICP when Microwave Digestion is used
- "AM" for Flame AA when Microwave Digestion is used
- "FM" for Furnace M when Microwave Digestion is used
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "CA" for Midi-Distillation Spectrophotometric
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- " " where no data has been entered
- "NR" if the analyte is not required to be analyzed.

CAS/Rochester Lab ID # for State Certifications

Army Corp of Engineers Validated
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Massachusetts ID # M-NY032
Navy Facilities Engineering Service Center Approved
Nebraska Accredited
NELAP Accredited
New York ID # 10145
New Jersey ID # NY004
New Hampshire ID # 294100 A/B
Pennsylvania Registration 68-786
Rhode Island ID # 158
South Carolina ID #91012
West Virginia ID # 292

COLUMBIA ANALYTICAL SERVICES

Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-35 #1

Date Sampled : 09/23/04 13:35 **Order #:** 760662 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097

ANALYTE	METHOD	PQL	RESULT	UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
AMMONIA	350.1	0.0500	0.0500 U	MG/L	09/28/04	09:16	1.0
BOD-5	405.1	2.00	2.00 U	MG/L	09/24/04	13:57	1.0
BROMIDE	300.0	0.100	1.00 U	MG/L	09/24/04	11:37	10.0
CHEMICAL OXYGEN DEMAND	410.4	5.00	12.5	MG/L	09/30/04	13:00	1.0
CHLORIDE	300.0	0.200	184	MG/L	09/27/04	16:13	40.0
NITRATE NITROGEN	300.0	0.0500	0.563	MG/L	09/24/04	11:37	10.0
SULFATE	300.0	0.200	49.1	MG/L	09/24/04	11:37	10.0
TOTAL ALKALINITY	310.1	2.00	192	MG/L	09/28/04	13:00	1.0
TOTAL DISSOLVED SOLIDS	160.1	10.0	530	MG/L	09/28/04	09:30	1.0
TOTAL HARDNESS	130.2	2.00	325	MG/L	10/04/04	09:00	1.0
TOTAL KJELDAHL NITROGEN	351.2	0.200	0.264	MG/L	09/29/04	09:00	1.0
TOTAL ORGANIC CARBON	9060	1.00	2.50	MG/L	09/27/04	18:07	1.0
TOTAL ORGANIC CARBON	9060	1.00	2.12	MG/L	09/27/04	18:16	1.0
TOTAL ORGANIC CARBON	9060	1.00	2.11	MG/L	09/27/04	18:25	1.0
TOTAL ORGANIC CARBON	9060	1.00	2.15	MG/L	09/27/04	18:34	1.0
TOTAL PHENOLICS	9066	0.00500	0.00500 U	MG/L	10/01/04	11:30	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-35 #1

Date Sampled : 09/23/04 13:35 **Order #:** 760662 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097

ANALYTE	METHOD	PQL	RESULT	UNITS	DATE ANALYZED	DILUTION
ARSENIC	6010B	0.0100	0.0100 U	MG/L	10/05/04	1.0
CADMIUM	6010B	0.00500	0.00500 U	MG/L	10/05/04	1.0
CALCIUM	6010B	0.500	52.2	MG/L	10/05/04	1.0
COPPER	6010B	0.0200	0.0268	MG/L	10/05/04	1.0
IRON	6010B	0.100	70.0	MG/L	10/05/04	1.0
LEAD	6010B	0.00500	0.0125	MG/L	10/05/04	1.0
MAGNESIUM	6010B	0.500	51.1	MG/L	10/05/04	1.0
MANGANESE	6010B	0.0100	0.294	MG/L	10/05/04	1.0
MERCURY	7470A	0.000300	0.000300 U	MG/L	09/28/04	1.0
POTASSIUM	6010B	2.00	5.87	MG/L	10/05/04	1.0
SODIUM	6010B	0.500	68.4	MG/L	10/05/04	1.0
ZINC	6010B	0.0200	0.0341	MG/L	10/05/04	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-14S #2

Date Sampled : 09/23/04 14:16 **Order #:** 760663 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097

ANALYTE	METHOD	PQL	RESULT	UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
AMMONIA	350.1	0.0500	2.55	MG/L	09/28/04	09:16	2.0
BOD-5	405.1	2.00	27.2	MG/L	09/24/04	13:58	1.0
BROMIDE	300.0	0.100	1.00 U	MG/L	09/24/04	11:51	10.0
CHEMICAL OXYGEN DEMAND	410.4	5.00	150	MG/L	09/30/04	13:00	1.0
CHLORIDE	300.0	0.200	139	MG/L	09/28/04	11:09	40.0
NITRATE NITROGEN	300.0	0.0500	0.500 U	MG/L	09/24/04	11:51	10.0
SULFATE	300.0	0.200	2.00 U	MG/L	09/24/04	11:51	10.0
TOTAL ALKALINITY	310.1	2.00	345	MG/L	09/28/04	13:00	1.0
TOTAL DISSOLVED SOLIDS	160.1	10.0	564	MG/L	09/28/04	09:30	1.0
TOTAL HARDNESS	130.2	2.00	389	MG/L	10/04/04	09:00	1.0
TOTAL KJELDAHL NITROGEN	351.2	0.200	4.35	MG/L	09/29/04	09:00	1.0
TOTAL ORGANIC CARBON	9060	1.00	9.80	MG/L	09/27/04	18:44	1.0
TOTAL ORGANIC CARBON	9060	1.00	10.1	MG/L	09/27/04	18:54	1.0
TOTAL ORGANIC CARBON	9060	1.00	10.7	MG/L	09/27/04	19:03	1.0
TOTAL ORGANIC CARBON	9060	1.00	10.2	MG/L	09/27/04	19:12	1.0
TOTAL PHENOLICS	9066	0.00500	0.00500 U	MG/L	10/01/04	11:30	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-14S #2

Date Sampled : 09/23/04 14:16 **Order #:** 760663 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097

ANALYTE	METHOD	PQL	RESULT	UNITS	DATE ANALYZED	DILUTION
ARSENIC	6010B	0.0100	0.0100 U	MG/L	10/05/04	1.0
CADMIUM	6010B	0.00500	0.00500 U	MG/L	10/05/04	1.0
CALCIUM	6010B	0.500	92.8	MG/L	10/05/04	1.0
COPPER	6010B	0.0200	0.0731	MG/L	10/05/04	1.0
IRON	6010B	0.100	27.0	MG/L	10/05/04	1.0
LEAD	6010B	0.00500	0.376	MG/L	10/05/04	1.0
MAGNESIUM	6010B	0.500	32.6	MG/L	10/05/04	1.0
MANGANESE	6010B	0.0100	0.332	MG/L	10/05/04	1.0
MERCURY	7470A	0.000300	0.000300 U	MG/L	09/28/04	1.0
POTASSIUM	6010B	2.00	19.0	MG/L	10/05/04	1.0
SODIUM	6010B	0.500	56.4	MG/L	10/05/04	1.0
ZINC	6010B	0.0200	0.176	MG/L	10/05/04	1.0

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-14S #2

Date Sampled : 09/23/04 14:16 **Order #:** 760663 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

DATE ANALYZED : 10/06/04
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
BENZENE	0.50	0.50 U	UG/L
BROMOBENZENE	0.50	0.50 U	UG/L
BROMOCHLOROMETHANE	0.50	0.50 U	UG/L
BROMODICHLOROMETHANE	0.50	0.50 U	UG/L
BROMOFORM	0.50	0.50 U	UG/L
BROMOMETHANE	0.50	0.50 U	UG/L
TERT-BUTYL ALCOHOL	20	89	UG/L
METHYL-TERT-BUTYL ETHER	0.50	44 E	UG/L
TERT-BUTYLBENZENE	0.50	0.50 U	UG/L
SEC-BUTYLBENZENE	0.50	0.50 U	UG/L
N-BUTYLBENZENE	0.50	0.50 U	UG/L
CARBON TETRACHLORIDE	0.50	0.50 U	UG/L
CHLOROBENZENE	0.50	0.50 U	UG/L
CHLOROETHANE	0.50	0.50 U	UG/L
CHLOROFORM	0.50	0.50 U	UG/L
CHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMO-3-CHLOROPROPANE	0.50	0.50 U	UG/L
2-CHLOROTOLUENE	0.50	0.50 U	UG/L
4-CHLOROTOLUENE	0.50	0.50 U	UG/L
DIBROMOCHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMOETHANE	0.50	0.50 U	UG/L
DIBROMOMETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,4-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,3-DICHLOROBENZENE	0.50	0.50 U	UG/L
DICHLORODIFLUOROMETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHENE	0.50	0.50 U	UG/L
TRANS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
CIS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
2,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,3-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,1-DICHLOROPROPENE	0.50	0.50 U	UG/L
TRANS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
CIS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
ETHYLBENZENE	0.50	0.50 U	UG/L
HEXACHLOROBUTADIENE	0.50	0.50 U	UG/L
ISOPROPYLBENZENE	0.50	0.50 U	UG/L
P-ISOPROPYLTOLUENE	0.50	0.50 U	UG/L
METHYLENE CHLORIDE	0.50	0.50 U	UG/L
NAPHTHALENE	0.50	0.50 U	UG/L
N-PROPYLBENZENE	0.50	0.50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-14S #2

Date Sampled : 09/23/04 14:16 **Order #:** 760663 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/06/04			
ANALYTICAL DILUTION: 1.00			
STYRENE	0.50	0.50 U	UG/L
1,1,1,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
1,1,2,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
TETRACHLOROETHENE	0.50	0.50 U	UG/L
TOLUENE	0.50	0.50 U	UG/L
1,2,4-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,1,1-TRICHLOROETHANE	0.50	0.50 U	UG/L
1,1,2-TRICHLOROETHANE	0.50	0.50 U	UG/L
TRICHLOROETHENE	0.50	0.50 U	UG/L
TRICHLOROFLUOROMETHANE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROPROPANE	0.50	0.50 U	UG/L
1,3,5-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
1,2,4-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
VINYL CHLORIDE	0.50	0.50 U	UG/L
M+P-XYLENE	0.50	0.50 U	UG/L
O-XYLENE	0.50	0.50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	91	%
1,2-DICHLOROBENZENE-D4	(70 - 130 %)	113	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-14S #2

Date Sampled : 09/23/04 14:16 **Order #:** 760663 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/07/04			
ANALYTICAL DILUTION: 2.00			
BENZENE	0.50	1.0 U	UG/L
BROMOBENZENE	0.50	1.0 U	UG/L
BROMOCHLOROMETHANE	0.50	1.0 U	UG/L
BROMODICHLOROMETHANE	0.50	1.0 U	UG/L
BROMOFORM	0.50	1.0 U	UG/L
BROMOMETHANE	0.50	1.0 U	UG/L
TERT-BUTYL ALCOHOL	20	88	UG/L
METHYL-TERT-BUTYL ETHER	0.50	42	UG/L
TERT-BUTYLBENZENE	0.50	1.0 U	UG/L
SEC-BUTYLBENZENE	0.50	1.0 U	UG/L
N-BUTYLBENZENE	0.50	1.0 U	UG/L
CARBON TETRACHLORIDE	0.50	1.0 U	UG/L
CHLOROBENZENE	0.50	1.0 U	UG/L
CHLOROETHANE	0.50	1.0 U	UG/L
CHLOROFORM	0.50	1.0 U	UG/L
CHLOROMETHANE	0.50	1.0 U	UG/L
1,2-DIBROMO-3-CHLOROPROPANE	0.50	1.0 U	UG/L
2-CHLOROTOLUENE	0.50	1.0 U	UG/L
4-CHLOROTOLUENE	0.50	1.0 U	UG/L
DIBROMOCHLOROMETHANE	0.50	1.0 U	UG/L
1,2-DIBROMOETHANE	0.50	1.0 U	UG/L
DIBROMOMETHANE	0.50	1.0 U	UG/L
1,2-DICHLOROBENZENE	0.50	1.0 U	UG/L
1,4-DICHLOROBENZENE	0.50	1.0 U	UG/L
1,3-DICHLOROBENZENE	0.50	1.0 U	UG/L
DICHLORODIFLUOROMETHANE	0.50	1.0 U	UG/L
1,1-DICHLOROETHANE	0.50	1.0 U	UG/L
1,2-DICHLOROETHANE	0.50	1.0 U	UG/L
1,1-DICHLOROETHENE	0.50	1.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	0.50	1.0 U	UG/L
CIS-1,2-DICHLOROETHENE	0.50	1.0 U	UG/L
2,2-DICHLOROPROPANE	0.50	1.0 U	UG/L
1,2-DICHLOROPROPANE	0.50	1.0 U	UG/L
1,3-DICHLOROPROPANE	0.50	1.0 U	UG/L
1,1-DICHLOROPROPENE	0.50	1.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	0.50	1.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	0.50	1.0 U	UG/L
ETHYLBENZENE	0.50	1.0 U	UG/L
HEXACHLOROBUTADIENE	0.50	1.0 U	UG/L
ISOPROPYLBENZENE	0.50	1.0 U	UG/L
P-ISOPROPYLTOLUENE	0.50	1.0 U	UG/L
METHYLENE CHLORIDE	0.50	1.0 U	UG/L
NAPHTHALENE	0.50	1.0 U	UG/L
N-PROPYLBENZENE	0.50	1.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-14S #2

Date Sampled : 09/23/04 14:16 **Order #:** 760663 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/07/04			
ANALYTICAL DILUTION: 2.00			
STYRENE	0.50	1.0 U	UG/L
1,1,1,2-TETRACHLOROETHANE	0.50	1.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	0.50	1.0 U	UG/L
TETRACHLOROETHENE	0.50	1.0 U	UG/L
TOLUENE	0.50	1.0 U	UG/L
1,2,4-TRICHLOROBENZENE	0.50	1.0 U	UG/L
1,2,3-TRICHLOROBENZENE	0.50	1.0 U	UG/L
1,1,1-TRICHLOROETHANE	0.50	1.0 U	UG/L
1,1,2-TRICHLOROETHANE	0.50	1.0 U	UG/L
TRICHLOROETHENE	0.50	1.0 U	UG/L
TRICHLOROFLUOROMETHANE	0.50	1.0 U	UG/L
1,2,3-TRICHLOROPROPANE	0.50	1.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	0.50	1.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	0.50	1.0 U	UG/L
VINYL CHLORIDE	0.50	1.0 U	UG/L
M+P-XYLENE	0.50	1.0 U	UG/L
O-XYLENE	0.50	1.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	94	%
1,2-DICHLOROBENZENE-D4	(70 - 130 %)	101	%

COLUMBIA ANALYTICAL SERVICES

Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-9S #3

Date Sampled : 09/23/04 15:12 **Order #:** 760664 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097

ANALYTE	METHOD	PQL	RESULT	UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
AMMONIA	350.1	0.0500	0.0500 U	MG/L	09/28/04	09:16	1.0
BOD-5	405.1	2.00	2.00 U	MG/L	09/24/04	13:59	1.0
BROMIDE	300.0	0.100	1.00 U	MG/L	09/24/04	12:06	10.0
CHEMICAL OXYGEN DEMAND	410.4	5.00	5.00 U	MG/L	09/30/04	13:00	1.0
CHLORIDE	300.0	0.200	32.4	MG/L	09/24/04	12:06	10.0
NITRATE NITROGEN	300.0	0.0500	0.912	MG/L	09/24/04	12:06	10.0
SULFATE	300.0	0.200	16.7	MG/L	09/24/04	12:06	10.0
TOTAL ALKALINITY	310.1	2.00	46.0	MG/L	09/28/04	13:00	1.0
TOTAL DISSOLVED SOLIDS	160.1	10.0	141	MG/L	09/28/04	09:30	1.0
TOTAL HARDNESS	130.2	2.00	51.2	MG/L	10/04/04	09:00	1.0
TOTAL KJELDAHL NITROGEN	351.2	0.200	0.710	MG/L	09/29/04	09:00	1.0
TOTAL ORGANIC CARBON	9060	1.00	2.28	MG/L	09/27/04	19:22	1.0
TOTAL ORGANIC CARBON	9060	1.00	2.36	MG/L	09/27/04	19:31	1.0
TOTAL ORGANIC CARBON	9060	1.00	2.36	MG/L	09/27/04	19:41	1.0
TOTAL ORGANIC CARBON	9060	1.00	2.30	MG/L	09/27/04	19:50	1.0
TOTAL PHENOLICS	9066	0.00500	0.00500 U	MG/L	10/01/04	11:30	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-9S #3

Date Sampled : 09/23/04 15:12 **Order #:** 760664 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097

ANALYTE	METHOD	PQL	RESULT	UNITS	DATE ANALYZED	DILUTION
ARSENIC	6010B	0.0100	0.200 U	MG/L	10/05/04	20.0
CADMIUM	6010B	0.00500	0.0138	MG/L	10/05/04	1.0
CALCIUM	6010B	0.500	16.0	MG/L	10/05/04	1.0
COPPER	6010B	0.0200	0.578	MG/L	10/05/04	1.0
IRON	6010B	0.100	382	MG/L	10/05/04	5.0
LEAD	6010B	0.00500	0.0650	MG/L	10/05/04	1.0
MAGNESIUM	6010B	0.500	25.8	MG/L	10/05/04	1.0
MANGANESE	6010B	0.0100	3.05	MG/L	10/05/04	1.0
MERCURY	7470A	0.000300	0.000300 U	MG/L	09/28/04	1.0
POTASSIUM	6010B	2.00	16.4	MG/L	10/05/04	1.0
SODIUM	6010B	0.500	35.7	MG/L	10/05/04	1.0
ZINC	6010B	0.0200	0.112	MG/L	10/05/04	1.0

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-9S #3

Date Sampled : 09/23/04 15:12 **Order #:** 760664 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

DATE ANALYZED : 10/06/04
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
BENZENE	0.50	0.50 U	UG/L
BROMOBENZENE	0.50	0.50 U	UG/L
BROMOCHLOROMETHANE	0.50	0.50 U	UG/L
BROMODICHLOROMETHANE	0.50	0.50 U	UG/L
BROMOFORM	0.50	0.50 U	UG/L
BROMOMETHANE	0.50	0.50 U	UG/L
TERT-BUTYL ALCOHOL	20	20 U	UG/L
METHYL-TERT-BUTYL ETHER	0.50	0.50 U	UG/L
TERT-BUTYLBENZENE	0.50	0.50 U	UG/L
SEC-BUTYLBENZENE	0.50	0.50 U	UG/L
N-BUTYLBENZENE	0.50	0.50 U	UG/L
CARBON TETRACHLORIDE	0.50	0.50 U	UG/L
CHLOROBENZENE	0.50	0.50 U	UG/L
CHLOROETHANE	0.50	0.50 U	UG/L
CHLOROFORM	0.50	23	UG/L
CHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMO-3-CHLOROPROPANE	0.50	0.50 U	UG/L
2-CHLOROTOLUENE	0.50	0.50 U	UG/L
4-CHLOROTOLUENE	0.50	0.50 U	UG/L
DIBROMOCHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMOETHANE	0.50	0.50 U	UG/L
DIBROMOMETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,4-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,3-DICHLOROBENZENE	0.50	0.50 U	UG/L
DICHLORODIFLUOROMETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHENE	0.50	0.50 U	UG/L
TRANS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
CIS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
2,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,3-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,1-DICHLOROPROPENE	0.50	0.50 U	UG/L
TRANS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
CIS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
ETHYLBENZENE	0.50	0.50 U	UG/L
HEXACHLOROBUTADIENE	0.50	0.50 U	UG/L
ISOPROPYLBENZENE	0.50	0.50 U	UG/L
P-ISOPROPYLTOLUENE	0.50	0.50 U	UG/L
METHYLENE CHLORIDE	0.50	0.50 U	UG/L
NAPHTHALENE	0.50	0.50 U	UG/L
N-PROPYLBENZENE	0.50	0.50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-9S #3

Date Sampled : 09/23/04 15:12 **Order #:** 760664 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/06/04			
ANALYTICAL DILUTION: 1.00			
STYRENE	0.50	0.50 U	UG/L
1,1,1,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
1,1,2,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
TETRACHLOROETHENE	0.50	0.50 U	UG/L
TOLUENE	0.50	0.50 U	UG/L
1,2,4-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,1,1-TRICHLOROETHANE	0.50	0.50 U	UG/L
1,1,2-TRICHLOROETHANE	0.50	0.50 U	UG/L
TRICHLOROETHENE	0.50	0.50 U	UG/L
TRICHLOROFLUOROMETHANE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROPROPANE	0.50	0.50 U	UG/L
1,3,5-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
1,2,4-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
VINYL CHLORIDE	0.50	0.50 U	UG/L
M+P-XYLENE	0.50	0.50 U	UG/L
O-XYLENE	0.50	0.50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	97	%
1,2-DICHLOROBENZENE-D4	(70 - 130 %)	105	%

COLUMBIA ANALYTICAL SERVICES

Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : BWH #4

Date Sampled : 09/23/04 10:20 **Order #:** 760665 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097

ANALYTE	METHOD	PQL	RESULT	UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
AMMONIA	350.1	0.0500	0.348	MG/L	09/28/04	09:16	1.0
BOD-5	405.1	2.00	4.14 J	MG/L	09/24/04	13:59	1.0
BROMIDE	300.0	0.100	1.00 U	MG/L	09/24/04	12:21	10.0
CHEMICAL OXYGEN DEMAND	410.4	5.00	88.6	MG/L	09/30/04	13:00	1.0
CHLORIDE	300.0	0.200	113	MG/L	09/28/04	11:23	40.0
NITRATE NITROGEN	300.0	0.0500	0.500 U	MG/L	09/24/04	12:21	10.0
SULFATE	300.0	0.200	16.3	MG/L	09/24/04	12:21	10.0
TOTAL ALKALINITY	310.1	2.00	257	MG/L	09/28/04	13:00	1.0
TOTAL DISSOLVED SOLIDS	160.1	10.0	482	MG/L	09/28/04	09:30	1.0
TOTAL HARDNESS	130.2	2.00	268	MG/L	10/04/04	09:00	1.0
TOTAL KJELDAHL NITROGEN	351.2	0.200	2.83	MG/L	09/29/04	09:00	1.0
TOTAL ORGANIC CARBON	9060	1.00	63.4	MG/L	09/27/04	20:00	10.0
TOTAL ORGANIC CARBON	9060	1.00	64.2	MG/L	09/27/04	20:09	10.0
TOTAL ORGANIC CARBON	9060	1.00	67.4	MG/L	09/27/04	20:19	10.0
TOTAL ORGANIC CARBON	9060	1.00	68.2	MG/L	09/27/04	20:28	10.0
TOTAL PHENOLICS	9066	0.00500	0.00500 U	MG/L	10/01/04	11:30	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : BWH #4

Date Sampled : 09/23/04 10:20 **Order #:** 760665 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097

ANALYTE	METHOD	PQL	RESULT	UNITS	DATE ANALYZED	DILUTION
ARSENIC	6010B	0.0100	0.0286	MG/L	10/05/04	1.0
CADMIUM	6010B	0.00500	0.00500 U	MG/L	10/05/04	1.0
CALCIUM	6010B	0.500	80.2	MG/L	10/05/04	1.0
COPPER	6010B	0.0200	0.0332	MG/L	10/05/04	1.0
IRON	6010B	0.100	100	MG/L	10/05/04	1.0
LEAD	6010B	0.00500	0.0210	MG/L	10/05/04	1.0
MAGNESIUM	6010B	0.500	21.3	MG/L	10/05/04	1.0
MANGANESE	6010B	0.0100	2.58	MG/L	10/05/04	1.0
MERCURY	7470A	0.000300	0.000300 U	MG/L	09/28/04	1.0
POTASSIUM	6010B	2.00	4.73	MG/L	10/05/04	1.0
SODIUM	6010B	0.500	75.3	MG/L	10/05/04	1.0
ZINC	6010B	0.0200	0.0867	MG/L	10/05/04	1.0

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : BWH #4

Date Sampled : 09/23/04 10:20 **Order #:** 760665 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

DATE ANALYZED : 10/06/04
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
BENZENE	0.50	0.50 U	UG/L
BROMOBENZENE	0.50	0.50 U	UG/L
BROMOCHLOROMETHANE	0.50	0.50 U	UG/L
BROMODICHLOROMETHANE	0.50	0.50 U	UG/L
BROMOFORM	0.50	0.50 U	UG/L
BROMOMETHANE	0.50	0.50 U	UG/L
TERT-BUTYL ALCOHOL	20	20 U	UG/L
METHYL-TERT-BUTYL ETHER	0.50	2.4	UG/L
TERT-BUTYLBENZENE	0.50	0.50 U	UG/L
SEC-BUTYLBENZENE	0.50	0.50 U	UG/L
N-BUTYLBENZENE	0.50	0.50 U	UG/L
CARBON TETRACHLORIDE	0.50	0.50 U	UG/L
CHLOROBENZENE	0.50	0.50 U	UG/L
CHLOROETHANE	0.50	0.50 U	UG/L
CHLOROFORM	0.50	0.50 U	UG/L
CHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMO-3-CHLOROPROPANE	0.50	0.50 U	UG/L
2-CHLOROTOLUENE	0.50	0.50 U	UG/L
4-CHLOROTOLUENE	0.50	0.50 U	UG/L
DIBROMOCHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMOETHANE	0.50	0.50 U	UG/L
DIBROMOMETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,4-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,3-DICHLOROBENZENE	0.50	0.50 U	UG/L
DICHLORODIFLUOROMETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHENE	0.50	0.50 U	UG/L
TRANS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
CIS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
2,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,3-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,1-DICHLOROPROPENE	0.50	0.50 U	UG/L
TRANS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
CIS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
ETHYLBENZENE	0.50	0.50 U	UG/L
HEXACHLOROBUTADIENE	0.50	0.50 U	UG/L
ISOPROPYLBENZENE	0.50	0.50 U	UG/L
P-ISOPROPYLTOLUENE	0.50	0.50 U	UG/L
METHYLENE CHLORIDE	0.50	0.50 U	UG/L
NAPHTHALENE	0.50	0.50 U	UG/L
N-PROPYLBENZENE	0.50	0.50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : BWH #4

Date Sampled : 09/23/04 10:20 **Order #:** 760665 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/06/04			
ANALYTICAL DILUTION: 1.00			
STYRENE	0.50	0.50 U	UG/L
1,1,1,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
1,1,2,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
TETRACHLOROETHENE	0.50	0.50 U	UG/L
TOLUENE	0.50	0.50 U	UG/L
1,2,4-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,1,1-TRICHLOROETHANE	0.50	0.50 U	UG/L
1,1,2-TRICHLOROETHANE	0.50	0.50 U	UG/L
TRICHLOROETHENE	0.50	0.50 U	UG/L
TRICHLOROFLUOROMETHANE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROPROPANE	0.50	0.50 U	UG/L
1,3,5-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
1,2,4-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
VINYL CHLORIDE	0.50	0.50 U	UG/L
M+P-XYLENE	0.50	0.50 U	UG/L
O-XYLENE	0.50	0.50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	93	%
1,2-DICHLOROBENZENE-D4	(70 - 130 %)	110	%

COLUMBIA ANALYTICAL SERVICES

Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : SS-1 #5

Date Sampled : 09/23/04 11:15 **Order #:** 760666 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097

ANALYTE	METHOD	PQL	RESULT	UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
AMMONIA	350.1	0.0500	0.424	MG/L	09/28/04	09:16	1.0
BOD-5	405.1	2.00	2.00 U	MG/L	09/24/04	13:59	1.0
BROMIDE	300.0	0.100	1.00 U	MG/L	09/24/04	13:24	10.0
CHEMICAL OXYGEN DEMAND	410.4	5.00	82.8	MG/L	09/30/04	13:00	1.0
CHLORIDE	300.0	0.200	139	MG/L	09/28/04	11:38	40.0
NITRATE NITROGEN	300.0	0.0500	1.05	MG/L	09/24/04	13:24	10.0
SULFATE	300.0	0.200	15.2	MG/L	09/24/04	13:24	10.0
TOTAL ALKALINITY	310.1	2.00	220	MG/L	09/28/04	13:00	1.0
TOTAL DISSOLVED SOLIDS	160.1	10.0	540	MG/L	09/28/04	09:30	1.0
TOTAL HARDNESS	130.2	2.00	309	MG/L	10/04/04	09:00	1.0
TOTAL KJELDAHL NITROGEN	351.2	0.200	3.67	MG/L	09/29/04	09:00	1.0
TOTAL ORGANIC CARBON	9060	1.00	10.4	MG/L	09/27/04	20:38	1.0
TOTAL ORGANIC CARBON	9060	1.00	10.7	MG/L	09/27/04	20:47	1.0
TOTAL ORGANIC CARBON	9060	1.00	10.8	MG/L	09/27/04	20:57	1.0
TOTAL ORGANIC CARBON	9060	1.00	11.4	MG/L	09/27/04	21:06	1.0
TOTAL PHENOLICS	9066	0.00500	0.00500 U	MG/L	10/01/04	11:30	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : SS-1 #5

Date Sampled : 09/23/04 11:15 **Order #:** 760666 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097

ANALYTE	METHOD	PQL	RESULT	UNITS	DATE ANALYZED	DILUTION
ARSENIC	6010B	0.0100	0.0100 U	MG/L	10/05/04	1.0
CADMIUM	6010B	0.00500	0.00500 U	MG/L	10/05/04	1.0
CALCIUM	6010B	0.500	89.2	MG/L	10/05/04	1.0
COPPER	6010B	0.0200	0.0200 U	MG/L	10/05/04	1.0
IRON	6010B	0.100	10.3	MG/L	10/05/04	1.0
LEAD	6010B	0.00500	0.00500 U	MG/L	10/05/04	1.0
MAGNESIUM	6010B	0.500	30.1	MG/L	10/05/04	1.0
MANGANESE	6010B	0.0100	1.64	MG/L	10/05/04	1.0
MERCURY	7470A	0.000300	0.000300 U	MG/L	09/28/04	1.0
POTASSIUM	6010B	2.00	7.79	MG/L	10/05/04	1.0
SODIUM	6010B	0.500	63.4	MG/L	10/05/04	1.0
ZINC	6010B	0.0200	0.0200 U	MG/L	10/05/04	1.0

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : SS-1 #5

Date Sampled : 09/23/04 11:15 **Order #:** 760666 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/06/04			
ANALYTICAL DILUTION: 1.00			
BENZENE	0.50	0.50 U	UG/L
BROMOBENZENE	0.50	0.50 U	UG/L
BROMOCHLOROMETHANE	0.50	0.50 U	UG/L
BROMODICHLOROMETHANE	0.50	0.50 U	UG/L
BROMOFORM	0.50	0.50 U	UG/L
BROMOMETHANE	0.50	0.50 U	UG/L
TERT-BUTYL ALCOHOL	20	52	UG/L
METHYL-TERT-BUTYL ETHER	0.50	15	UG/L
TERT-BUTYLBENZENE	0.50	0.50 U	UG/L
SEC-BUTYLBENZENE	0.50	0.50 U	UG/L
N-BUTYLBENZENE	0.50	0.50 U	UG/L
CARBON TETRACHLORIDE	0.50	0.50 U	UG/L
CHLOROBENZENE	0.50	0.50 U	UG/L
CHLOROETHANE	0.50	0.50 U	UG/L
CHLOROFORM	0.50	0.50 U	UG/L
CHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMO-3-CHLOROPROPANE	0.50	0.50 U	UG/L
2-CHLOROTOLUENE	0.50	0.50 U	UG/L
4-CHLOROTOLUENE	0.50	0.50 U	UG/L
DIBROMOCHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMOETHANE	0.50	0.50 U	UG/L
DIBROMOMETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,4-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,3-DICHLOROBENZENE	0.50	0.50 U	UG/L
DICHLORODIFLUOROMETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHENE	0.50	0.50 U	UG/L
TRANS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
CIS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
2,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,3-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,1-DICHLOROPROPENE	0.50	0.50 U	UG/L
TRANS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
CIS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
ETHYLBENZENE	0.50	0.50 U	UG/L
HEXACHLOROBUTADIENE	0.50	0.50 U	UG/L
ISOPROPYLBENZENE	0.50	0.50 U	UG/L
P-ISOPROPYLTOLUENE	0.50	0.50 U	UG/L
METHYLENE CHLORIDE	0.50	0.50 U	UG/L
NAPHTHALENE	0.50	0.50 U	UG/L
N-PROPYLBENZENE	0.50	0.50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : SS-1 #5

Date Sampled : 09/23/04 11:15 **Order #:** 760666 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/06/04			
ANALYTICAL DILUTION: 1.00			
STYRENE	0.50	0.50 U	UG/L
1,1,1,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
1,1,2,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
TETRACHLOROETHENE	0.50	0.50 U	UG/L
TOLUENE	0.50	0.50 U	UG/L
1,2,4-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,1,1-TRICHLOROETHANE	0.50	0.50 U	UG/L
1,1,2-TRICHLOROETHANE	0.50	0.50 U	UG/L
TRICHLOROETHENE	0.50	0.50 U	UG/L
TRICHLOROFLUOROMETHANE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROPROPANE	0.50	0.50 U	UG/L
1,3,5-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
1,2,4-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
VINYL CHLORIDE	0.50	0.50 U	UG/L
M+P-XYLENE	0.50	0.50 U	UG/L
O-XYLENE	0.50	0.50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	81	%
1,2-DICHLOROBENZENE-D4	(70 - 130 %)	99	%

COLUMBIA ANALYTICAL SERVICES

Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : SMH #6

Date Sampled : 09/23/04 11:50 **Order #:** 760667 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097

ANALYTE	METHOD	PQL	RESULT	UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
AMMONIA	350.1	0.0500	0.0500 U	MG/L	09/28/04	09:16	1.0
BOD-5	405.1	2.00	2.00 U	MG/L	09/24/04	14:00	1.0
BROMIDE	300.0	0.100	1.00 U	MG/L	09/24/04	13:39	10.0
CHEMICAL OXYGEN DEMAND	410.4	5.00	5.00 U	MG/L	09/30/04	13:00	1.0
CHLORIDE	300.0	0.200	90.9	MG/L	09/24/04	13:39	10.0
NITRATE NITROGEN	300.0	0.0500	5.26	MG/L	09/24/04	13:39	10.0
SULFATE	300.0	0.200	39.3	MG/L	09/24/04	13:39	10.0
TOTAL ALKALINITY	310.1	2.00	154	MG/L	09/28/04	13:00	1.0
TOTAL DISSOLVED SOLIDS	160.1	10.0	363	MG/L	09/28/04	09:30	1.0
TOTAL HARDNESS	130.2	2.00	244	MG/L	10/04/04	09:00	1.0
TOTAL KJELDAHL NITROGEN	351.2	0.200	0.400 U	MG/L	09/29/04	09:00	2.0
TOTAL ORGANIC CARBON	9060	1.00	1.37	MG/L	09/27/04	21:16	1.0
TOTAL ORGANIC CARBON	9060	1.00	1.44	MG/L	09/27/04	21:25	1.0
TOTAL ORGANIC CARBON	9060	1.00	1.45	MG/L	09/27/04	21:34	1.0
TOTAL ORGANIC CARBON	9060	1.00	1.43	MG/L	09/27/04	21:44	1.0
TOTAL PHENOLICS	9066	0.00500	0.00500 U	MG/L	10/01/04	11:30	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : SMH #6

Date Sampled : 09/23/04 11:50 **Order #:** 760667 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097

ANALYTE	METHOD	PQL	RESULT	UNITS	DATE ANALYZED	DILUTION
ARSENIC	6010B	0.0100	0.0100 U	MG/L	10/05/04	1.0
CADMIUM	6010B	0.00500	0.00500 U	MG/L	10/05/04	1.0
CALCIUM	6010B	0.500	55.5	MG/L	10/05/04	1.0
COPPER	6010B	0.0200	0.0200 U	MG/L	10/05/04	1.0
IRON	6010B	0.100	0.100 U	MG/L	10/05/04	1.0
LEAD	6010B	0.00500	0.00500 U	MG/L	10/05/04	1.0
MAGNESIUM	6010B	0.500	26.4	MG/L	10/05/04	1.0
MANGANESE	6010B	0.0100	0.0419	MG/L	10/05/04	1.0
MERCURY	7470A	0.000300	0.000300 U	MG/L	09/28/04	1.0
POTASSIUM	6010B	2.00	2.91	MG/L	10/05/04	1.0
SODIUM	6010B	0.500	34.2	MG/L	10/05/04	1.0
ZINC	6010B	0.0200	0.0200 U	MG/L	10/05/04	1.0

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : SMH #6

Date Sampled : 09/23/04 11:50 **Order #:** 760667 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/06/04			
ANALYTICAL DILUTION: 1.00			
BENZENE	0.50	0.50 U	UG/L
BROMOBENZENE	0.50	0.50 U	UG/L
BROMOCHLOROMETHANE	0.50	0.50 U	UG/L
BROMODICHLOROMETHANE	0.50	0.50 U	UG/L
BROMOFORM	0.50	0.50 U	UG/L
BROMOMETHANE	0.50	0.50 U	UG/L
TERT-BUTYL ALCOHOL	20	20 U	UG/L
METHYL-TERT-BUTYL ETHER	0.50	0.50 U	UG/L
TERT-BUTYLBENZENE	0.50	0.50 U	UG/L
SEC-BUTYLBENZENE	0.50	0.50 U	UG/L
N-BUTYLBENZENE	0.50	0.50 U	UG/L
CARBON TETRACHLORIDE	0.50	0.50 U	UG/L
CHLOROBENZENE	0.50	0.50 U	UG/L
CHLOROETHANE	0.50	0.50 U	UG/L
CHLOROFORM	0.50	1.7	UG/L
CHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMO-3-CHLOROPROPANE	0.50	0.50 U	UG/L
2-CHLOROTOLUENE	0.50	0.50 U	UG/L
4-CHLOROTOLUENE	0.50	0.50 U	UG/L
DIBROMOCHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMOETHANE	0.50	0.50 U	UG/L
DIBROMOMETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,4-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,3-DICHLOROBENZENE	0.50	0.50 U	UG/L
DICHLORODIFLUOROMETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHENE	0.50	0.50 U	UG/L
TRANS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
CIS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
2,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,3-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,1-DICHLOROPROPENE	0.50	0.50 U	UG/L
TRANS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
CIS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
ETHYLBENZENE	0.50	0.50 U	UG/L
HEXACHLOROBUTADIENE	0.50	0.50 U	UG/L
ISOPROPYLBENZENE	0.50	0.50 U	UG/L
P-ISOPROPYLTOLUENE	0.50	0.50 U	UG/L
METHYLENE CHLORIDE	0.50	0.50 U	UG/L
NAPHTHALENE	0.50	0.50 U	UG/L
N-PROPYLBENZENE	0.50	0.50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : SMH #6

Date Sampled : 09/23/04 11:50 **Order #:** 760667 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/06/04			
ANALYTICAL DILUTION: 1.00			
STYRENE	0.50	0.50 U	UG/L
1,1,1,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
1,1,2,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
TETRACHLOROETHENE	0.50	0.50 U	UG/L
TOLUENE	0.50	0.50 U	UG/L
1,2,4-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,1,1-TRICHLOROETHANE	0.50	0.50 U	UG/L
1,1,2-TRICHLOROETHANE	0.50	0.50 U	UG/L
TRICHLOROETHENE	0.50	0.50 U	UG/L
TRICHLOROFLUOROMETHANE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROPROPANE	0.50	0.50 U	UG/L
1,3,5-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
1,2,4-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
VINYL CHLORIDE	0.50	0.50 U	UG/L
M+P-XYLENE	0.50	0.50 U	UG/L
O-XYLENE	0.50	0.50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	90	%
1,2-DICHLOROBENZENE-D4	(70 - 130 %)	105	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : TRIP BLANK

Date Sampled : 09/23/04 **Order #:** 760668 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/06/04			
ANALYTICAL DILUTION: 1.00			
BENZENE	0.50	0.50 U	UG/L
BROMOBENZENE	0.50	0.50 U	UG/L
BROMOCHLOROMETHANE	0.50	0.50 U	UG/L
BROMODICHLOROMETHANE	0.50	0.50 U	UG/L
BROMOFORM	0.50	0.50 U	UG/L
BROMOMETHANE	0.50	0.50 U	UG/L
TERT-BUTYL ALCOHOL	20	20 U	UG/L
METHYL-TERT-BUTYL ETHER	0.50	0.50 U	UG/L
TERT-BUTYLBENZENE	0.50	0.50 U	UG/L
SEC-BUTYLBENZENE	0.50	0.50 U	UG/L
N-BUTYLBENZENE	0.50	0.50 U	UG/L
CARBON TETRACHLORIDE	0.50	0.50 U	UG/L
CHLOROBENZENE	0.50	0.50 U	UG/L
CHLOROETHANE	0.50	0.50 U	UG/L
CHLOROFORM	0.50	0.50 U	UG/L
CHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMO-3-CHLOROPROPANE	0.50	0.50 U	UG/L
2-CHLOROTOLUENE	0.50	0.50 U	UG/L
4-CHLOROTOLUENE	0.50	0.50 U	UG/L
DIBROMOCHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMOETHANE	0.50	0.50 U	UG/L
DIBROMOMETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,4-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,3-DICHLOROBENZENE	0.50	0.50 U	UG/L
DICHLORODIFLUOROMETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHENE	0.50	0.50 U	UG/L
TRANS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
CIS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
2,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,3-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,1-DICHLOROPROPENE	0.50	0.50 U	UG/L
TRANS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
CIS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
ETHYLBENZENE	0.50	0.50 U	UG/L
HEXACHLOROBUTADIENE	0.50	0.50 U	UG/L
ISOPROPYLBENZENE	0.50	0.50 U	UG/L
P-ISOPROPYLTOLUENE	0.50	0.50 U	UG/L
METHYLENE CHLORIDE	0.50	0.50 U	UG/L
NAPHTHALENE	0.50	0.50 U	UG/L
N-PROPYLBENZENE	0.50	0.50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : TRIP BLANK

Date Sampled : 09/23/04 **Order #:** 760668 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/06/04			
ANALYTICAL DILUTION: 1.00			
STYRENE	0.50	0.50 U	UG/L
1,1,1,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
1,1,2,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
TETRACHLOROETHENE	0.50	0.50 U	UG/L
TOLUENE	0.50	0.50 U	UG/L
1,2,4-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,1,1-TRICHLOROETHANE	0.50	0.50 U	UG/L
1,1,2-TRICHLOROETHANE	0.50	0.50 U	UG/L
TRICHLOROETHENE	0.50	0.50 U	UG/L
TRICHLOROFLUOROMETHANE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROPROPANE	0.50	0.50 U	UG/L
1,3,5-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
1,2,4-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
VINYL CHLORIDE	0.50	0.50 U	UG/L
M+P-XYLENE	0.50	0.50 U	UG/L
O-XYLENE	0.50	0.50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	84	%
1,2-DICHLOROBENZENE-D4	(70 - 130 %)	99	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-25 #7

Date Sampled : 09/23/04 13:06 **Order #:** 761351 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

DATE ANALYZED : 10/06/04
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
BENZENE	0.50	0.50 U	UG/L
BROMOBENZENE	0.50	0.50 U	UG/L
BROMOCHLOROMETHANE	0.50	0.50 U	UG/L
BROMODICHLOROMETHANE	0.50	0.50 U	UG/L
BROMOFORM	0.50	0.50 U	UG/L
BROMOMETHANE	0.50	0.50 U	UG/L
TERT-BUTYL ALCOHOL	20	180	UG/L
METHYL-TERT-BUTYL ETHER	0.50	350 E	UG/L
TERT-BUTYLBENZENE	0.50	0.50 U	UG/L
SEC-BUTYLBENZENE	0.50	0.50 U	UG/L
N-BUTYLBENZENE	0.50	0.50 U	UG/L
CARBON TETRACHLORIDE	0.50	0.50 U	UG/L
CHLOROBENZENE	0.50	0.50 U	UG/L
CHLOROETHANE	0.50	0.50 U	UG/L
CHLOROFORM	0.50	0.50 U	UG/L
CHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMO-3-CHLOROPROPANE	0.50	0.50 U	UG/L
2-CHLOROTOLUENE	0.50	0.50 U	UG/L
4-CHLOROTOLUENE	0.50	0.50 U	UG/L
DIBROMOCHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMOETHANE	0.50	0.50 U	UG/L
DIBROMOMETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,4-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,3-DICHLOROBENZENE	0.50	0.50 U	UG/L
DICHLORODIFLUOROMETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHENE	0.50	0.50 U	UG/L
TRANS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
CIS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
2,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,3-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,1-DICHLOROPROPENE	0.50	0.50 U	UG/L
TRANS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
CIS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
ETHYLBENZENE	0.50	0.50 U	UG/L
HEXACHLOROBUTADIENE	0.50	0.50 U	UG/L
ISOPROPYLBENZENE	0.50	0.50 U	UG/L
P-ISOPROPYLTOLUENE	0.50	0.50 U	UG/L
METHYLENE CHLORIDE	0.50	0.50 U	UG/L
NAPHTHALENE	0.50	0.50 U	UG/L
N-PROPYLBENZENE	0.50	0.50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-25 #7

Date Sampled : 09/23/04 13:06 **Order #:** 761351 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/06/04			
ANALYTICAL DILUTION: 1.00			
STYRENE	0.50	0.50 U	UG/L
1,1,1,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
1,1,2,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
TETRACHLOROETHENE	0.50	0.50 U	UG/L
TOLUENE	0.50	0.50 U	UG/L
1,2,4-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,1,1-TRICHLOROETHANE	0.50	0.50 U	UG/L
1,1,2-TRICHLOROETHANE	0.50	0.50 U	UG/L
TRICHLOROETHENE	0.50	0.50 U	UG/L
TRICHLOROFLUOROMETHANE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROPROPANE	0.50	0.50 U	UG/L
1,3,5-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
1,2,4-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
VINYL CHLORIDE	0.50	0.59	UG/L
M+P-XYLENE	0.50	0.50 U	UG/L
O-XYLENE	0.50	0.50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	89	%
1,2-DICHLOROBENZENE-D4	(70 - 130 %)	89	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-25 #7

Date Sampled : 09/23/04 13:06 **Order #:** 761351 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/07/04			
ANALYTICAL DILUTION: 10.00			
BENZENE	0.50	5.0 U	UG/L
BROMOBENZENE	0.50	5.0 U	UG/L
BROMOCHLOROMETHANE	0.50	5.0 U	UG/L
BROMODICHLOROMETHANE	0.50	5.0 U	UG/L
BROMOFORM	0.50	5.0 U	UG/L
BROMOMETHANE	0.50	5.0 U	UG/L
TERT-BUTYL ALCOHOL	20	200 U	UG/L
METHYL-TERT-BUTYL ETHER	0.50	360	UG/L
TERT-BUTYLBENZENE	0.50	5.0 U	UG/L
SEC-BUTYLBENZENE	0.50	5.0 U	UG/L
N-BUTYLBENZENE	0.50	5.0 U	UG/L
CARBON TETRACHLORIDE	0.50	5.0 U	UG/L
CHLOROBENZENE	0.50	5.0 U	UG/L
CHLOROETHANE	0.50	5.0 U	UG/L
CHLOROFORM	0.50	5.0 U	UG/L
CHLOROMETHANE	0.50	5.0 U	UG/L
1,2-DIBROMO-3-CHLOROPROPANE	0.50	5.0 U	UG/L
2-CHLOROTOLUENE	0.50	5.0 U	UG/L
4-CHLOROTOLUENE	0.50	5.0 U	UG/L
DIBROMOCHLOROMETHANE	0.50	5.0 U	UG/L
1,2-DIBROMOETHANE	0.50	5.0 U	UG/L
DIBROMOMETHANE	0.50	5.0 U	UG/L
1,2-DICHLOROBENZENE	0.50	5.0 U	UG/L
1,4-DICHLOROBENZENE	0.50	5.0 U	UG/L
1,3-DICHLOROBENZENE	0.50	5.0 U	UG/L
DICHLORODIFLUOROMETHANE	0.50	5.0 U	UG/L
1,1-DICHLOROETHANE	0.50	5.0 U	UG/L
1,2-DICHLOROETHANE	0.50	5.0 U	UG/L
1,1-DICHLOROETHENE	0.50	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	0.50	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	0.50	5.0 U	UG/L
2,2-DICHLOROPROPANE	0.50	5.0 U	UG/L
1,2-DICHLOROPROPANE	0.50	5.0 U	UG/L
1,3-DICHLOROPROPANE	0.50	5.0 U	UG/L
1,1-DICHLOROPROPENE	0.50	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	0.50	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	0.50	5.0 U	UG/L
ETHYLBENZENE	0.50	5.0 U	UG/L
HEXACHLOROBUTADIENE	0.50	5.0 U	UG/L
ISOPROPYLBENZENE	0.50	5.0 U	UG/L
P-ISOPROPYLTOLUENE	0.50	5.0 U	UG/L
METHYLENE CHLORIDE	0.50	5.0 U	UG/L
NAPHTHALENE	0.50	5.0 U	UG/L
N-PROPYLBENZENE	0.50	5.0 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Shaw/Emcon/OWT
Project Reference: MAMARONECK
Client Sample ID : MW-25 #7

Date Sampled : 09/23/04 13:06 **Order #:** 761351 **Sample Matrix:** WATER
Date Received: 09/24/04 **Submission #:** R2423097 **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/07/04			
ANALYTICAL DILUTION: 10.00			
STYRENE	0.50	5.0 U	UG/L
1,1,1,2-TETRACHLOROETHANE	0.50	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	0.50	5.0 U	UG/L
TETRACHLOROETHENE	0.50	5.0 U	UG/L
TOLUENE	0.50	5.0 U	UG/L
1,2,4-TRICHLOROBENZENE	0.50	5.0 U	UG/L
1,2,3-TRICHLOROBENZENE	0.50	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	0.50	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	0.50	5.0 U	UG/L
TRICHLOROETHENE	0.50	5.0 U	UG/L
TRICHLOROFLUOROMETHANE	0.50	5.0 U	UG/L
1,2,3-TRICHLOROPROPANE	0.50	5.0 U	UG/L
1,3,5-TRIMETHYLBENZENE	0.50	5.0 U	UG/L
1,2,4-TRIMETHYLBENZENE	0.50	5.0 U	UG/L
VINYL CHLORIDE	0.50	5.0 U	UG/L
M+P-XYLENE	0.50	5.0 U	UG/L
O-XYLENE	0.50	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	79	%
1,2-DICHLOROBENZENE-D4	(70 - 130 %)	102	%

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: R2423097
Client: Shaw/Emcon/OWT
MAMARONECK

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
MERCURY	0.000300 U	0.00105	0.00100	105	80 - 120	108721	MG/L
ARSENIC	0.0100 U	0.0377	0.0400	94	80 - 120	108997	MG/L
CADMIUM	0.00500 U	0.0520	0.0500	104	80 - 120	108997	MG/L
CALCIUM	0.500 U	2.08	2.00	104	80 - 120	108997	MG/L
COPPER	0.0200 U	0.265	0.250	106	80 - 120	108997	MG/L
IRON	0.100 U	1.06	1.00	106	80 - 120	108997	MG/L
LEAD	0.00500 U	0.511	0.500	102	80 - 120	108997	MG/L
MAGNESIUM	0.500 U	1.98	2.00	99	80 - 120	108997	MG/L
MANGANESE	0.0100 U	0.510	0.500	102	80 - 120	108997	MG/L
ZINC	0.0200 U	0.536	0.500	107	80 - 120	108997	MG/L

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: R2423097
Client: Shaw/Emcon/OWT
MAMARONECK

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
IRON	0.100 U	1.11	1.00	111	80 - 120	109007	MG/L
POTASSIUM	2.00 U	21.4	20.0	107	80 - 120	109007	MG/L
SODIUM	0.500 U	21.8	20.0	109	80 - 120	109007	MG/L
BOD-5	2.00 U	211	200	106	83 - 114	108593	MG/L
CHLORIDE	0.200 U	2.00	2.00	100	90 - 110	108638	MG/L
SULFATE	0.200 U	1.97	2.00	99	90 - 110	108639	MG/L
BROMIDE	0.100 U	1.00	1.00	100	90 - 110	108640	MG/L
NITRATE NITROGEN	0.0500 U	0.985	1.00	99	90 - 110	108641	MG/L
TOTAL ORGANIC CARBON	1.00 U	10.1	10.0	101	82 - 111	108668	MG/L
CHLORIDE	0.200 U	2.09	2.00	105	90 - 110	108671	MG/L

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: R2423097
Client: Shaw/Emcon/OWT
MAMARONECK

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
TOTAL DISSOLVED SOLIDS	10.0 U	890	901	99	80 - 120	108698	MG/L
TOTAL KJELDAHL NITROGEN	0.200 U	2.25	2.50	90	63 - 117	108703	MG/L
TOTAL ALKALINITY	2.00 U	19.7	20.0	99	92 - 109	108704	MG/L
AMMONIA	0.0500 U	0.507	0.500	101	90 - 110	108706	MG/L
CHLORIDE	0.200 U	2.09	2.00	104	90 - 110	108719	MG/L
CHEMICAL OXYGEN DEMAND	5.00 U	22.0	25.0	88	75 - 124	108795	MG/L
TOTAL PHENOLICS	0.00500 U	0.0381	0.0400	95	84 - 114	108831	MG/L
TOTAL HARDNESS	2.00 U	19.9	20.0	100	91 - 114	108871	MG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 524.2 DRINKING WATER VOLATILES

LABORATORY CONTROL SAMPLE SUMMARY

REFERENCE ORDER #: 767327 ANALYTICAL RUN # : 109455

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 10/ 6/2004			
ANALYTICAL DILUTION: 1.0			
BENZENE	2.00	88	70 - 130
BROMOBENZENE	2.00	92	70 - 130
BROMOCHLOROMETHANE	2.00	77	70 - 130
BROMODICHLOROMETHANE	2.00	89	70 - 130
BROMOFORM	2.00	82	70 - 130
BROMOMETHANE	2.00	98	70 - 130
TERT-BUTYL ALCOHOL	40.0	91	70 - 130
METHYL-TERT-BUTYL ETHER	2.00	90	70 - 130
TERT-BUTYLBENZENE	2.00	87	70 - 130
SEC-BUTYLBENZENE	2.00	88	70 - 130
N-BUTYLBENZENE	2.00	80	70 - 130
CARBON TETRACHLORIDE	2.00	88	70 - 130
CHLOROBENZENE	2.00	90	70 - 130
CHLOROETHANE	2.00	88	70 - 130
CHLOROFORM	2.00	91	70 - 130
CHLOROMETHANE	2.00	95	70 - 130
1,2-DIBROMO-3-CHLOROPROPANE	2.00	96	70 - 130
2-CHLOROTOLUENE	2.00	94	70 - 130
4-CHLOROTOLUENE	2.00	94	70 - 130
DIBROMOCHLOROMETHANE	2.00	85	70 - 130
1,2-DIBROMOETHANE	2.00	89	70 - 130
DIBROMOMETHANE	2.00	88	70 - 130
1,2-DICHLOROBENZENE	2.00	91	70 - 130
1,4-DICHLOROBENZENE	2.00	95	70 - 130
1,3-DICHLOROBENZENE	2.00	95	70 - 130
DICHLORODIFLUOROMETHANE	2.00	84	70 - 130
1,1-DICHLOROETHANE	2.00	88	70 - 130
1,2-DICHLOROETHANE	2.00	88	70 - 130
1,1-DICHLOROETHENE	2.00	100	70 - 130
TRANS-1,2-DICHLOROETHENE	2.00	88	70 - 130
CIS-1,2-DICHLOROETHENE	2.00	87	70 - 130
2,2-DICHLOROPROPANE	2.00	90	70 - 130
1,2-DICHLOROPROPANE	2.00	87	70 - 130
1,3-DICHLOROPROPANE	2.00	89	70 - 130
1,1-DICHLOROPROPENE	2.00	85	70 - 130
TRANS-1,3-DICHLOROPROPENE	2.00	86	70 - 130
CIS-1,3-DICHLOROPROPENE	2.00	82	70 - 130
ETHYLBENZENE	2.00	82	70 - 130
HEXACHLOROBUTADIENE	2.00	117	70 - 130
ISOPROPYLBENZENE	2.00	89	70 - 130
P-ISOPROPYLTOLUENE	2.00	90	70 - 130

:OLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 524.2 DRINKING WATER VOLATILES

LABORATORY CONTROL SAMPLE SUMMARY

REFERENCE ORDER #: 767327 ANALYTICAL RUN # : 109455

DATE ANALYZED : 10/ 6/2004
ANALYTICAL DILUTION: 1.0

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
METHYLENE CHLORIDE	2.00	91	70 - 130
NAPHTHALENE	2.00	89	70 - 130
N-PROPYLBENZENE	2.00	90	70 - 130
STYRENE	2.00	80	70 - 130
1,1,1,2-TETRACHLOROETHANE	2.00	89	70 - 130
1,1,2,2-TETRACHLOROETHANE	2.00	92	70 - 130
TETRACHLOROETHENE	2.00	86	70 - 130
TOLUENE	2.00	89	70 - 130
1,2,4-TRICHLOROBENZENE	2.00	95	70 - 130
1,2,3-TRICHLOROBENZENE	2.00	95	70 - 130
1,1,1-TRICHLOROETHANE	2.00	82	70 - 130
1,1,2-TRICHLOROETHANE	2.00	89	70 - 130
TRICHLOROETHENE	2.00	88	70 - 130
TRICHLOROFLUOROMETHANE	2.00	88	70 - 130
1,2,3-TRICHLOROPROPANE	2.00	97	70 - 130
1,3,5-TRIMETHYLBENZENE	2.00	93	70 - 130
1,2,4-TRIMETHYLBENZENE	2.00	83	70 - 130
VINYL CHLORIDE	2.00	93	70 - 130
M+P-XYLENE	4.00	85	70 - 130
O-XYLENE	2.00	87	70 - 130

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 524.2 DRINKING WATER VOLATILES

LABORATORY CONTROL SAMPLE SUMMARY

REFERENCE ORDER #: 767329 ANALYTICAL RUN # : 109455

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 10/ 7/2004			
ANALYTICAL DILUTION: 1.0			
BENZENE	2.00	108	70 - 130
BROMOBENZENE	2.00	108	70 - 130
BROMOCHLOROMETHANE	2.00	101	70 - 130
BROMODICHLOROMETHANE	2.00	104	70 - 130
BROMOFORM	2.00	113	70 - 130
BROMOMETHANE	2.00	102	70 - 130
TERT-BUTYL ALCOHOL	40.0	108	70 - 130
METHYL-TERT-BUTYL ETHER	2.00	101	70 - 130
TERT-BUTYLBENZENE	2.00	90	70 - 130
SEC-BUTYLBENZENE	2.00	90	70 - 130
N-BUTYLBENZENE	2.00	92	70 - 130
CARBON TETRACHLORIDE	2.00	104	70 - 130
CHLOROBENZENE	2.00	105	70 - 130
CHLOROETHANE	2.00	98	70 - 130
CHLOROFORM	2.00	109	70 - 130
CHLOROMETHANE	2.00	111	70 - 130
1,2-DIBROMO-3-CHLOROPROPANE	2.00	90	70 - 130
2-CHLOROTOLUENE	2.00	106	70 - 130
4-CHLOROTOLUENE	2.00	104	70 - 130
DIBROMOCHLOROMETHANE	2.00	107	70 - 130
1,2-DIBROMOETHANE	2.00	100	70 - 130
DIBROMOMETHANE	2.00	112	70 - 130
1,2-DICHLOROBENZENE	2.00	109	70 - 130
1,4-DICHLOROBENZENE	2.00	108	70 - 130
1,3-DICHLOROBENZENE	2.00	110	70 - 130
DICHLORODIFLUOROMETHANE	2.00	110	70 - 130
1,1-DICHLOROETHANE	2.00	108	70 - 130
1,2-DICHLOROETHANE	2.00	99	70 - 130
1,1-DICHLOROETHENE	2.00	118	70 - 130
TRANS-1,2-DICHLOROETHENE	2.00	106	70 - 130
CIS-1,2-DICHLOROETHENE	2.00	100	70 - 130
2,2-DICHLOROPROPANE	2.00	106	70 - 130
1,2-DICHLOROPROPANE	2.00	100	70 - 130
1,3-DICHLOROPROPANE	2.00	105	70 - 130
1,1-DICHLOROPROPENE	2.00	96	70 - 130
TRANS-1,3-DICHLOROPROPENE	2.00	103	70 - 130
CIS-1,3-DICHLOROPROPENE	2.00	99	70 - 130
ETHYLBENZENE	2.00	93	70 - 130
HEXACHLOROBUTADIENE	2.00	106	70 - 130
ISOPROPYLBENZENE	2.00	95	70 - 130
P-ISOPROPYLTOLUENE	2.00	99	70 - 130

OLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 524.2 DRINKING WATER VOLATILES

LABORATORY CONTROL SAMPLE SUMMARY

REFERENCE ORDER #: 767329 ANALYTICAL RUN # : 109455

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 10/ 7/2004			
ANALYTICAL DILUTION: 1.0			
METHYLENE CHLORIDE	2.00	113	70 - 130
NAPHTHALENE	2.00	90	70 - 130
N-PROPYLBENZENE	2.00	100	70 - 130
STYRENE	2.00	90	70 - 130
1,1,1,2-TETRACHLOROETHANE	2.00	103	70 - 130
1,1,2,2-TETRACHLOROETHANE	2.00	105	70 - 130
TETRACHLOROETHENE	2.00	104	70 - 130
TOLUENE	2.00	102	70 - 130
1,2,4-TRICHLOROBENZENE	2.00	99	70 - 130
1,2,3-TRICHLOROBENZENE	2.00	97	70 - 130
1,1,1-TRICHLOROETHANE	2.00	104	70 - 130
1,1,2-TRICHLOROETHANE	2.00	110	70 - 130
TRICHLOROETHENE	2.00	106	70 - 130
TRICHLOROFLUOROMETHANE	2.00	107	70 - 130
1,2,3-TRICHLOROPROPANE	2.00	127	70 - 130
1,3,5-TRIMETHYLBENZENE	2.00	104	70 - 130
1,2,4-TRIMETHYLBENZENE	2.00	99	70 - 130
VINYL CHLORIDE	2.00	103	70 - 130
M+P-XYLENE	4.00	94	70 - 130
O-XYLENE	2.00	106	70 - 130

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 767326 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/06/04			
ANALYTICAL DILUTION: 1.00			
BENZENE	0.50	0.50 U	UG/L
BROMOBENZENE	0.50	0.50 U	UG/L
BROMOCHLOROMETHANE	0.50	0.50 U	UG/L
BROMODICHLOROMETHANE	0.50	0.50 U	UG/L
BROMOFORM	0.50	0.50 U	UG/L
BROMOMETHANE	0.50	0.50 U	UG/L
TERT-BUTYL ALCOHOL	20	20 U	UG/L
METHYL-TERT-BUTYL ETHER	0.50	0.50 U	UG/L
TERT-BUTYLBENZENE	0.50	0.50 U	UG/L
SEC-BUTYLBENZENE	0.50	0.50 U	UG/L
N-BUTYLBENZENE	0.50	0.50 U	UG/L
CARBON TETRACHLORIDE	0.50	0.50 U	UG/L
CHLOROBENZENE	0.50	0.50 U	UG/L
CHLOROETHANE	0.50	0.50 U	UG/L
CHLOROFORM	0.50	0.50 U	UG/L
CHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMO-3-CHLOROPROPANE	0.50	0.50 U	UG/L
2-CHLOROTOLUENE	0.50	0.50 U	UG/L
4-CHLOROTOLUENE	0.50	0.50 U	UG/L
DIBROMOCHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMOETHANE	0.50	0.50 U	UG/L
DIBROMOMETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,4-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,3-DICHLOROBENZENE	0.50	0.50 U	UG/L
DICHLORODIFLUOROMETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHENE	0.50	0.50 U	UG/L
TRANS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
CIS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
2,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,3-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,1-DICHLOROPROPENE	0.50	0.50 U	UG/L
TRANS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
CIS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
ETHYLBENZENE	0.50	0.50 U	UG/L
HEXACHLOROBUTADIENE	0.50	0.50 U	UG/L
ISOPROPYLBENZENE	0.50	0.50 U	UG/L
P-ISOPROPYLTOLUENE	0.50	0.50 U	UG/L
METHYLENE CHLORIDE	0.50	0.50 U	UG/L
NAPHTHALENE	0.50	0.50 U	UG/L
N-PROPYLBENZENE	0.50	0.50 U	UG/L
STYRENE	0.50	0.50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 767326 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 109455

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/06/04			
ANALYTICAL DILUTION: 1.00			
1,1,1,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
1,1,2,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
TETRACHLOROETHENE	0.50	0.50 U	UG/L
TOLUENE	0.50	0.50 U	UG/L
1,2,4-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,1,1-TRICHLOROETHANE	0.50	0.50 U	UG/L
1,1,2-TRICHLOROETHANE	0.50	0.50 U	UG/L
TRICHLOROETHENE	0.50	0.50 U	UG/L
TRICHLOROFLUOROMETHANE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROPROPANE	0.50	0.50 U	UG/L
1,3,5-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
1,2,4-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
VINYL CHLORIDE	0.50	0.50 U	UG/L
M+P-XYLENE	0.50	0.50 U	UG/L
O-XYLENE	0.50	0.50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	92	%
1,2-DICHLOROBENZENE-D4	(70 - 130 %)	104	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 767328 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 109455

DATE ANALYZED : 10/07/04
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
BENZENE	0.50	0.50 U	UG/L
BROMOBENZENE	0.50	0.50 U	UG/L
BROMOCHLOROMETHANE	0.50	0.50 U	UG/L
BROMODICHLOROMETHANE	0.50	0.50 U	UG/L
BROMOFORM	0.50	0.50 U	UG/L
BROMOMETHANE	0.50	0.50 U	UG/L
TERT-BUTYL ALCOHOL	20	20 U	UG/L
METHYL-TERT-BUTYL ETHER	0.50	0.50 U	UG/L
TERT-BUTYLBENZENE	0.50	0.50 U	UG/L
SEC-BUTYLBENZENE	0.50	0.50 U	UG/L
N-BUTYLBENZENE	0.50	0.50 U	UG/L
CARBON TETRACHLORIDE	0.50	0.50 U	UG/L
CHLOROBENZENE	0.50	0.50 U	UG/L
CHLOROETHANE	0.50	0.50 U	UG/L
CHLOROFORM	0.50	0.50 U	UG/L
CHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMO-3-CHLOROPROPANE	0.50	0.50 U	UG/L
2-CHLOROTOLUENE	0.50	0.50 U	UG/L
4-CHLOROTOLUENE	0.50	0.50 U	UG/L
DIBROMOCHLOROMETHANE	0.50	0.50 U	UG/L
1,2-DIBROMOETHANE	0.50	0.50 U	UG/L
DIBROMOMETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,4-DICHLOROBENZENE	0.50	0.50 U	UG/L
1,3-DICHLOROBENZENE	0.50	0.50 U	UG/L
DICHLORODIFLUOROMETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHANE	0.50	0.50 U	UG/L
1,2-DICHLOROETHANE	0.50	0.50 U	UG/L
1,1-DICHLOROETHENE	0.50	0.50 U	UG/L
TRANS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
CIS-1,2-DICHLOROETHENE	0.50	0.50 U	UG/L
2,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,2-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,3-DICHLOROPROPANE	0.50	0.50 U	UG/L
1,1-DICHLOROPROPENE	0.50	0.50 U	UG/L
TRANS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
CIS-1,3-DICHLOROPROPENE	0.50	0.50 U	UG/L
ETHYLBENZENE	0.50	0.50 U	UG/L
HEXACHLOROBUTADIENE	0.50	0.50 U	UG/L
ISOPROPYLBENZENE	0.50	0.50 U	UG/L
P-ISOPROPYLTOLUENE	0.50	0.50 U	UG/L
METHYLENE CHLORIDE	0.50	0.50 U	UG/L
NAPHTHALENE	0.50	0.50 U	UG/L
N-PROPYLBENZENE	0.50	0.50 U	UG/L
STYRENE	0.50	0.50 U	UG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 524.2 DRINKING WATER VOLATIL
Reported: 10/19/04

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 767328 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 109455

DATE ANALYZED : 10/07/04
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
1,1,1,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
1,1,2,2-TETRACHLOROETHANE	0.50	0.50 U	UG/L
TETRACHLOROETHENE	0.50	0.50 U	UG/L
TOLUENE	0.50	0.50 U	UG/L
1,2,4-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROBENZENE	0.50	0.50 U	UG/L
1,1,1-TRICHLOROETHANE	0.50	0.50 U	UG/L
1,1,2-TRICHLOROETHANE	0.50	0.50 U	UG/L
TRICHLOROETHENE	0.50	0.50 U	UG/L
TRICHLOROFLUOROMETHANE	0.50	0.50 U	UG/L
1,2,3-TRICHLOROPROPANE	0.50	0.50 U	UG/L
1,3,5-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
1,2,4-TRIMETHYLBENZENE	0.50	0.50 U	UG/L
VINYL CHLORIDE	0.50	0.50 U	UG/L
M+P-XYLENE	0.50	0.50 U	UG/L
O-XYLENE	0.50	0.50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(70 - 130 %)	90	%
1,2-DICHLOROBENZENE-D4	(70 - 130 %)	101	%

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CAS Contact

Project Name: Mamaroneck	Project Number: 791158-01
Project Manager: Brian Nichols	Report CC
Company/Address: Shaw Emcon/OWT, Inc. 4 Commerce Drive South Harriman, NY 10926	
Phone # 845 492 3100	FAX# 845 492 3101
Sampler's Signature: [signature]	Sampler's Printed Name: Brian Nichols

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ CLP	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ CLP	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES ☐ 8081 ☐ 608 ☐ CLP	PCB's ☐ 8082 ☐ 608 ☐ CLP	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	VOA's 524.2	VOA's TOC							REMARKS/ ALTERNATE DESCRIPTION
BWH Set # 4	[redacted]	9-23-04	1020	GW	13						1		3	3	1	1	1	1	1	1	
SS-1 Set # 5		↓	1115	GW	13						1		3	3	1	1	1	1	1	1	
SMH Set # 6		↓	1150	GW	13						1		3	3	1	1	1	1	1	1	
MW-14S Set # 2		↓	1416	GW	13						1		3	3	1	1	1	1	1	1	
MW-4S Set # 3		↓	1512	GW	13						1		3	3	1	1	1	1	1	1	
MW-3S Set # 1		↓	1335	GW	10						1			3	1	1	1	1	1	1	
MW-2S Set # 7		9-23-04	1306	GW	3								3								
Trip Blank		—	—	DI	3								3								

Preservative: 0. NONE 1. HCL 2. HNO3 3. H_2SO_4 4. NaOH 5. Zn. Acetate 6. MeOH 7. $NaHSO_4$ 8. Other

SPECIAL INSTRUCTIONS/COMMENTS
Metals

- NYSDEC Part 360 Routine Parameters
- Total metals - Arsenic, Cadmium, Copper, Lead, Mercury, Zinc
- VOC's

See QAPP ☐

TURNAROUND REQUIREMENTS
___ RUSH (SURCHARGES APPLY)
___ 24 hr ___ 48 hr ___ 5 day
X STANDARD
REQUESTED FAX DATE ______
REQUESTED REPORT DATE ______

REPORT REQUIREMENTS
___ I. Results Only
___ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data
___ V. Specialized Forms / Custom Report
Edata ___ Yes ___ No

INVOICE INFORMATION
PO#
BILL TO:

SUBMISSION #: K2423097

SAMPLE RECEIPT: CONDITION/COOLER TEMP: 1.4°C
CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: [signature]	Signature: [signature]	Signature	Signature	Signature	Signature
Printed Name: Brian Nichols	Printed Name: Gregory O. Emerman	Printed Name	Printed Name	Printed Name	Printed Name
Firm: Shaw Emcon OWT	Firm: CAS	Firm	Firm	Firm	Firm
Date/Time: 9-23-04 1800	Date/Time: 9/24/04 940	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Lab Copy; Pink - Retained By Client

Cooler Receipt And Preservation Check Form

Project/Client Shaw Submission Number R24-23097.

Cooler received on 9-24-04 by: KE COURIER: CAS (UPS) FEDEX CD&L CLIENT

1.	Were custody seals on outside of cooler?	(YES)	NO			
2.	Were custody papers properly filled out (ink, signed, etc.)?	(YES)	NO			
3.	Did all bottles arrive in good condition (unbroken)?	(YES)	NO			
4.	Did any VOA vials have significant air bubbles?	YES	(NO)	N/A		
5.	Were **Ice or Ice packs** present?	(YES)	NO			
6.	Where did the bottles originate?	(CAS/ROC)	CLIENT			
7.	Temperature of cooler(s) upon receipt:	1°	4°			
	Is the temperature within 0° - 6° C?:	(Yes)	(Yes)	Yes	Yes	Yes
	If No, Explain Below	No	No	No	No	No

Date/Time Temperatures Taken: 9-24-04 @ 9:56

Thermometer ID: 161 or (IR GUN) Reading From: Temp Blank or (Sample Bottle)

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 9/24/04 by: RMC

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
2.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
3.	Were correct containers used for the tests indicated?	(YES)	NO
4.	Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated		(N/A)

Explain any discrepancies: _____

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO_3	X				
2	H_2SO_4	X				
Residual Chlorine (+/-)	for TCN & Phenol	X				
5-9**	P/PCBs (608 only)					

YES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH _____

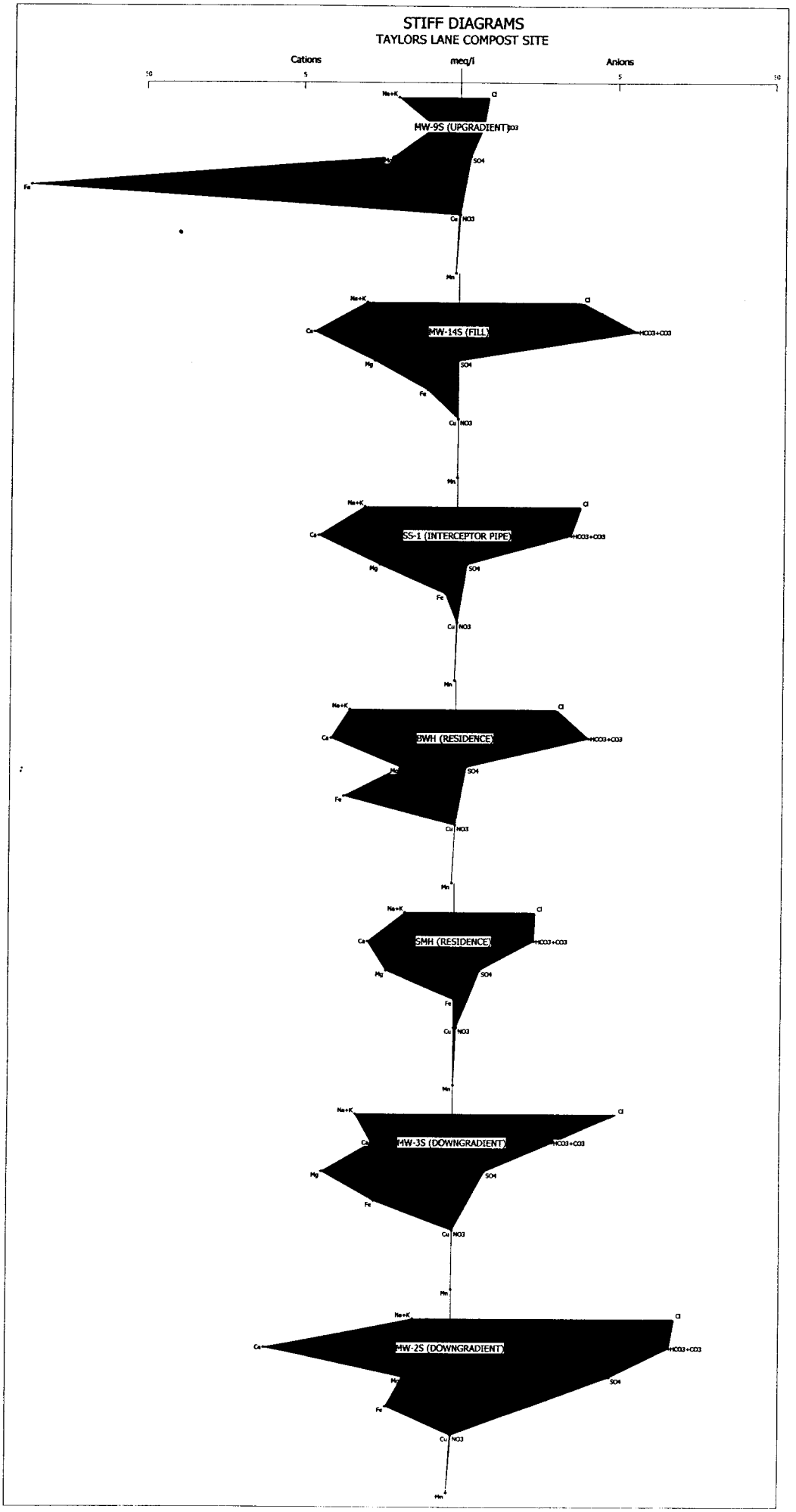
**If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:

APPENDIX C

STIFF DIAGRAMS


STIFF DIAGRAMS
TAYLORS LANE COMPOST SITE
Cations
meq/l
Anions
10
5
5
10
Na+K
Cl
MW-9S (UPGRADIENT)
HCO3+CO3
SO4
Fe
Ca
NO3
Mn
MW-14S (FILL)
Mg
SS-1 (INTERCEPTOR PIPE)
Cu
BWH (RESIDENCE)
SMH (RESIDENCE)
MW-3S (DOWNGRADIENT)
MW-2S (DOWNGRADIENT)

APPENDIX D

NYSDEC REPORT

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
REGION 3 OFFICE

Leachate Investigation
at
Mamaroneck Taylor Lane Leaf Compost Site
Site Number 360021

December 2004

Leachate Investigation at Mamaroneck Taylor Lane Leaf Compost Site (Site Number 360021)

Sampling carried out by

Steven Parisio and James Schreyer
New York State Department of Environmenatal Conservation
Division of Environmental Remediation
Region 3 (New Paltz) Office

and

Karl Obermeyer, New York State Department of Health
Monticello Office

Report prepared by Steven Parisio

December 13, 2004

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II. Methods

III. Results & Discussion

IV. Conclusions & Recommendations

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Appendix A. Laboratory Report

Appendix B. Background Levels of Heavy Metals in Soils of the Lower Hudson Valley

Executive Summary

The Mamaroneck Taylor Lane Compost Site is a former landfill located in the Village of Mamaroneck, Westchester County and is listed as a "Class 2" site on NYSDEC's Registry of Inactive Hazardous Waste Disposal Sites. After the site was capped, problems developed with uncontrolled discharges of leachate onto adjacent properties. On November 2, 2004, staff from NYSDEC and NYSDOH collected samples of water, sediments and soil to assess the potential impact of these discharges on public health and environmental quality. Specifically, samples were collected to determine whether orange-colored iron flocculate deposits contain elevated concentrations of arsenic similar to what has been found in similar deposits at a number of solid waste landfills. Sample collection points included the interior (basement) of a residence adjacent to the landfill, the lawn of a second adjacent residence, a stormwater drain entering a catch basin on Taylor Lane, a stream flowing into Magid Pond, and soil in a seep area along the shoulder of Taylor Lane. All samples exhibited arsenic concentrations which exceed the NYSDEC recommended soil cleanup objective (7.5 mg/kg). In three of the samples, arsenic exceeded the range characteristic of natural soils in the lower Hudson Valley region (2.2 - 23.1 mg/kg) and in two of the samples, arsenic exceeded the (aquatic life) "severe effects level" for sediments (33.0 mg/Kg). Water samples from these locations did not indicate the presence of high strength or concentrated leachate. It is recommended that these results be evaluated by the Department of Health to determine if arsenic found in sediments and soils on the residential properties poses a theat to public health. It is also recommended that an evaluation be done by the Division of Fish, Wildlife & Marine Resources to determine if arsenic in sediment poses a threat to wildlife. Regardless of the outcome of these evaluations, it is apparent that the landfill cap is not effective in preventing leachate generation and migration. The Village will be required to evaluate and implement further remedial measures.

I. Background:

The "Mamaroneck Taylor Lane Leaf Compost Site" is a former sand and gravel mine and solid waste management facility located on an eight acre property in the Village of Mamaroneck, Westchester County. Waste management activities carried out at the site have included composting of leaves and disposal of various wastes including land clearing debris, municipal solid waste, industrial waste, drums and incinerator ash. The site was placed on the NYSDEC's Registry of Inactive Hazardous Waste Disposal Sites in December of 1988 as a "Class 2" site. The Village entered into an Order on Consent in August of 1989 and carried out a Remedial Investigation/Feasibility Study. The alternative selected for remediation of the site was construction of a 6 NYCRR Part 360 cap with a contingency of adding a slurry wall and containment wells if groundwater monitoring indicate that capping is not effective in preventing contaminant migration. A Record of Decision was issued in December of 1993, construction of the cap was completed in the spring of 1997, and the site is now in the monitoring and maintenance phase.

Subsequent to capping of the site, problems developed with migration of leachate onto adjacent

residential properties. At one residence, leachate or leachate-impacted groundwater is infiltrating into the basement where it is collecting in a sump. Operation of a sump pump is required to prevent flooding of the basement. At a second residence, leachate is discharging to the surface and ponding on the front and side lawn areas. In both cases, the discharge can be identified as leachate or leachate impacted groundwater based on the presence of an orange-colored ferric hydroxide flocculate or "iron floc" which is characteristic of leachate discharge zones downgradient of many solid waste landfills. Evidence of leachate discharge (iron floc) is also present at other points downgradient of the landfill including Magid Pond, a catch basin on Taylor Lane, several flowing (artesian) monitoring wells, and a seepage zone along the Taylor Lane road shoulder.

Recent experience with monitoring of landfills by the NYSDEC/Region 3 Solid Waste Program indicates that iron floc deposits associated with landfill leachate discharge zones often contain arsenic at concentrations which exceed levels of concern applicable to soils or sediments. If present at the Mamaroneck Taylor Lane Compost Site, such elevated concentrations of arsenic could pose a risk to public health or wildlife habitat because of the site's proximity to sensitive environmental receptors including residential properties and surface water bodies. To address this specific concern, a limited sampling event was carried out on November 2, 2004, by staff from NYSDEC and the New York State Department of Health, as described below. This sampling is intended to provide data which supplements that obtained through routine monitoring carried out by the Village.

II. Methods:

Samples were collected from five locations along the perimeter of the site. At each location, one aqueous sample and one solid sample was collected. Sample location points are shown in Figure 1, which is a digital (infrared) orthophoto of the site and its surrounding area. The orthophoto was downloaded from the "New York State GIS Clearinghouse" website (http://www.nysgis.state.ny.us) and represents conditions in the period between year 2000 and 2003. Sample collection points are described below and are illustrated in Figures 2 through 8.

Sample 1 was a liquid sample collected from a sump in the basement of a residence on Shadow Lane, adjacent to the landfill, on its eastern perimeter. Sample 2 consisted of iron floc deposits removed from the sump by the homeowner using a wet/dry vacuum dedicated for that purpose. Since the homeowner had cleaned out the sump just prior to our visit, the floc deposits were sampled from the vacuum. Prior to placing the sample into the sample jar, a plastic pail was used to allow partial settling of the suspended floc deposits and concentration of the solids by decanting the supernatant liquid.

Sample 3 was a liquid sample collected from a ponded area on the lawn of a residence located on Shadow Lane at the southeast perimeter of the landfill. A peristaltic pump with dedicated plastic tubing was used to collect the sample. Sample 4 was a soil sample taken as a composite from several locations in the lawn area where surface soils exhibited orange or gray staining characteristic of leachate discharge areas.

Sample 5 was a liquid sample taken from a small stream which discharges through a culvert under Taylor Lane and flows into Magid Pond. The sample was collected by dipping and pouring from a laboratory-cleaned, unpreserved sample bottle. Sample 6 was a sample of iron floc suspended in surface water in the stream which flows into Magid Pond. The sample was collected using a clean plastic scoop. An attempt was made to concentrate the solids by decanting liquid over the sides of the scoop prior to placement in the sample bottle and by periodically decanting from the sample bottle after allowing the contents to settle.

Sample 7 was a liquid sample collected from a catch basin on Taylor Lane, on the western perimeter of the site. A peristaltic pump with dedicated plastic tubing was used to collect this sample. Sample 8 was a sample of thick iron floc deposit accumulated in a drain pipe entering into the catch basin. This sample was collected using a clean plastic scoop.

Sample 9 was a sample of groundwater collected using a disposal bailer, from monitoring well MW-2S, which is installed as a flush-mount well in the Taylor Lane road surface. At the time of the sampling, this was a flowing well and a brownish iron-staining was observed on the road surface in the area wetted by the discharging groundwater. Sample 10 was a soil sample taken as a composite from several locations in the Taylor Lane road shoulder where surface soils exhibited orange or gray staining.

Immediately after sampling, all samples were placed in an insulated cooler and transported to Severn Trent Laboratories in Newburgh, NY for analysis. Samples were delivered to the lab within four hours of collection.

Liquid samples were analyzed for leachate indicator parameters including chloride, alkalinity, ammonia and chemical oxygen demand. Solid samples were analyzed for total arsenic, iron, aluminum and manganese. Results of the analyses are summarized in Tables 1 and 2, and are discussed below. A copy of the laboratory report is attached as Appendix A.

III. Results & Discussion:

Sample 2 (residential basement), sample 6 (Magid Pond) and sample 8 (Taylor Lane storm drain) all exhibited a relatively high iron hydroxide content (40 to 50 % of dry weight) consistent with a fairly pure deposit of iron flocculate. Measured concentrations do not approach 100% because the digestion method used, EPA Method 3050B, is not a total digestion method and because variable proportions of the sample mass may be attributable to other minor components such as alumina, silica, and organic carbon (iron bacterial biomass).

Arsenic concentrations in all three iron floc samples (samples 2, 6 and 8) exceeded the range of background concentrations found in natural soils of the lower Hudson Valley Region. That range was reported to be between 2.2 and 23.1 mg/Kg in a study carried out by staff from the NYSDEC's Region 3/Solid Waste Program. (A copy of that study is provided as Appendix B.) The arsenic

concentration found in two of the iron floc samples (samples 2 and 8) was also well in excess of the NYSDEC guidance value (aquatic life severe effects level) for sediments which is 33 mg/Kg. Whether or not this poses a threat to aquatic life will require further evaluation. Sample 2 was collected within the interior of a residence where there would be no wildlife exposure. Sample 8, which was collected within a storm drain, is of greater concern because stormwater flowing through the drain discharges into the Magid Pond wetland area. The key environmental sample with respect to wildlife impact was sample 6, collected in Magid Pond. This sample exhibited an arsenic concentration of 25.8 mg/Kg, which is below the severe effects level (33.0 mg/kg) but above the least effects level (6 mg/Kg).

Other findings which may have significance for wildlife or wildlife habitat include iron, which exceeded the severe effects level (4%) in all samples, and manganese, which exceeded the severe effects level (1,000 ppm) in samples 2 and 8.

Unlike samples 2, 6 and 8, which represent relatively pure iron flocculate precipitated from leachate, samples 4 and 10 represent soils which have been contaminated due to contact with leachate. As might be expected, concentrations of iron and arsenic are considerably lower than what is found in the iron floc samples, but arsenic levels, measured at 17.7 mg/Kg in both samples, are still elevated above levels characteristic of natural soils. For comparison, NYSDEC's Technical and Administrative Guidance Memorandum (TAGM) # 4046, entitled "Determination of soil cleanup objectives and cleanup levels" sets the recommended soil cleanup objective for inactive hazardous waste disposal sites at site background or 7.5 mg/Kg. Although, no site-specific background value is available in this case, the previously referenced background study (Appendix B) found the 90% upper confidence level for arsenic in soils of the lower Hudson Valley, based on 60 samples, to be 7.4 mg/Kg, which is essentially the same as the default value given in the TAGM 4046.

To provide a basis for comparing relative leachate strength or degree of water quality impact, four leachate indicator parameters were analyzed in aqueous samples from each sampling point. The parameters chosen, alkalinity, chloride, ammonia and COD, are four of the parameters most consistently found at elevated concentrations in water which is impacted by landfill leachate. As shown in Table 2, by ranking the parameter concentrations at each monitoring point and comparing the rank totals, a qualitative determination can be made of the relative degree of water quality impact between the various sampling points. This analysis shows a relatively low degree of impact in groundwater infiltrating the residential basement (sample 1) and discharging from the monitoring well (sample 9) and a somewhat higher degree of impact in surface water flowing through the catch basin (sample 7) or ponded in the residential lawn area (sample 3).

The apparent lack of correlation between arsenic concentrations in soils and sediments and leachate indicator parameters in water is consistent with experience in monitoring impacts at other solid waste landfills. Typically, elevated arsenic concentrations in groundwater are associated with the moderately reducing conditions at the fringe of the contamination plume rather than the more strongly reducing conditions at the center of the plume. Thus, highly elevated concentrations of arsenic in soils or

sediments are more likely to be observed in groundwater discharge zones where concentrations of leachate indicator parameters are only moderately elevated.

IV. Conclusions & Recommendations:

Based on concentrations of leachate indicator parameters observed, it is apparent that none of the locations sampled are being impacted by concentrated or high strength landfill leachate. These areas are being impacted, however, by deposition of iron floc containing elevated concentrations of arsenic. It is recommended that the Department of Health be asked to evaluate whether the presence of arsenic on residential properties poses a threat to health. It is also recommended that the Division of Fish, Wildlife and Marine Resources (DFWMR) be asked to evaluate potential risks to wildlife and wildlife habitat.

Regardless of what determination is made by the Department of Health and/or DFWMR, it is clear that the landfill cap has not been effective in controlling the discharge of leachate and/or leachate impacted groundwater beyond the site boundaries. It is also clear that vertical infiltration of precipitation was not the only source of leachate generation at this facility and that there must be a significant component of lateral groundwater inflow or upward discharge through the base of the landfill as evidenced by the apparent worsening of conditions subsequent to capping and the artesian conditions observed at shallow monitoring wells at the downgradient perimeter of the landfill. As the Village was advised by NYSDEC in July of 2004, a hydrologic evaluation of the landfill must be conducted by the Villages's engineering consultants in order to determine what actions are needed to abate the uncontrolled discharges of leachate.

Table 1
Leachate Investigation at Mamaroneck Taylor Lane Leaf Compost Site
Analysis of Iron Floc Samples

Sample ID	Sampling Point	Iron, ppm	Iron as $Fe(OH)_3$, %	Arsenic, ppm	Manganese, ppm
A893-02	Residence east of landfill: orange iron floc deposits collected from basement sump (see figure 2)	**222,000**	42	**71.3**	**3,260**
A893-04	Residence southeast of landfill: orange and gray-stained soil, composite of several locations on front lawn (see figure 3)	**51,000**	9.7	17.7	898
A893-06	Orange iron floc deposits in small stream flowing through culvert under Taylor Lane and into Magid Pond (see figure 5)	**227,000**	43	25.8	537
A893-08	Orange iron floc deposit in pipe discharging to catch basin on Taylor Lane (see figure 7)	**263,000**	50	**76.8**	**1,670**
A893-10	Gray-stained soil in leachate seepage zone on shoulder of Taylor Lane, west of landfill	**55,900**	10.6	17.7	992

Notes:
1. Samples were collected by staff from NYSDEC and NYSDOH on 11/2/04 and were delivered to the Severn Trent Laboratories in Newburgh for analysis.
2. Samples were digested using concentrated nitric and hydrochloric acids and hydrogen peroxide (30%) in accordance with USEPA Method 3050B. This method, which is not a total digestion, dissolves "environmentally available metals" but not metals bound in silicate structures.
3. Samples were analyzed using Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) in accordance with USEPA Method 6010B.
4. Samples 02, 06 and 08 consisted of relatively pure iron flocculate deposits as indicated by the relatively high percentage of iron, presumed to be in the form of the mineral ferrihydrite, $Fe(OH)_3$, %. Samples 04 and 10 consisted of soils with only a thin coating of iron flocculate.
5. Arsenic concentrations in samples 02 and 08 exceed the NYSDEC's sediment guidance value (severe effects level for aquatic life) which is 33.0 ppm. Arsenic concentrations in all samples exceed NYSDEC's recommended soil cleanup objective which is 7.5 ppm and also exceed the 90% upper confidence level for background arsenic in lower Hudson Valley soils which is 7.4 ppm. Manganese concentrations in samples 02 and 08 exceed the NYSDEC's sediment guidance value (severe effects level for aquatic life) which is 1,100 ppm.
6. Concentrations of iron in all samples exceed the NYSDEC's sediment guidance value (severe effects level for aquatic life) which is 4%.

Table 2
Leachate Investigation at Mamaroneck Taylor Lane Leaf Compost Site
Analysis of Leachate Samples

Sample ID	Sampling Point	Alkalinity, as $CaCO_3$, ppm		Chloride,ppm		Ammonia, as N, ppm		COD, ppm		Total Rank
		Value	Rank	Value	Rank	Value*	Rank	Value	Rank	
A893-01	Residence east of landfill: groundwater collected from basement sump (see figure 2)	272	2	110	1	1.0U	1	11.6	1	5
A893-03	Residence southeast of landfill: leachate seepage on front lawn (see figure 3)	360	5	150	3	1.0U	1	249	5	14
A893-05	Small stream flowing through culvert under Taylor Lane and into Magid Pond (see figure 4)	265	1	170	4	1.0U	1	17.5	3	9
A893-07	Catch Basin on Taylor Lane (see figure 6)	291	3	210	5	1.15	5	109	4	17
A893-09	Monitoring well 2S (see figure 8)	292	4	110	1	1.0U	1	14.5	2	8

Notes:
1. Samples were collected by staff from NYSDEC and NYSDOH on 11/2/04 and were delivered to the Severn Trent Laboratories in Newburgh for analysis.
2. Parameters analyzed are landfill leachate indicators which are more or less proportional to the strength and concentration of leachate. Ammonia is a non-conservative parameter which can be attenuated in soil by adsorption (as the NH_4 cation) to mineral surfaces.
3. Ranks reflect relative magnitude of concentrations for individual parameters measured at the various monitoring points. Total ranks reflect the relative degree of water quality impact based on all four parameters at the various monitoring points. Based on this analysis, the relative degree of water quality impact is as follows: Sample 7 > Sample 3 > Sample 5 > Sample 9 > Sample 1.

Figure 1. Triangles mark the approximate location of sample collection points. North is towards the top of the page. Taylor Lane is the road between the landfill and Magid Pond.

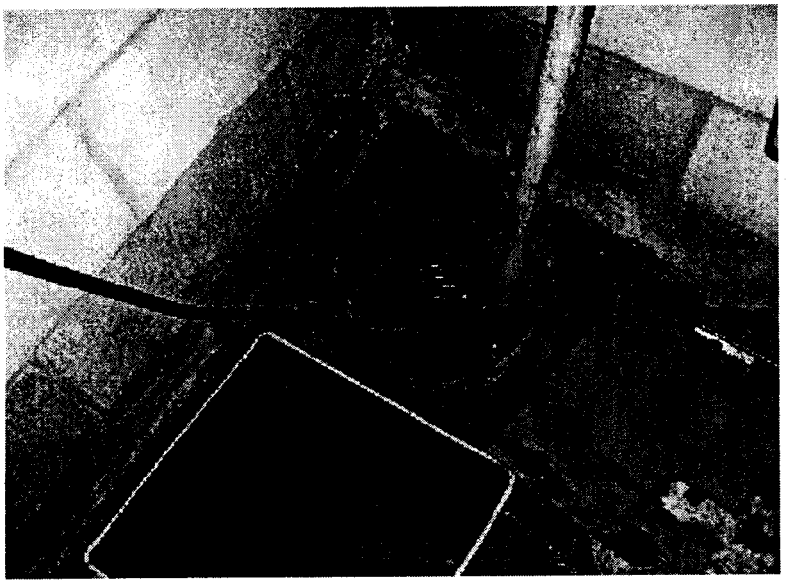

Figure 2. Sample 1 is a liquid sample collected from a sump in the basement of a residence adjacent to the landfill. Sample 2 consisted of solids (iron floc) removed from the sump.

Figure 3. Sample 3 was a liquid sample collected from a leachate seep on the front lawn of a residence adjacent to the landfill. Sample 4 was a solid sample taken as a composite from several locations within the lawn area exhibiting orange or gray iron staining.

Figure 4. Sample 5 was a surface water sample collected from a culvert conveying flow from the landfill area, under Taylor Lane, and into Magid Pond.

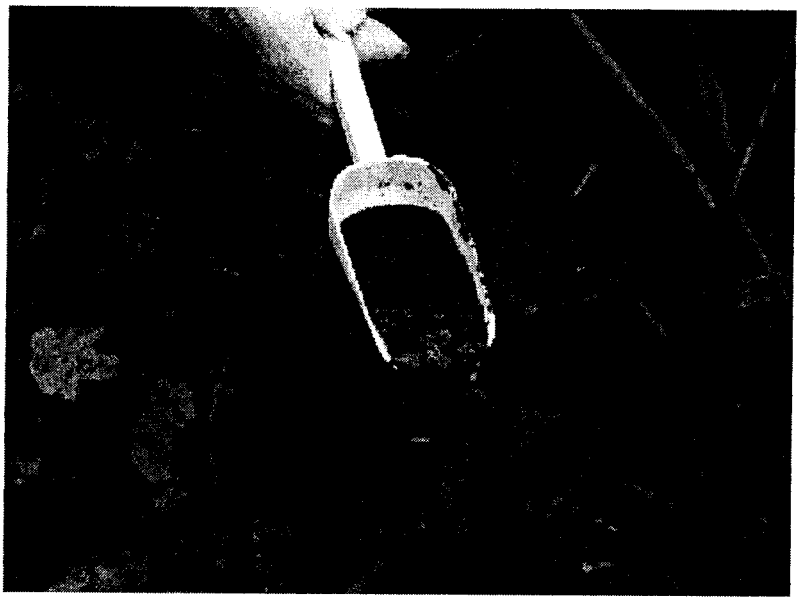

Figure 5. Sample 6 was a sample of the thick iron floc deposit in the small stream entering Magid Pond from the culvert under Taylor Lane.

Figure 6. Sample 7 was a liquid sample collected from a catch basin on Taylor Lane immediately adjacent to (west of) the landfill.

Figure 7. Sample 8 was a solid sample of iron floc accumulating in a pipe conveying groundwater from the landfill site to the catch-basin on Taylor Lane.

Figures 8a and 8b. Sample 9 was collected from monitoring well 2S, a flush-mounted well installed in the road surface of Taylor Lane just west of the landfill. This well, and three other nearby monitoring wells were observed to be in a continuously flowing (artesian) state. Sample 10 was a solid sample of iron-stained (gray) soil collected from a leachate seep zone in the road shoulder (east side) of Taylor Lane.

APPENDIX A

STL-Newburgh
Laboratory Report
(Selected Pages)

APPENDIX B

NYSDEC, Region 3/Solid Waste Program
Background Levels of Heavy Metals in Soils of the Lower Hudson Valley

SAMPLE DATA SUMMARY PACKAGE

NYSDEC Albany
Case #: SH304
SDG #: 1102
STL Lab. #: 242143
Matrix: Water & Sediment
1 of 1

STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890
Fax (845) 562-0841

SAMPLE INFORMATION
Date: 11/22/2004

Job Number.: 242143
Customer...: NYS Dept. of Environmental Conservation
Attn.......: Steve Parisio

Project Number.........: 20000048
Customer Project ID....: TAYLORS LANE SITE
Project Description....: NYSDECA

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
242143-1	A893-01	Water	11/02/2004	11:15	11/02/2004	15:00
242143-2	A893-02	Sediment	11/02/2004	11:30	11/02/2004	15:00
242143-3	A893-03	Water	11/02/2004	11:50	11/02/2004	15:00
242143-4	A893-04	Sediment	11/02/2004	12:15	11/02/2004	15:00
242143-5	A893-05	Water	11/02/2004	12:20	11/02/2004	15:00
242143-6	A893-06	Sediment	11/02/2004	12:25	11/02/2004	15:00
242143-7	A893-07	Water	11/02/2004	12:30	11/02/2004	15:00
242143-8	A893-08	Sediment	11/02/2004	12:45	11/02/2004	15:00
242143-9	A893-09	Water	11/02/2004	13:00	11/02/2004	15:00
242143-10	A893-10	Sediment	11/02/2004	13:15	11/02/2004	15:00

SEVERN TRENT STL
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Newburgh, NY 12550
Tel (845) 562-0890
Fax (845) 562-0841

LABORATORY CHRONICLE

Job Number: 242143

Date: 11/22/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parisio

Lab ID: 242143-1 Client ID: A893-01

METHOD	DESCRIPTION
SM18 2320B	Alkalinity
HACH 8000	Chemical Oxygen Demand (HACH)
SM18 4500Cl	Chloride
	Electronic Data Deliverable
SM18 4500NH3E	Nitrogen, Ammonia (Distillation)
QA Services	Quality Assurance Services

Date Recvd: 11/02/2004 Sample Date: 11/02/2004

RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
1	79900		11/05/2004	1444	
1	79255		11/04/2004	0800	
1	78855		11/03/2004	1341	
1					
1	79901		11/03/2004	2200	
1	79508		11/12/2004	0000	

Lab ID: 242143-2 Client ID: A893-02

METHOD	DESCRIPTION
SW846 3050B	Acid Digestion (ICP) Solids
SW846 6010B	Metals Analysis (ICAP)
QA Services	Quality Assurance Services
EPA 160.3	Solids, Total

Date Recvd: 11/02/2004 Sample Date: 11/02/2004

RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
1	78768		11/04/2004	1345	
1	79339	78768	11/05/2004	1341	
1	79508				
1	79044		11/04/2004	1500	

Lab ID: 242143-3 Client ID: A893-03

METHOD	DESCRIPTION
SM18 2320B	Alkalinity
HACH 8000	Chemical Oxygen Demand (HACH)
SM18 4500Cl	Chloride
	Electronic Data Deliverable
SM18 4500NH3E	Nitrogen, Ammonia (Distillation)
QA Services	Quality Assurance Services

Date Recvd: 11/02/2004 Sample Date: 11/02/2004

RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
1	79900		11/05/2004	1452	
1	79224		11/04/2004	1000	
1	78855		11/03/2004	1344	
1					
1	79901		11/03/2004	2200	
1	79508				

Lab ID: 242143-4 Client ID: A893-04

METHOD	DESCRIPTION
SW846 3050B	Acid Digestion (ICP) Solids
SW846 6010B	Metals Analysis (ICAP)
QA Services	Quality Assurance Services
EPA 160.3	Solids, Total

Date Recvd: 11/02/2004 Sample Date: 11/02/2004

RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
1	78768		11/04/2004	1345	
1	79339	78768	11/05/2004	1401	
1	79508				
1	79044		11/04/2004	1500	

Lab ID: 242143-5 Client ID: A893-05

METHOD	DESCRIPTION
SM18 2320B	Alkalinity
HACH 8000	Chemical Oxygen Demand (HACH)
SM18 4500Cl	Chloride
	Electronic Data Deliverable
SM18 4500NH3E	Nitrogen, Ammonia (Distillation)
QA Services	Quality Assurance Services

Date Recvd: 11/02/2004 Sample Date: 11/02/2004

RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
1	79900		11/05/2004	1500	
1	79255		11/04/2004	0800	
1	78855		11/03/2004	1347	
1					
1	79901		11/03/2004	2200	
1	79508				

Lab ID: 242143-6 Client ID: A893-06

METHOD	DESCRIPTION
SW846 3050B	Acid Digestion (ICP) Solids
SW846 6010B	Metals Analysis (ICAP)
QA Services	Quality Assurance Services
EPA 160.3	Solids, Total

Date Recvd: 11/02/2004 Sample Date: 11/02/2004

RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
1	78768		11/04/2004	1345	
1	79339	78768	11/05/2004	1405	
1	79508				
1	79044		11/04/2004	1500	

Lab ID: 242143-7 Client ID: A893-07

METHOD	DESCRIPTION
SM18 2320B	Alkalinity
HACH 8000	Chemical Oxygen Demand (HACH)
SM18 4500Cl	Chloride
	Electronic Data Deliverable
SM18 4500NH3E	Nitrogen, Ammonia (Distillation)
QA Services	Quality Assurance Services

Date Recvd: 11/02/2004 Sample Date: 11/02/2004

RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
1	79900		11/05/2004	1508	
1	79255		11/04/2004	0800	
1	78855		11/03/2004	1350	
1					
1	79901		11/03/2004	2200	
1	79508				

Lab ID: 242143-8 Client ID: A893-08

METHOD	DESCRIPTION
SW846 3050B	Acid Digestion (ICP) Solids

Date Recvd: 11/02/2004 Sample Date: 11/02/2004

RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
1	78768		11/04/2004	1345	

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LABORATORY CHRONICLE

Job Number: 242143

Date: 11/22/2004

CUSTOMER: NYS Dept. of Environmental Conservation | PROJECT: TAYLORS LANE SITE | ATTN: Steve Parisio

Lab ID: 242143-8 Client ID: A893-08

Date Recvd: 11/02/2004 Sample Date: 11/02/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW846 6010B	Metals Analysis (ICAP)	1	79339	78768	11/05/2004	1554	2
QA Services	Quality Assurance Services	1	79508				
EPA 160.3	Solids, Total	1	79044		11/04/2004	1500	

Lab ID: 242143-9 Client ID: A893-09

Date Recvd: 11/02/2004 Sample Date: 11/02/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SM18 2320B	Alkalinity	1	79900		11/05/2004	1516	
HACH 8000	Chemical Oxygen Demand (HACH)	1	79255		11/04/2004	0800	
SM18 4500Cl	Chloride	1	78855		11/03/2004	1354	
	Electronic Data Deliverable	1					
SM18 4500NH3E	Nitrogen, Ammonia (Distillation)	1	79901		11/03/2004	2200	
QA Services	Quality Assurance Services	1	79508				

Lab ID: 242143-10 Client ID: A893-10

Date Recvd: 11/02/2004 Sample Date: 11/02/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW846 3050B	Acid Digestion (ICP) Solids	1	78768		11/04/2004	1345	
SW846 6010B	Metals Analysis (ICAP)	1	79339	78768	11/05/2004	1430	
QA Services	Quality Assurance Services	1	79508				
EPA 160.3	Solids, Total	1	79044		11/04/2004	1500	

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements					
		*VOA GC/MS Method #	*BNA GC/MS Method #	*VOA GC Method #	*PEST PCBs Method #	*Metals	*Other
A893-01	242143-01						2, 20, 16, 3
A893-02	242143-02					55	124
A893-03	242143-03						2, 20, 16, 3
A893-04	242143-04					55	124
A893-05	242143-05						2, 20, 16, 3
A893-06	242143-06					55	124
A893-07	242143-07						2, 20, 16, 3
A893-08	242143-08					55	124
A893-09	242143-09						2, 20, 16, 3
A893-10	242143-10					55	124

*See attached summary of methodology for method numbers.

000CC5A

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SUMMARY OF METHODOLOGY

Analysis	Aqueous	Ground Water Liquid/Solid Matrices
1 % Solid	EPA 160.3(A)	EPA 160.3(A)
2 Alkalinity-Tit.	SM182320-B(Q)	
3 Ammonia	SM184500-NH3E(Q)	
4 Ammonia	SM184500-NH3F(Q)	
5 Ammonia	LAC107061A(U)	
6 Antimony	EPA 204.2(A,D)	
7 Antimony	SM183113B(Q)	
8 Arsenic	EPA 206.2(A,D)	
9 Arsenic		SW846-7060A(B,D)
10 Arsenic	SM183113B(Q)	
11 Beryllium	SM183113B(Q)	
12 BOD	SM185210-B(Q)	
13 Bromide	EPA 300(A)	
14 Cadmium	SM183113B(Q)	
15 CBOD	SM185210-B(Q)	
16 Chloride	SM184500-CL-B(Q)	
17 Chloride(DW)	SM174500-CL-B(N)	
18 Chloride-IC	EPA 300(A)	
19 COD (high)	EPA 410.4(A)	
20 COD (low)	HACH 8000(W)	
21 Color	SM18 2120-B(Q)	
22 Coliform, Total-MF	SM18 9222B(Q)	
23 Coliform, Total	SM18 9223-MPN(Q)	
24 Conductivity	SM182510-B(Q)	
25 Cyanide	SM184500-CNE(Q)	
26 Cyanide		SW846-9010B(B)
27 Cyanide	LAC204001A(R)	
28 Cyanide, Amenable	SM184500-CNG(Q)	SW846-9010B(B)
29 Dissolved Oxygen	SM184500-O-C(Q)	
30 DRO		EPA DRO Draft Rev.5 (Y)
31 Enterococcus	ENTEROLERT	
32 E.Coli	SM18 9223-MPN(Q)	
33 Eptox		SW846-1310A(B)
34 Ethylene glycol	NYSDEC 89-9(M)	
35 ETPH	(AA)	
36 F. Coli-MF	SM189222C(Q)	
37 F. Coli-MF	SM189222D(Q)	
38 F. Coli-MPN	SM189221C(Q)	
39 Ferrous Iron	SM183500-FED(Q)	

000006 B

40 Flashpoint		SW846-1010(B)
41 Fluoride, Total	EPA 340.2(A)	EPA 340.2(A)
42 Fluoride, Total	EPA 300(A)	
43 Grease & Oil	SM185520-B(Q)	
44 Grease & Oil	EPA 413.1 (A)	
45 Grease & Oil	EPA 1664(A)	
46 GRO		EPA GRO Draft Rev. 5(Y)
47 Hardness, Total	EPA 200.7(A)	
48 Hardness, Total	EPA 130.2(A)	
49 Heat of Combustion	D2015(X)	
50 Herbicides		SW846-8151A(B)
51 Herbicides	EPA 515.1(L)	
52 Heterotropic Plate Count	SM18 9215B(Q)	SM18 9215B(Q)
53 Hex Chrome		SW846-7196A(B)
54 Hex Chrome	SM183500-Cr-D(Q)	
55 ICP Metals		SW846-6010B(B)
56 ICP Metals	EPA 200.7(A)	
57 Langlier Index	SM182330B(Q)	
58 Lead		SW846-7421(B,C)
59 Lead	EPA 239.2(A,D)	
60 Lead		SW846-7420(B,D)
61 Lead	SM183113B(Q)	
62 MBAS	SM185540-C(Q)	
63 Mercury		SW846-7470A(B)
64 Mercury		SW846-7471A(B)
65 Mercury	EPA 245.1(A)	
66 Mercury	EPA 245.2(A)	
67 Methanol	Modified 8015(B)	
68 Nitrate-AA	SM174500-NO3F(N)	
69 Nitrate-IC	EPA 300(A)	
70 Nitrate-Nitrite	SM184500-NO3F(Q)	
71 Nitrate-Nitrite	LAC107041A(T)	
72 Nitrite	EPA 354.1(A)	
73 Nitrite	SM184500-NO2-B(Q)	
74 Odor	SM182150(Q7)	
75 Organochlorine PSTs		SW846-8081A(B)
76 Organochlorine PSTs	EPA 608(F)	
77 Paint Filter Test		SW846-9095A(B)
78 PCB's	EPA 508(H)	
79 Pesticides/PCB's		SW846-8082(B)
80 Pesticides/PCB's	95.3(Z)	95.3(Z)
81 Pesticides/PCB's	EPA 505(H)	
82 pH		SW846-9045C(B)

000006C

83	pH	SM184500-H-B(Q)	
84	Phenols		SW846-9065(B)
85	Phenols	EPA 420.A(A)	
86	Phenols	LAC210001A(S)	
87	Phosphate, Ortho	SM184500-PE(Q)	
88	Phosphate, Total	EPA 365.3(A)	
89	Propylene glycol	Modified 8015(B)	
90	Reactivity		SW846-7.3.2(B)
91	Selenium		SW846-7740(B,D)
92	Selenium	EPA 270.2(A,D)	
93	Selenium	SM183113B(Q)	
94	Semi-Volatiles		SW846-8270C(B)
95	Semi-Volatiles	EPA 625(E)	
96	Semi-volatiles	95.2(Z)	95.2(Z)
97	Semi-Volatiles	EPA 525.1(H)	
98	Specific Gravity		D1298-83
99	Specific Conductance	SM182510B(Q)	
100	SS	EPA 160.5(A)	
101	Sulfate		EPA 375.4(A)
102	Sulfate	EPA 375.4(A)	
103	Sulfate	EPA 300(A)	
104	Sulfide		SM184500-S2E(Q)
105	Sulfide	SM184500-S2D(Q)	
106	Sulfite	SM184500-SO3B(Q)	
107	Sulfite		SM184500SO3B(Q)
108	TCLP		SW846-1311(B)
109	TDS	EPA 160.1(A)	
110	TDS	SM182540C(Q)	
111	Temperature	EPA 170.1(A)	
112	Thallium		SW846-7841(B,D)
113	Thallium	EPA 279.2(A,D)	
114	Thallium	EPA 200.9(A)	
115	Tin	EPA 282.2 (A)	
116	TOC	SM185310-B(Q)	
117	Total Kjeldahl Nitrogen	SM184500NH3-F(Q)	
118	Total Kjeldahl Nitrogen	LAC107062D(V)	
119	TOX		SW846-9020B(B)
120	TPH	EPA 418.1(A)	
121	TPH 310.13		LOAC 310.13(P)
122	TPH	EPA 1664 (A)	
123	TPH-Calif.	Calif. DHS 8015	Calif. DHS 8015
124	TS	EPA 160.3(A)	
125	TSS	EPA 160.2(A)	

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126 TVS	EPA 160.4(A)	
127 Turbidity	SM182130-B(Q) and EPA 180.1(A)	
128 Volatiles Organics		SW846-8260B(B)
129 Volatiles Organics	EPA 624(E)	
130 Volatiles Organics	EPA 524.2(H)	
131 Volatiles Organics	EPA 502.2(K)	
132 Volatiles Organics	EPA 504.1(H)	
133 Volatiles Organics		SW846-8021B(B)
134 Volatiles Organics	EPA 601(F)	
135 Volatiles Organics	EPA 602(F)	
136 Volatiles Organics	95.1(Z)	95.1(Z)
137 Volatiles Organics	95.4(Z)	95.4(Z)
138 Volatiles Organics	OLC02.1(AB)	
139 Volatiles Organics	OLM03.2(AC)	

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AC. USEPA CLP SOW for Organics Analysis Multi-Media, Multi-Concentration

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Inorganics

Other

Due to the high non-detect value for arsenic, sample number A893-06 (242143-06) was subsequently re-digested and re-analyzed as per a phone conversation with Steve Parisio. The attached report is an appendix to the initial data report package and has a suffix of "A" attached to each page number indicating an appendix.

Sample number 242143-06 was diluted at a 20x dilution due to the presence of iron at a concentration over the linear calibration range of the instrument.

ICP

Matrix Spike

The percent spike recovery of manganese in spike sample number A893-02MS (242143-02MS) is outside of the established control limits. A post digestion spike was analyzed for manganese.

Sample Dilutions

The following sample was diluted at the indicated amount and reanalyzed due to the interference of iron on the undiluted sample at a concentration above the linear range of the instrument:

A893-08 (242143-08): 2x

Wet Chemistry

Matrix Spike/Duplicate

The matrix spike/duplicate for alkalinity, ammonia and chloride were not performed on a sample from laboratory number 242143.

Alkalinity

Matrix Spike

The percent spike recovery of alkalinity in spike sample number ZZZZZMS (242115-01MS) is outside of the established control limits.

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Chloride

Sample Dilution

Due to the results of the initial titration the following samples were diluted for chloride at the indicated amount:

A893-03 (242143-02): 10x
A893-05 (242143-03): 5x
A893-07 (242143-07): 5x

LABORATORY TEST RESULTS

Job Number: 242143

Date:11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation | PROJECT: TAYLORS LANE SITE | ATTN: Steve Parisio

Customer Sample ID: A893-02
Date Sampled.....: 11/02/2004
Time Sampled.....: 11:30
Sample Matrix.....: Sediment

Laboratory Sample ID: 242143-2
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	IDL	RL	DILUTION	UNITS	DT	DATE	TECH
SW846 6010B	Metals Analysis (ICAP)										
	Aluminum (Al)*	5540			56.2	690	1	mg/Kg		11/05/04	mad
	Arsenic (As)*	71.3			9.3	34.5	1	mg/Kg		11/05/04	mad
	Iron (Fe)*	222000			60.7	345	1	mg/Kg		11/05/04	mad
	Manganese (Mn)*	3260		N	3.8	34.5	1	mg/Kg		11/05/04	mad

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 242143

Date:11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parisio

Customer Sample ID: A893-04
Date Sampled.....: 11/02/2004
Time Sampled.....: 12:15
Sample Matrix.....: Sediment

Laboratory Sample ID: 242143-4
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	IDL	RL	DILUTION	UNITS	DT	DATE	TECH
SW846 6010B	Metals Analysis (ICAP)										
	Aluminum (Al)*	7900			6.3	77.3	1	mg/Kg		11/05/04	mad
	Arsenic (As)*	17.7			1.0	3.9	1	mg/Kg		11/05/04	mad
	Iron (Fe)*	51000			6.8	38.7	1	mg/Kg		11/05/04	mad
	Manganese (Mn)*	898		N	0.43	3.9	1	mg/Kg		11/05/04	mad

* In Description = Dry Wgt.

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NJDEP 73015
CTDOHS PH-0564
EPA NY040
PA 68-376
M-NY040

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Job Number: 242143

LABORATORY TEST RESULTS

Date:12/14/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE 36 ATTN: Steve Parisio

Customer Sample ID: A893-06
Date Sampled.....: 11/02/2004
Time Sampled.....: 12:25
Sample Matrix.....: Sediment

Laboratory Sample ID: 242143-6
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	DT	DATE	TECH
SW846 6010B	Metals Analysis (ICAP)										
	Aluminum (Al)*	481	B		219	2690	1	mg/Kg		11/05/04	[redacted]
	Arsenic (As)*	36.3	U		36.3	134	1	mg/Kg		11/05/04	[redacted]
	Arsenic (As)*	25.8	B		8.0	2580	20.00	mg/Kg		12/08/04	[redacted]
	Iron (Fe)*	227000			237	1340	1	mg/Kg		11/05/04	[redacted]
	Manganese (Mn)*	537		N	14.8	134	1	mg/Kg		11/05/04	[redacted]

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 242143

Date:11/19/2004

CUSTOMER: NYS Dept of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parisio

Customer Sample ID: A893-08
Date Sampled.....: 11/02/2004
Time Sampled.....: 12:45
Sample Matrix.....: Sediment

Laboratory Sample ID: 242143-8
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	IDL	RL	DILUTION	UNITS	DT	DATE	TECH
SW846 6010B	Metals Analysis (ICAP)										
	Aluminum (Al)*	146	B		31.7	388	2	mg/Kg		11/05/04	mad
	Arsenic (As)*	76.8			5.2	19.4	2	mg/Kg		11/05/04	mad
	Iron (Fe)*	263000			34.2	194	2	mg/Kg		11/05/04	mad
	Manganese (Mn)*	1670		N	2.1	19.4	2	mg/Kg		11/05/04	mad

* In Description = Dry Wgt.

Job Number: 242143

LABORATORY TEST RESULTS

Date:11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Pariaio

Customer Sample ID: A893-10
Date Sampled.....: 11/02/2004
Time Sampled.....: 13:15
Sample Matrix.....: Sediment

Laboratory Sample ID: 242143-10
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	IDL	RL	DILUTION	UNITS	DI	DATE	TECH
SW846 6010B	Metals Analysis (ICAP)										
	Aluminum (Al)*	14300			9.5	116	1	mg/Kg		11/05/04	mad
	Arsenic (As)*	17.7			1.6	5.8	1	mg/Kg		11/05/04	mad
	Iron (Fe)*	55900			10.2	58.0	1	mg/Kg		11/05/04	mad
	Manganese (Mn)*	992		N	0.64	5.8	1	mg/Kg		11/05/04	mad

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 242143

Date: 11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parisio

Customer Sample ID: A893-01
Date Sampled.....: 11/02/2004
Time Sampled.....: 11:15
Sample Matrix.....: Water

Laboratory Sample ID: 242143-1
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 2320B	Alkalinity, Total as CaCO3	272		N	5.00	mg/L	11/05/04	se
SM18 4500Cl	Chloride	110			5.0	mg/L	11/03/04	se
SM18 4500NH3E	Ammonia (NH3), as N	1.00	U		1.00	mg/L	11/03/04	jpp
HACH 8000	Chemical Oxygen Demand (COD)	11.6			10.0	mg/L	11/04/04	bg

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 242143

Date: 11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parisio

Customer Sample ID: A893-02
Date Sampled.....: 11/02/2004
Time Sampled.....: 11:30
Sample Matrix.....: Sediment

Laboratory Sample ID: 242143-2
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
EPA 160.3	% Moisture	94.6			0.10	%	11/04/04	mwh
EPA 160.3	% Solids	5.4			0.10	%	11/04/04	mwh

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 242143

Date: 11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parisio

Customer Sample ID: A893-03
Date Sampled.....: 11/02/2004
Time Sampled.....: 11:50
Sample Matrix.....: Water

Laboratory Sample ID: 242143-3
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 2320B	Alkalinity, Total as CaCO3	360		N	5.00	mg/L	11/05/04	se
SM18 4500Cl	Chloride	150			50	mg/L	11/03/04	se
SM18 4500NH3E	Ammonia (NH3), as N	1.00	U		1.00	mg/L	11/03/04	jpp
HACH 8000	Chemical Oxygen Demand (COD-High)	249			150	mg/L	11/04/04	bg

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 242143

Date: 11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parisio

Customer Sample ID: A893-04
Date Sampled.....: 11/02/2004
Time Sampled.....: 12:15
Sample Matrix.....: Sediment

Laboratory Sample ID: 242143-4
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
EPA 160.3	% Moisture	53.8			0.10	%	11/04/04	mwh
EPA 160.3	% Solids	46.2			0.10	%	11/04/04	mwh

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 242143 Date: 11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parfeio

Customer Sample ID: A893-05
Date Sampled.....: 11/02/2004
Time Sampled.....: 12:20
Sample Matrix.....: Water

Laboratory Sample ID: 242143-5
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 2320B	Alkalinity, Total as CaCO3	265		N	5.00	mg/L	11/05/04	se
SM18 4500Cl	Chloride	170			25	mg/L	11/03/04	se
SM18 4500NH3E	Ammonia (NH3), as N	1.00	U		1.00	mg/L	11/03/04	jpp
HACH 8000	Chemical Oxygen Demand (COD)	17.5			10.0	mg/L	11/04/04	bg

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 242143 Date: 11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parisio

Customer Sample ID: A893-06
Date Sampled.....: 11/02/2004
Time Sampled.....: 12:25
Sample Matrix.....: Sediment

Laboratory Sample ID: 242143-6
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
EPA 160.3	% Moisture	98.4			0.10	%	11/04/04	mwh
EPA 160.3	% Solids	1.6			0.10	%	11/04/04	mwh

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 242143

Date: 11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parisio

Customer Sample ID: A893-07
Date Sampled.....: 11/02/2004
Time Sampled.....: 12:30
Sample Matrix.....: Water

Laboratory Sample ID: 242143-7
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 2320B	Alkalinity, Total as CaCO3	291		N	5.00	mg/L	11/05/04	se
SM18 4500Cl	Chloride	210			25	mg/L	11/03/04	se
SM18 4500NH3E	Ammonia (NH3), as N	1.15			1.00	mg/L	11/03/04	jpp
HACH 8000	Chemical Oxygen Demand (COD)	109			10.0	mg/L	11/04/04	bg

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 242143

Date: 11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Paristo

Customer Sample ID: A893-08
Date Sampled.....: 11/02/2004
Time Sampled.....: 12:45
Sample Matrix.....: Sediment

Laboratory Sample ID: 242143-8
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
EPA 160.3	% Moisture	79.8			0.10	%	11/04/04	mwh
EPA 160.3	% Solids	20.2			0.10	%	11/04/04	mwh

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 242143

Date: 11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parisio

Customer Sample ID: A893-09
Date Sampled.....: 11/02/2004
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 242143-9
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
SM18 2320B	Alkalinity, Total as CaCO3	292		N	5.00	mg/L	11/05/04	se
SM18 4500Cl	Chloride	110			5.0	mg/L	11/03/04	se
SM18 4500NH3E	Ammonia (NH3), as N	1.00	U		1.00	mg/L	11/03/04	jpp
HACH 8000	Chemical Oxygen Demand (COD)	14.5			10.0	mg/L	11/04/04	bg

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 242143

Date: 11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parisio

Customer Sample ID: A893-10
Date Sampled.....: 11/02/2004
Time Sampled.....: 13:15
Sample Matrix.....: Sediment

Laboratory Sample ID: 242143-10
Date Received.....: 11/02/2004
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	REPORTING LIMIT	UNITS	ANALYZED	TECH
EPA 160.3	% Moisture	65.5			0.10	%	11/04/04	mwh
EPA 160.3	% Solids	34.5			0.10	%	11/04/04	mwh

* In Description = Dry Wgt.

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6
DUPLICATES

EPA SAMPLE NO.

A893-02D

Lab Name: STL Newburgh Contract: _____

Lab Code: 10142 Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): SOIL Level (low/med): _____

% Solids for Sample: 5.37 % Solids for Duplicate: 5.37

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		5541.4761		5623.5329		1.5		P
Arsenic	34	71.3425		71.0769		0.4		P
Calcium								NR
Iron		222071.9290		220980.9670		0.5		P
Magnesium								NR
Manganese		3261.6599		3255.4203		0.2		P

U. S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

A893-02S

Lab Name: STL Newburgh Contract: _____

Lab Code: 10142 Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): SOIL Level (low/med): _____

% Solids for Sample: 5.37

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Arsenic	75-125	179.9870		71.3425		140.54	77.3		P
Calcium									NR
Iron									NR
Magnesium									NR
Manganese	75-125	3270.3773		3261.6599		1633.52	0.5	N	P

Comments:

U. S. EPA - CLP

5B
POST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

A893-02

Lab Name: Severn Trent Laboratories Contract: _____

Lab Code: 10142 Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): Sedimen Level (low/med): _____

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese	50-150	3120.81		945.79		2000.0	108.8		P
Nickel									NR
Potassium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR

Comments:

SEVERN TRENT STL
STL Newburgh is a part of Severn Trent Laboratories, Inc.
NYSDOH 10142 NJDEP 73015 CTDOHS PH-0554 EPA NY049 PA 68-376 M-NY049
STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
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QUALITY CONTROL RESULTS

Job Number.: 242143

Report Date.: 11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parisio

Test Method.....: SM18 2320B
Method Description.: Alkalinity
Parameter.....: Alkalinity, Total as CaCO3

Batch.....: 79900
Units.....: mg/L

Analyst...: se
Test Code.: ALK

QC	Lab ID	Reagent	QC Result	Q	QC Result	True Value	Orig. Value	Calc. Result *	Limits	F	Date	Time
ICV		WO3ALKSTD1	99.99			100		100.0	87-119		11/05/2004	1030
ICB			0.13								11/05/2004	1038
CCV		WO3ALKSTD2	54.32			50		108.6	87-119		11/05/2004	1208
CCB			-0.18								11/05/2004	1216
CCV		WO3ALKSTD2	54.48			50		109.0	87-119		11/05/2004	1346
CCB			0.14								11/05/2004	1355
LCS		WO4ALKLCS2	35.51			34.2		103.8	80-114		11/05/2004	1403
MD	242115-1		122.23				122.91	0.6	8-8		11/05/2004	1419
MS	242115-1	WO4ALKSPK1	160.19			25.0	122.91	149.1	60-139	N	11/05/2004	1427
CCV		WO3ALKSTD2	54.58			50		109.2	87-119		11/05/2004	1525
CCB			-0.09								11/05/2004	1533
CCV		WO3ALKSTD2	54.33			50		108.7	87-119		11/05/2004	1622
CCB			0.01								11/05/2004	1630

Test Method.....: SM18 4500NH3E
Method Description.: Nitrogen, Ammonia (Distillation)
Parameter.....: Ammonia (NH3), as N

Batch.....: 79901
Units.....: mg/L

Analyst...: lpp
Test Code.: NH3

QC	Lab ID	Reagent	QC Result	Q	QC Result	True Value	Orig. Value	Calc. Result *	Limits	F	Date	Time
ICV		WO4NH3ICV1	2.076			2.0		103.8	87-109		11/03/2004	2200
MB			0.000								11/03/2004	2200
MS	242132-2	WO4NH3SPK1	9.575			10.0	0.000	95.8	84-123		11/03/2004	2200
MD	242132-2		0.000				0.000	0.0	20-20		11/03/2004	2200

Test Method.....: HACH 8000
Method Description.: Chemical Oxygen Demand (HACH)
Parameter.....: Chemical Oxygen Demand (COD)

Batch.....: 79224
Units.....: mg/L

Analyst...: bg
Test Code.: COD

QC	Lab ID	Reagent	QC Result	Q	QC Result	True Value	Orig. Value	Calc. Result *	Limits	F	Date	Time
LCS		WO4CODLCSH	216			218		99.1			11/04/2004	1000
CCB			0								11/04/2004	1000
CCV		WO4CODLCSH	216			218		99.1			11/04/2004	1000
MS	242192-1	WO2CODSPKH	940				393	99.1			11/04/2004	1000
MD	242192-1		399				393	1.5	20-20		11/04/2004	1000
RS		WO3CODRS01	151			150		100.7			11/04/2004	1000
MB			0								11/04/2004	1000

Test Method.....: HACH 8000
Method Description.: Chemical Oxygen Demand (HACH)
Parameter.....: Chemical Oxygen Demand (COD)

Batch.....: 79255
Units.....: mg/L

Analyst...: bg
Test Code.: COD

QC	Lab ID	Reagent	QC Result	Q	QC Result	True Value	Orig. Value	Calc. Result *	Limits	F	Date	Time
MB			0								11/04/2004	0800
RS		WO2CODSTD1	47.2			50		94.4	84-116		11/04/2004	0800
LCS		WO4CODLCSL	107			109		98.2	86-115		11/04/2004	0800
CCV		WO4CODLCSL	112			109		102.8			11/04/2004	0800
CCB			0								11/04/2004	0800

* = %REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 242143 Report Date.: 11/19/2004

CUSTOMER: NYS Dept. of Environmental Conservation PROJECT: TAYLORS LANE SITE ATTN: Steve Parisio

Test Method.....: HACH 8000 Batch.....: 79255 Analyst...: bg
Method Description.: Chemical Oxygen Demand (HACH) Units.....: mg/L Test Code.: COD
Parameter.....: Chemical Oxygen Demand (COD)

QC	Lab ID	Reagent	QC Result	Q	QC Result	True Value	Orig. Value	Calc. Result *	Limits	F	Date	Time
MD	242143-9		14.5				14.5	0.0	10-10		11/04/2004	0800
MS	242143-9	W02CODSPKL	62.1			50	14.5	95.2	58-133		11/04/2004	0800

Test Method.....: SM18 4500Cl Batch.....: 78855 Analyst...: se
Method Description.: Chloride Units.....: mg/L Test Code.: CHL
Parameter.....: Chloride

QC	Lab ID	Reagent	QC Result	Q	QC Result	True Value	Orig. Value	Calc. Result *	Limits	F	Date	Time
MB			0.0000								11/03/2004	1325
ICV		W04CLICV01	50.7289			50.0		101.5	92-109		11/03/2004	1328
LCS		W04MINLCS2	78.4863			76.8		102.2	90-105		11/03/2004	1331
MD	242115-1		62.2148				63.1719	1.5	19-19		11/03/2004	1357
MS	242115-1	W04CLSPK01	85.1864			25.0	63.1719	88.1	74-126		11/03/2004	1400

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3
BLANKS

Lab Name: STL Newburgh Contract: _____

Lab Code: 10142 Case No.: _____ SAS No.: _____ SDG No.: _____

Preparation Blank Matrix (soil/water): soil

Preparation Blank Concentration Units (ug/L or mg/kg): mg/Kg

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	16.3	U	16.3	U	-18.2	B	16.3	U	3.3	U	P
Arsenic	2.7	U	2.7	U	2.7	U	3.4	B	0.5	U	P
Calcium	104.0	U	104.0	U	104.0	U	104.0	U			P
Iron	17.6	U	17.6	U	17.6	U	17.6	U	4.8	B	P
Magnesium	11.2	U	11.2	U	11.2	U	11.2	U			P
Manganese	1.1	U	1.1	U	1.1	U	1.1	U	0.2	U	P

U. S. EPA - CLP

3
BLANKS

Lab Name: STL Newburgh Contract: _____

Lab Code: 10142 Case No.: _____ SAS No.: _____ SDG No.: _____

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			16.3	U							P
Arsenic			2.7	U							P
Calcium			104.0	U							P
Iron			17.6	U							P
Magnesium			24.7	B							P
Manganese			1.1	U							P

New York State Department of Environmental Conservation
Region 3 Office/Solid Waste Program

Background Levels of Heavy Metals in Soils of the Lower Hudson Valley

Preliminary Summary of Results
July 1, 2003

In March of 2003, a study was carried out by Solid Waste Program staff in the Region 3 Office of the New York State Department of Environmental Conservation (DEC) to characterize background concentrations of heavy metals in soils of the lower Hudson Valley. This preliminary report provides a summary of the methods and results. A full report is in preparation and will be issued after evaluation of the data has been completed.

This study area is the lower Hudson Valley region of southeastern New York State, an area of 4,552 square miles which includes the counties of Westchester, Rockland, Putnam, Orange, Sullivan, Dutchess and Ulster. Twenty sites were selected for collection of soil samples and three replicate samples were collected at each sampling location to provide a total of sixty samples. The locations selected for sampling were undeveloped sites exhibiting mature natural vegetation with no apparent signs of fill placement, waste disposal or other types of recent anthropogenic disturbance. Care was taken to select sites where the only likely source of anthropogenic contamination would be atmospheric deposition. The sites selected were on publically owned properties managed by the DEC, the State Department of Parks or the Westchester County Department of Parks. The geographic coordinates of each sampling location were determined in the field using a global positioning satellite (GPS) receiver and these data were imported into a geographic information system (GIS) file which was used to create a map of the sampling locations (Figure 1). Names and geographic coordinates of each sampling location are provided in Table 1.

At each sampling location, the three replicate samples were collected within a 10-foot radius. The samples were collected from the upper six inches of the mineral soil (excluding the O horizon, where present) using a core sampler incorporating a 2-inch diameter stainless steel core barrel, a removable stainless steel cutting head, a 2-inch diameter removable butyrate plastic liner and a sliding-weight drive hammer. A new liner was used for each sample and sealed with plastic end-caps to serve as a sample container for shipment of the sample to the laboratory. Based on the design of the sampler, samples come in contact with the inside surface of the cutting head and the inside surface of the core liner only. To prevent cross-contamination, the cutting head was removed and cleaned with de-ionized water after collection of each sample.

Samples were stored at less that 4 degrees centigrade prior to and during shipment to the contract laboratory for analysis. All samples arrived at the laboratory within acceptable holding times, properly preserved and with appropriate chain of custody seals and documentation.

At the contract laboratory, all samples were analyzed for eleven heavy metals using methods consistent with EPA's SW-846 protocols and the DEC Analytical Services Protocol (ASP). The metals analyzed included arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium and zinc. In accordance with SW-846 protocols, prior to analysis for all metals, one gram of sample was digested using nitric acid, hydrogen peroxide and hydrochloric acid. All metals determinations, with the exception of mercury, were carried out using inductively coupled plasma atomic emission spectrometry (ICP-AES). Mercury was determined using the cold vapor atomic absorption method.

Table 2 provides summary statistics for each of the metals analyzed along with comparisons of the results to DEC guidance values and results from other studies. The full data set is provided in Table 3. It is anticipated that the results of this study will be useful to DEC/Region 3 staff in evaluating environmental impacts at sites which are filled using imported soils or soil-like wastes.

Questions regarding this preliminary report should be directed to Steven Parisio at 845-256-3139.

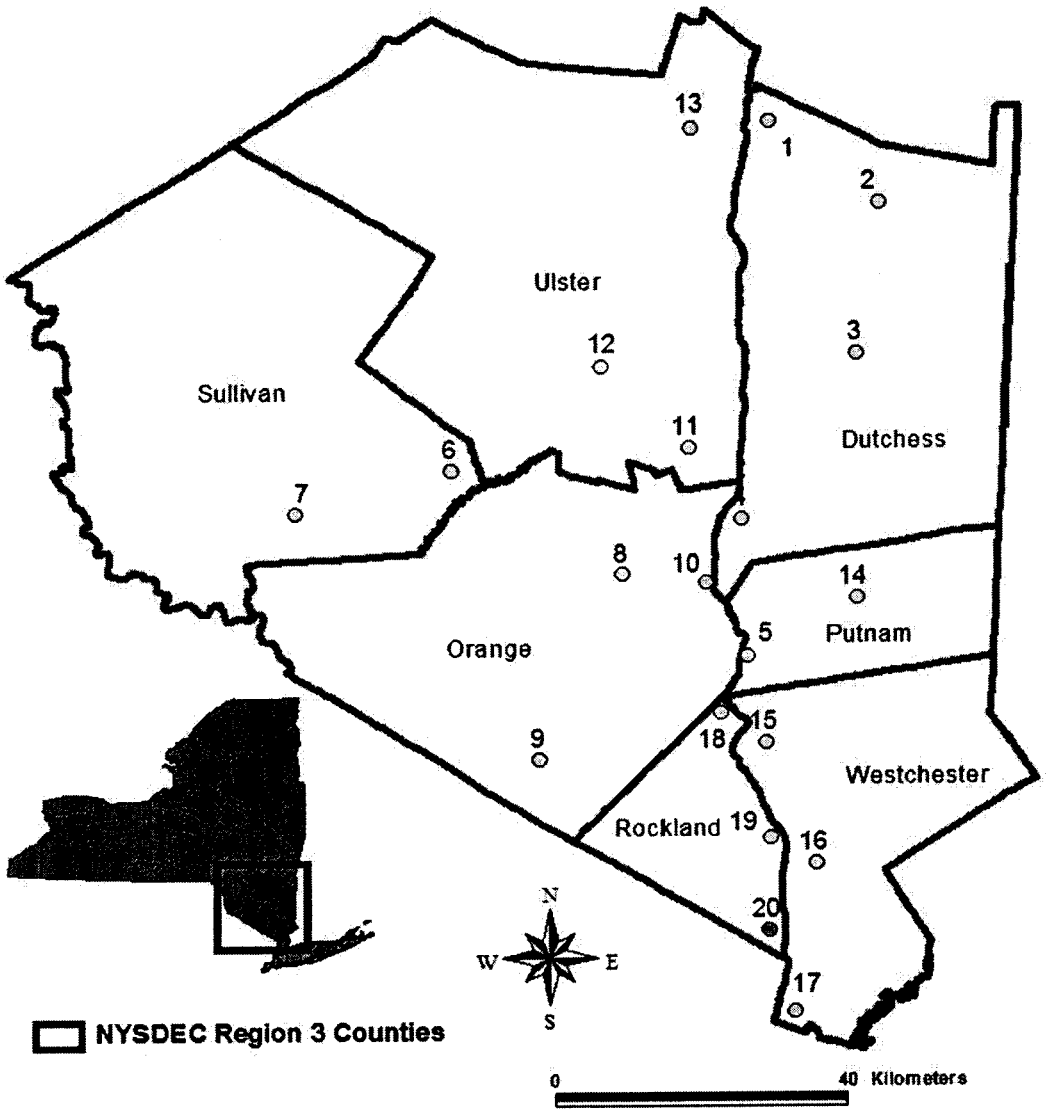

FIGURE 1. Sampling Locations for Background Soil Metals Concentrations, New York

Refer to Table 1 for names of sampling locations

Table 1. Soil Sampling Locations

Site No.	County	Park/Property Name	Managed By	Date Sampled	Geographic Coordinates
1	Dutchess	Tivoli Bay	DEC	3/10/03	N:42.03632, W:73.89645
2	Dutchess	Stissing Mtn	DEC	3/10/03	N:41.93383, W:73.7179
3	Dutchess	Taconic/Hereford	DEC	3/10/03	N:41.74659, W:73.76030
4	Dutchess	Stony Kill Farm	DEC	3/10/03	N:41.54293, W:73.95121
5	Putnam	Castle Rock	DEC	3/10/03	N:41.37013, W:73.94498
6	Sullivan	Wurtsboro Ridge	DEC	3/11/03	N:41.60621, W:74.42667
7	Sullivan	Neversink River	DEC	3/11/03	N:41.55457, W:74.68181
8	Orange	Stewart State Forest	DEC	3/11/03	N:41.47451, W:74.14892
9	Orange	Mt. Peter Hawk Watch Trailway	DEC	3/11/03	N:41.24484, W:74.28831
10	Orange	Kowawese	DEC	3/11/03	N:41.46286, W:74.01263
11	Ulster	Hemlock Ridge	DEC	3/12/03	N:41.63142, W:74.03738
12	Ulster	Shawangunk	DEC	3/12/03	N:41.73427, W:74.18067
13	Ulster	Highwoods	DEC	3/12/03	N:42.02909, W:74.02744
14	Putnam	California Hill	DEC	3/24/03	N:41.44169, W:73.76609
15	Westchester	Blue Mountain Reservation	Westchester Co. Parks	3/24/03	N:41.26223, W:73.91644
16	Westchester	Rockefeller Preserve	State Parks	3/24/03	N:41.11065, W:73.83748
17	Westchester	Tibbetts Brook Park	Westchetser Co. Parks	3/24/03	N:40.92714, W:73.87445
18	Rockland	Bear Mountain	State Parks	3/35/03	N:41.30057, W:73.99174
19	Rockland	Hook Mountain	State Parks	3/35/03	N:41.14383, W:73.91217
20	Rockland	Tallman Mountain	State Parks	3/25/03	N:41.02887, W:73.91627

Table 2. Region 3 Background Soils Heavy Metals Concentrations - Summary Statistics and Comparisons

	As	Ba	Be	Cd	Cr	Cu	Pb	Hg	Ni	Se	Zn
Minimum	2.2	38.5	0.24	0.04U	11.2	5.8	6.9	0.04	8.7	0.20	35.7
Maximum	23.1	187	2.2	1.2	51.2	64.8	303	0.92	54.5	2.9	225
Median	5.5	61.9	0.58	0.12	17.9	17.6	33.1	0.13	16.7	0.73	75.4
Mean	6.6	74.2	0.67	0.18	19.4	20.9	57.8	0.20	19.2	0.88	80.2
Standard Deviation	3.8	31.8	0.34	0.20	7.1	11.4	67.5	0.18	8.1	0.60	31.7
Coefficient of Variation	0.58	0.43	0.51	1.1	0.37	0.55	1.2	0.9	0.42	0.68	0.40
90 % UCL	7.4	81.1	0.75	0.22	20.9	23.4	72.5	0.24	21.0	1.0	87.1
TAGM 4046	7.5	300	0.16	1	10	25	-	0.1	13	2	20
% Values Exceeding TAGM 4046	24	0	100	2	100	22	-	66	80	5	100
Mean for NJ Soils	4.46	-	0.93	0.37	12.3	17.2	58.4	0.46	10.3	0.07	73.4
Mean for Eastern US Soils (USGS)	7.4	-	0.85	-	22	22	17	0.12	18	0.45	50

NOTES:

1. All concentrations are given in mg/kg.
2. In order to perform statistical calculations, non-detect values were assigned a value of one half of the detection limit.
3. "TAGM 4046" refers to DEC's Technical & Administrative Guidance Memorandum (TAGM) #4046, entitled "Determination of soil cleanup objectives and cleanup levels".
4. Mean metals concentrations for NJ soils were taken from the 1993 study by the New Jersey Department of Environmental Protection.
5. Mean metals concentrations for Eastern US soils were taken from Shacklette and Boerngen (1984) Element concentrations in soils and other surficial materials of the coterminous United States. USGS Professional Paper 1270.

Table 3. Background Heavy Metals Concentrations in Undisturbed Natural Soils of the Lower Hudson Valley (Page 1 of 3)

Site No./County/Name	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
01/Dutchess/Tivoli Bay	5.8	74.7	0.58	0.11	14.4	16.1	26.4	0.06	16.4	0.81	57.9
	4.7	58.7	0.47	0.06	11.8	12.6	22.2	0.04	13.3	0.48	45.2
	5.2	59.2	0.49	0.06U	12.8	13.1	19.9	0.05	14.3	0.54	48.2
02/Dutchess/Stissing Mountain	4.4	47.7	0.57	0.11	24.5	17.6	23.8	0.07	29.4	0.48	91.6
	5.1	46.1	0.59	0.06	25	17.9	43.2	0.06	30.4	1.2	96.9
	4.8	46.6	0.62	0.05U	22.3	16.5	17.4	0.06	28.5	0.73	89.6
03/Dutchess/Taconic-Hereford	7.0	55.6	0.78	0.04U	17.3	17.6	16.6	0.05	22.7	0.71	79.3
	8.5	55.7	0.79	0.06	17.9	18.6	43	0.12	26.6	0.73	91.9
	7.5	48.8	0.70	0.10	15.5	16.6	19.3	0.09	22.4	0.62	78.6
04/Dutchess/Stony Kill Farm	6.9	53.7	0.57	0.09	12.6	13.5	74.7	0.18	15.8	1.1	68.1
	7.6	53.0	0.56	0.11	14.4	15.2	42.2	0.14	16.6	1.4	72.7
	6.5	56.0	0.53	0.07	13.6	14.4	33.1	0.14	16.7	0.82	70.3
05/Putnam/Castle Rock	14.3	99.7	1.4	0.19	29.4	32.4	59.1	0.34	31.0	0.83U	135
	23.1	187	2.2	0.42	51.2	64.8	82.6	0.36	54.5	2.9	225
	11.2	82.6	1.2	0.21	24.3	30.0	49.6	0.29	26.3	1.2	124
06/Sullivan/Wurtsboro Ridge	8.8	99.9	1.0	0.18	26.8	29	33.8	0.10	26.6	1.3	99.4
	15.5	136	1.6	0.12	39.1	44.2	24.9	0.06	41.5	0.96	132
	8.9	96.6	0.91	0.31	21.5	25.6	102	0.14	23.7	1.4	89.9
07/Sullivan/Neversink River	6.6	66.2	0.29	0.17	13.8	25.5	215	0.24	8.7	1.1	97.8
	5.5	42.0	0.24	0.06	11.3	49.4	59.9	0.23	9.3	0.49	52.8
	7.3	50.7	0.32	0.11	13.2	12.1	50.5	0.15	10.8	0.84	59.2

Notes:
1. All concentrations are given in mg/kg.
2. Concentrations below the method detection limit (MDL) are designated by the MDL followed by the "U" data qualifier.

Table 3. Background Heavy Metals Concentrations in Undisturbed Natural Soils of the Lower Hudson Valley (Page 2 of 3)

Site No./County/Name	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
08/Orange/Stewart State Forest	17.7	90.9	0.34	0.42	11.2	16.6	95.1	0.10	14.9	0.62	88.1
	4.7	92.2	0.57	0.17	13.5	18.1	209	0.69	15.8	0.60	91.5
	5.4	141	0.63	0.30	14.9	19.5	303	0.92	18	0.69	125
09/Orange/Mt Peter Hawk Watch Trailway	6.0	61.9	0.98	0.25	15.4	14.3	51.3	0.18	16.0	0.51	84.2
	3.8	61.1	1.4	0.19	15.7	11.1	20	0.1	17.4	0.38	80.8
	6.5	60.9	1.4	0.18	18.7	18.1	36.1	0.11	20.5	0.45U	91.4
10/Orange/Kowawese	4.7	38.5	0.45	0.11	14.1	20.4	12.7	0.08	22.4	0.37U	59.7
	5.3	48	0.58	0.14	19.3	24.9	17.1	0.05	28	0.49U	76.6
	4.4	42.4	0.54	0.17	14.6	20	13.1	0.09	24.1	0.37U	57.4
11/Ulster/Hemlock Ridge	6.4	77.8	0.40	0.27	13.5	11	89.9	0.14	13	1.3	74
	2.2	72.8	0.56	0.05U	17.4	5.8	6.9	0.12	12.8	0.48U	67.2
	4.1	56.5	0.62	0.04U	22.6	14.8	12.6	0.09	22	0.04U	72
12/Ulster/Shawangunk	5.2	83.2	0.83	0.11	17.3	10.8	15.9	0.10	19.5	0.47U	71.9
	5.6	82.4	0.64	0.20	13.9	14	53.8	0.11	15.6	0.53	75.1
	5.7	92.1	0.72	0.27	14.7	11.5	43.3	0.11	16.6	0.55	84.9
13/Ulster/Highwoods	6.0	85.3	0.52	0.32	16.8	12.2	29.6	0.12	14.2	0.76	72.3
	4.8	58.8	0.49	0.10	16.3	11.7	19.3	0.09	15.2	0.61	54.9
	7.6	67.4	0.59	0.08	20.3	12.7	26.8	0.13	17.9	0.57U	60.4
14/Putnam/California Hill	2.9	141	0.38	0.41	14.8	23.2	60.4	0.15	10.5	1.9	93.8
	2.9	107	0.67	0.19	22	33	24.8	0.13	10.9	0.63	77
	2.2	90.7	0.65	0.11	22.2	24.5	13.9	0.15	11.6	0.53	66.4

Notes:
1. All concentrations are given in mg/kg.
2. Concentrations below the method detection limit (MDL) are designated by the MDL followed by the "U" data qualifier.

Table 3. Background Heavy Metals Concentrations in Undisturbed Natural Soils of the Lower Hudson Valley (Page 3 of 3)

Site No./County/Name	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc
15/Westchester/Blue Mountain Reservation	5.5	68.7	0.57	0.19	21.5	15.9	26.5	0.38	18.2	0.83	67.1
	4.5	94.5	0.69	0.15	31.3	20.3	13.2	0.48	27.5	1.1	75.4
	3.3	80	0.54	0.06	21.9	15.1	7.4	0.42	18.3	0.66	53.8
16/Westchester/ Rockefeller Preserve	3.5	50	0.60	0.06	18.5	8.5	10.5	0.05	11.3	0.39U	35.7
	3.3	58.6	0.66	0.08	19.7	9.6	15.2	0.20	12.7	0.45U	41
	4.9	49.4	0.61	0.11	18.7	10.9	24.3	0.26	12.5	0.78	41.7
17/Westchester/Tibbetts Brook Park	7.8	126	0.51	0.94	23.8	31.3	208	0.41	20.8	1.5	126
	15.0	57.1	0.43	0.28	29.7	48.6	190	0.52	18.9	2.6	89.9
	9.6	165	0.45	1.2	30.9	42.8	301	0.65	28.3	2.5	161
18/Rockland/Bear Mountain State Park	4.6	39.9	0.72	0.05	13.7	14.5	15.5	0.05	13.5	0.88	42.5
	3.1	57.7	0.44	0.15	17.9	13.9	33.0	0.22	14.0	1.8	51.6
	3.9	44.6	0.80	0.05U	14.7	17.1	9.5	0.36	14.0	0.89	43.3
19/Rockland/Hook Mountain State Park	4.0	89.8	0.53	0.20	18.5	23.2	47.7	0.30	20.4	1.4	76.4
	5.3	64.2	0.52	0.12	17.8	27.7	113	0.29	19.5	0.92	79.3
	9.6*	1060*	0.40*	9.2*	15.9*	29.2*	1380*	0.20*	17.6*	1.5*	1750*
20/Rockland/Tallman Mountain State Park	6.4	46.5	0.31	0.06U	22.9	19.4	48.2	0.11	12.5	1.6	68.2
	6.8	79.0	0.55	0.36	22.0	21.9	69.7	0.17	14.0	1.3	89.2
	7.6	39.5	0.46	0.09	20.7	20.6	64.6	0.13	12.0	1.1	59.1

Notes:
1. All concentrations are given in mg/kg.
2. Concentrations below the method detection limit (MDL) are designated by the MDL followed by the "U" data qualifier.
3. Values marked with an asterisk are considered to be outlier values or are values associated with a sample which is being omitted from statistical calculations because it exhibits values for one or more metals which are considered to be outlier values.

DRAWINGS