

Environmental Work Plan

Endicott-Johnson, Inc., Site #704018

**FRANKLIN STREET
ENDICOTT, NEW YORK**

AUGUST 9, 2006

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FIGURES

FIGURE 1	AERIAL PHOTOGRAHPH OF SITE WITH PROPOSED SAMPLE LOCATIONS
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1.0 INTRODUCTION

In year 2005, the New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) developed a strategy for "Evaluating the Potential for Vapor Intrusion at Past, Current and Future Sites" in the State of New York. One element of the strategy involved evaluation of the soil vapor intrusion pathway at sites where the Agencies previously selected a remedy to address site-related hazardous waste contamination. Improvements in analytical techniques and knowledge gained from site investigations in New York and other states has led to an increased awareness of soil vapor as a media of concern and of the potential for exposures from the vapor intrusion pathway.

The result is that the NYSDEC has requested that additional work and environmental sampling be performed at the Endicott-Johnson (EJ) property in Endicott, New York for two reasons: to support EJ's petition to delist the site from the NYSDEC's registry of inactive hazardous waste sites and to address questions that have arisen regarding the potential for contamination to exist in the site's soil vapor.

This Work Plan is submitted for State acceptance in order to gather the data necessary to resolve outstanding questions at the EJ property. A geoprobe unit will be used at six strategic locations to collect both soil gas and groundwater. The six existing groundwater wells on the subject property will be sampled. Geologic NY, Inc. and Gary Dyer Inc. are the local contractors that will be used to perform the fieldwork at the site. The laboratory used to conduct sample analyses will be Buck Environmental Labs, Inc. The geoprobe locations will focus on the tank removal area which was the focus of past remedial activities; the former location of the plant building where waste management may have occurred; the area immediately upgradient of an IBM extraction well that may be collecting contamination from an upgradient source; and along a line on the north side of Franklin Street, which is presumed to be the downgradient edge of the EJ property. Attached as **Figure 1** is an aerial photo depicting these general locations.

2.0 WORK PLAN SCOPE

2.1 Sample Locations and Purpose of Sample Locations

The six existing groundwater, monitoring wells at the site will be sampled. The respective wells are identified as MW-1, MW-2S, MW-2D, MW-3, MW-4 and MW-5 on **Figure 1**.

Six strategic geoprobe/soil probes with installation of soil vapor implants to collect both soil gas and groundwater will be located as follows:

- 1) Western most sample inside of former "System Fence" to focus on the tank removal area, which was where past remedial activities occurred to show that the remedial activities were successful;
- 2) East of "System Fence" near location of former plant building where waste management may have occurred to show that there is no contamination in this particular area;
- 3) Three samples evenly spaced along a line on the North side of Franklin Street, which is the presumed downgradient edge of the EJ property to show that there is no contamination migrating downgradient and off site;
- 4) Eastern most sample, also along a line on the North side of Franklin Street, to focus on area immediately upgradient of an IBM extraction well to show that the well is not collecting contamination from an upgradient source, such as the EJ property.

The six soil probes could range in depth from 8 to 20 feet pending impact with groundwater, which can be estimated from historical water column hang depths at the existing monitoring wells. See **Figure 1** for the approximate location of each of the proposed soil probes / soil vapor implants.

2.2 Sampling Methodology and Laboratory Methods

The soil vapor samples will be collected by GeoLogic after the soil vapor implants have been successfully installed; GeoLogic will collect six (6) one-hour soil vapor samples and one ambient air sample to be analyzed by TO-15 methodology with a 1 ug/m³ detection limit. To verify that the soil vapor samples are not diluted with ambient air, helium will be used as a tracer.

The soil vapor samples will be analyzed for TO-15 compounds (see **Appendix A** for a list of the 63 compounds and the minimum reporting limits) utilizing EPA method TO-15.

The groundwater samples from the soil vapor implants and the six existing

groundwater wells will be analyzed for full scan EPA 8260 volatiles and EPA 8270 semi-volatiles using EPA SW846 Methods 8260 and 8270 (see **Appendix B** and **Appendix C** for a list of the intended analytes and the minimum reporting limits).

2.3 Groundwater Elevations

During the soil vapor and groundwater sampling effort, a synoptic round of groundwater elevations will be collected and a groundwater flow map will be developed from this data and presented in the investigation report.

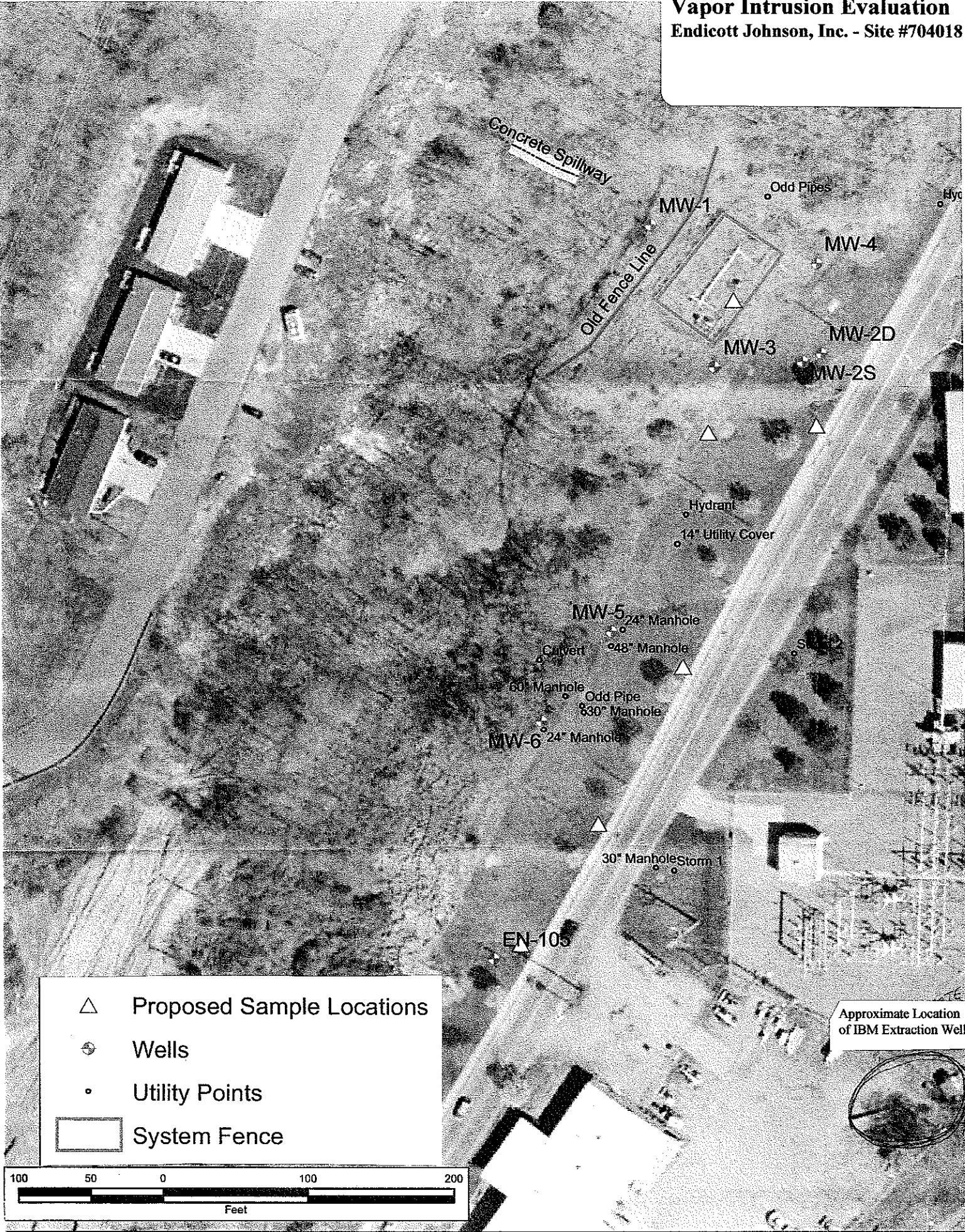
2.4 Schedule of Work

With State review and approval of the proposed Work Plan, the Work will be scheduled during the month of September, 2006. It is estimated that the geoprobes and soil vapor and groundwater sampling can be completed in three consecutive workdays. After the samples are relinquished to Buck Environmental Labs for analysis, the results are expected within one week. After the Lab results are received, the Investigation Report will be completed and submitted to the State within two weeks.

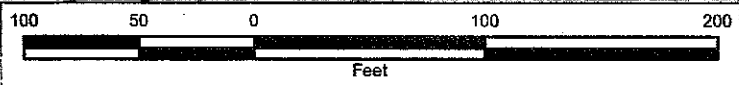
3.0 INVESTIGATION REPORT

After the Work is completed and laboratory results are received, an Investigation Report to review findings will be prepared and submitted to the State. With favorable results, a subsequent petition for Site delisting will be requested.

Vapor Intrusion Evaluation
Endicott Johnson, Inc. - Site #704018



- △ Proposed Sample Locations
- ⊕ Wells
- Utility Points
- System Fence



Approximate Location of IBM Extraction Well



Buck Environmental Laboratory
Method Detection Limit/Reporting Limit Summary Report
Method: E.P.A. TO-15 Volatiles (Scan Acquisition)
Instrument: MSD #4
Matrix: Air

<u>Compound</u>	<u>MDL</u> <u>ppbv</u>	<u>MDL</u> <u>ug/m3</u>	<u>B.E.L Report.</u> <u>Limit (ppbv)</u>	<u>B.E.L Report.</u> <u>Limit (ug/m3)</u>
Dichlorodifluoromethane	0.06	0.30	0.15	0.74
Chloromethane	0.19	0.39	0.15	0.31
Vinyl Chloride	0.03	0.07	0.15	0.38
Bromomethane	0.10	0.38	0.15	0.58
Chloroethane	0.06	0.16	0.15	0.40
Vinyl bromide	0.06	0.28	0.15	0.66
Trichlorofluoromethane	0.08	0.43	0.15	0.84
1,1-Dichloroethene	0.08	0.31	0.15	0.60
Carbon disulfide	0.15	0.45	0.15	0.47
Methylene Chloride	0.06	0.21	0.15	0.52
trans-1,2-Dichloroethene	0.12	0.46	0.15	0.60
MTBE	0.12	0.42	0.15	0.54
1,1-Dichloroethane	0.07	0.30	0.15	0.61
cis-1,2-Dichloroethene	0.08	0.32	0.15	0.60
Tetrahydrofuran	0.13	0.39	0.15	0.44
Chloroform	0.06	0.31	0.15	0.73
1,1,1-Trichloroethane	0.08	0.46	0.15	0.82
Carbon Tetrachloride	0.15	0.95	0.15	0.94
Benzene	0.07	0.23	0.15	0.48
2,2,4-Trimethylpentane	0.05	0.24	0.15	0.70
1,2-Dichloroethane	0.08	0.32	0.15	0.61
Trichloroethene	0.07	0.40	0.15	0.81
1,2-Dichloropropane	0.08	0.37	0.15	0.69
Bromodichloromethane	0.15	1.01	0.15	1.01
cis-1,3-Dichloropropene	0.13	0.60	0.15	0.68
Toluene	0.07	0.26	0.15	0.57
trans-1,3-Dichloropropene	0.19	0.84	0.15	0.68
1,1,2-Trichloroethane	0.14	0.77	0.15	0.82
Tetrachloroethene	0.10	0.70	0.15	1.02
Dibromochloromethane	0.22	1.87	0.15	1.28
1,2-Dibromoethane	0.16	1.26	0.15	1.15
Chlorobenzene	0.12	0.57	0.15	0.69
Ethylbenzene	0.13	0.56	0.15	0.65
m&p Xylene	0.26	1.14	0.30	1.30
o-Xylene	0.11	0.46	0.15	0.65
Styrene	0.20	0.85	0.15	0.64
Bromoform	0.23	2.38	0.15	1.55
1,1,2,2-Tetrachloroethane	0.17	1.14	0.15	1.03
4-Ethyltoluene	0.15	0.73	0.15	0.74
1,3,5-Trimethylbenzene	0.18	0.90	0.15	0.74
1,2,4-Trimethylbenzene	0.16	0.80	0.15	0.74
1,3-Dichlorobenzene	0.14	0.87	0.15	0.90
1,4-Dichlorobenzene	0.15	0.89	0.15	0.90
1,2-Dichlorobenzene	0.14	0.84	0.15	0.90
1,2,4-Trichlorobenzene	0.15	1.14	0.15	1.11
Hexachlorobutadiene	0.19	2.04	0.15	1.60

MDL's established 4/9/04

Test Code: M8260L
 Test Number: SW8260A
 Test Name: GC/MS Volatiles by EPA 8260
 Matrix: Aqueous Units: µg/L

**METHOD DETECTION /
 REPORTING LIMITS**

Updated: 06-Feb-01

Type	Analyte	MDL	PQL
A	1,1,1,2-Tetrachloroethane	1.26634129966	5
A	1,1,1-Trichloroethane	1.66352091354	5
A	1,1,2,2-Tetrachloroethane	1.06835437941	5
A	1,1,2-Trichloroethane	0.96640875859	5
A	1,1-Dichloroethane	1.50980874932	5
A	1,1-Dichloroethene	1.75246731799	5
A	1,1-Dichloropropene	1.72127415831	5
A	1,2,3-Trichlorobenzene	2	5
A	1,2,3-Trichloropropane	1.34904608451	5
A	1,2,4-Trichlorobenzene	2	5
A	1,2,4-Trimethylbenzene	2	5
A	1,2-Dibromo-3-chloropropane	0.84246426255	5
A	1,2-Dibromoethane	0.69958198034	5
A	1,2-Dichlorobenzene	1.29100130124	5
A	1,2-Dichloroethane	1.2193837417	5
A	1,2-Dichloropropane	1.05263501417	5
A	1,3,5-Trimethylbenzene	2	5
A	1,3-Dichlorobenzene	1.62228251874	5
A	1,3-Dichloropropane	1.08720691517	5
A	1,4-Dichlorobenzene	1.17621338250	5
A	2,2-Dichloropropane	2.16830816237	5
A	2-Butanone	4.24411157671	25
A	2-Chloroethyl vinyl ether	2	5
A	2-Chlorotoluene	2	5
A	2-Hexanone	3.51860683242	25
A	4-Chlorotoluene	2	5
A	4-Isopropyltoluene	2	5
A	4-Methyl-2-pentanone	2.46287581341	25
A	Acetone	3.23165092244	25
A	Benzene	1.56350838306	5
A	Bromobenzene	2	5
A	Bromochloromethane	1.40912095434	5
A	Bromodichloromethane	1.02777968402	5
A	Bromoform	1.06847213685	5
A	Bromomethane	0.55409084500	5
A	Carbon disulfide	1.8894424227	5
A	Carbon tetrachloride	1.70509013807	5
A	Chlorobenzene	1.46695175716	5
A	Chloroethane	4.05097180337	5
A	Chloroform	1.39767948390	5
A	Chloromethane	1.28321804157	5
A	cis-1,2-Dichloroethene	1.40912095434	5

Test Code: M8260L
 Test Number: SW8260A
 Test Name: GC/MS Volatiles by EPA 8260
 Matrix: Aqueous Units: µg/L

**METHOD DETECTION /
 REPORTING LIMITS**

Updated: 06-Feb-01

Type	Analyte	MDL	PQL
A	cis-1,3-Dichloropropene	1.03559966904	5
A	Dibromochloromethane	0.77289263521	5
A	Dibromomethane	1.14657159502	5
A	Dichlorodifluoromethane	2	5
A	Ethylbenzene	1.49703635718	5
A	Hexachlorobutadiene	2	5
A	Isopropylbenzene	2	5
A	m,p-Xylene	2.67684404608	10
A	Methyl tert-butyl ether	2	5
A	Methylene chloride	1.39704922933	5
A	n-Butylbenzene	2	5
A	n-Propylbenzene	2	5
A	Naphthalene	2	5
A	o-Xylene	1.45649399255	5
A	sec-Butylbenzene	2	5
A	Styrene	1.27820794626	5
A	tert-Butylbenzene	2	5
A	Tetrachloroethene	1.44843826885	5
A	Toluene	1.19992123306	5
A	trans-1,2-Dichloroethene	1.58603825318	5
A	trans-1,3-Dichloropropene	1.5	5
A	Trichloroethene	1.47311391883	5
A	Trichlorofluoromethane	2.14490706500	5
A	Vinyl acetate	1.27032154572	5
A	Vinyl chloride	1.49939816938	5
I	1,4-Dichlorobenzene-d4	0	0
I	Chlorobenzene-d5	0	0
I	Fluorobenzene	0	0
S	1,2-Dichloroethane-d4	0	0
S	4-Bromofluorobenzene	2	5
S	Dibromofluoromethane	2	5
S	Toluene-d8	2	5

Test Code: M8270L
 Test Number: SW8270A
 Test Name: SEMIVOLATILE ORGANICS BY EPA 8270
 Matrix: Aqueous Units: µg/L

**METHOD DETECTION /
 REPORTING LIMITS**

Updated:

Type	Analyte	MDL	PQL
A	1,2,4-Trichlorobenzene	1	10
A	1,2-Dichlorobenzene	1	10
A	1,3-Dichlorobenzene	1	10
A	1,4-Dichlorobenzene	1	10
A	2,4,5-Trichlorophenol	1	10
A	2,4,6-Trichlorophenol	1	10
A	2,4-Dichlorophenol	1	10
A	2,4-Dimethylphenol	1	10
A	2,4-Dinitrophenol	1	25
A	2,4-Dinitrotoluene	1	10
A	2,6-Dinitrotoluene	1	10
A	2-Chloronaphthalene	1	10
A	2-Chlorophenol	1	10
A	2-Methylnaphthalene	1	10
A	2-Methylphenol	1	10
A	2-Nitroaniline	1	10
A	2-Nitrophenol	1	10
A	3,3'-Dichlorobenzidine	1	10
A	3-Nitroaniline	1	25
A	4,6-Dinitro-2-methylphenol	1	25
A	4-Bromophenyl phenyl ether	1	10
A	4-Chloro-3-methylphenol	1	10
A	4-Chloroaniline	1	10
A	4-Chlorophenyl phenyl ether	1	10
A	4-Methylphenol	1	10
A	4-Nitroaniline	1	25
A	4-Nitrophenol	1	25
A	Acenaphthene	1	10
A	Acenaphthylene	1	10
A	Anthracene	1	10
A	Benz(a)anthracene	1	10
A	Benzo(a)pyrene	1	10
A	Benzo(b)fluoranthene	1	10
A	Benzo(g,h,i)perylene	1	10
A	Benzo(k)fluoranthene	1	10
A	Benzoic acid	1	25
A	Benzyl alcohol	1	10
A	Bis(2-chloroethoxy)methane	1	10
A	Bis(2-chloroethyl)ether	1	10
A	Bis(2-chloroisopropyl)ether	1	10
A	Bis(2-ethylhexyl)phthalate	1	10
A	Butyl benzyl phthalate	1	10

Test Code: M8270L
 Test Number: SW8270A
 Test Name: SEMIVOLATILE ORGANICS BY EPA 8270
 Matrix: Aqueous Units: µg/L

**METHOD DETECTION /
 REPORTING LIMITS**

Updated: 21-Sep-05

Type	Analyte	MDL	PQL
A	Carbazole	1	10
A	Chrysene	1	10
A	Demeton-S	1	10
A	Di-n-butyl phthalate	1	10
A	Di-n-octyl phthalate	1	10
A	Dibenz(a,h)anthracene	1	10
A	Dibenzofuran	1	10
A	Diethyl phthalate	1	10
A	Dimethyl phthalate	1	10
A	Fluoranthene	1	10
A	Fluorene	1	10
A	Hexachlorobenzene	1	10
A	Hexachlorobutadiene	1	10
A	Hexachlorocyclopentadiene	1	10
A	Hexachloroethane	1	10
A	Indeno(1,2,3-cd)pyrene	1	10
A	Isophorone	1	10
A	N-Nitrosodi-n-propylamine	1	10
A	N-Nitrosodimethylamine	1	10
A	N-Nitrosodiphenylamine	1	10
A	Naphthalene	1	10
A	Nitrobenzene	1	10
A	Pentachlorophenol	1	25
A	Phenanthrene	1	10
A	Phenol	1	10
A	Pyrene	1	10
I	1,4-Dichlorobenzene-d4	1	1
I	Acenaphthene-d10	1	1
I	Chrysene-d12	1	1
I	Naphthalene-d8	1	1
I	Perylene-d12	1	1
I	Phenanthrene-d10	1	1
S	2,4,6-Tribromophenol	1	1
S	2-Fluorobiphenyl	1	1
S	2-Fluorophenol	1	1
S	Nitrobenzene-d5	1	1
S	Phenol-d6	1	1
S	Terphenyl-d14	1	1