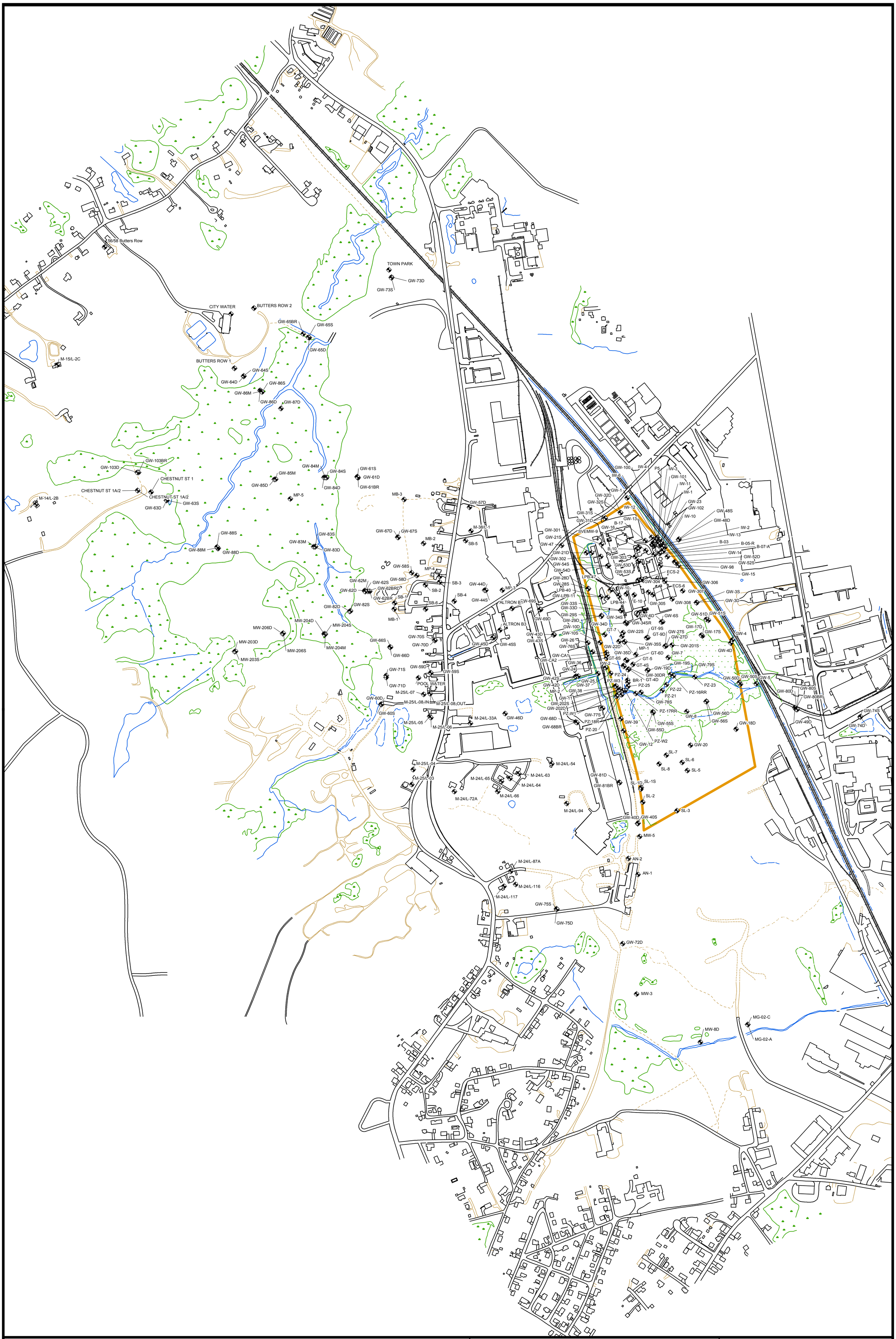
ATTACHMENT E

GROUNDWATER SUMMARY TABLE AND FIGURES

(Provided on CD)



Legend

GW Location	Structure
Trail	Water
Paved Road	Wetland Symbol
Unpaved Road	Wetland Boundary
Railroad	Site Boundary

MACTEC

MACTEC Engineering and Consulting
107 Audubon Road Suite 301
Wakefield, MA 01880

N

0 175 350 700 Feet

Groundwater Locations

51 Eames Street Site
Wilmington, Massachusetts

PROJ NO	6300060010	Prepared by BJR
DWG NO		Checked by XXX

Document: P:\W5-CHEM\OLIN\Wilmington\GIS\MapDocuments\Olin_Locations.mxd PDF: P:\W5-CHEM\OLIN\Wilmington\GIS\Figures\AllGroundwaterLocations.pdf 10/23/2006 9:43 AM bjroden

Table 1
Summary of Compounds Detected in On-Site Groundwater
Olin Wilmington Superfund Site
Wilmington, Massachusetts

param_name	Frequency of Detection			Range of Non Detects			Range of Detected Concentrations			Average of All Samples	GW-10DR OC-GW-10D-DUP 2/29/2012	GW-10DR OC-GW-10DR-XXX 2/23/2011	GW-10DR OC-GW-10DR-XXX 5/18/2011	GW-10DR OC-GW-10D-XXX 2/29/2012
Volatile Organics (mg/L)														
1,1-Dichloroethane	4	/	20	0.001	:	0.004	0.0006	-	0.0016	0.000773		0.004 U	0.004 U	
1,1-Dichloroethene	2	/	20	0.001	:	0.004	0.00034	-	0.00048	0.000641		0.004 U	0.004 U	
1,2,4-Trichlorobenzene	2	/	20	0.001	:	0.004	0.00029	-	0.0003	0.00063		0.004 U	0.004 U	
1,2,4-Trimethylbenzene	2	/	20	0.001	:	0.004	0.00021	-	0.00035	0.000628		0.004 U	0.004 U	
1,2-Dichloroethane	8	/	20	0.001	:	0.004	0.00051	-	0.0019	0.000884		0.004 U	0.004 U	
1,3-Dichlorobenzene	3	/	20	0.001	:	0.004	0.00061	-	0.0024	0.000791		0.004 U	0.004 U	
2,4,4-Trimethyl-1-pentene	13	/	20	0.001	:	0.001	0.0035	-	0.19	0.0531		0.07	0.13 J	
2,4,4-Trimethyl-2-pentene	12	/	20	0.001	:	0.001	0.00065	-	0.11	0.015715		0.021	0.04	
Acetone	1	/	20	0.05	:	0.2	0.023	-	0.023	0.0324		0.2 UJ	0.2 U	
Benzene	2	/	20	0.001	:	0.004	0.00038	-	0.0004	0.000639		0.004 U	0.004 U	
Bromochloromethane	4	/	20	0.001	:	0.004	0.0002	-	0.00038	0.000609		0.004 U	0.004 U	
Bromodichloromethane	5	/	20	0.0005	:	0.002	0.00041	-	0.0018	0.000641		0.002 U	0.002 U	
Bromoform	6	/	20	0.001	:	0.004	0.00078	-	0.0084	0.001734		0.004 U	0.004 U	
Carbon disulfide	9	/	20	0.01	:	0.01	0.0003	-	0.0063	0.004097		0.0048 J	0.0063 J	
Chlorodibromomethane	6	/	20	0.0005	:	0.002	0.00024	-	0.0044	0.000785		0.002 U	0.002 U	
Chloroform	3	/	20	0.001	:	0.004	0.0014	-	0.0019	0.000933		0.004 U	0.004 U	
Chloromethane	2	/	20	0.002	:	0.008	0.00089	-	0.00099	0.001294		0.008 U	0.008 U	
Dibromomethane	5	/	20	0.001	:	0.004	0.0012	-	0.0041	0.00116		0.004 U	0.004 U	
Ethyl benzene	1	/	20	0.001	:	0.004	0.00022	-	0.00022	0.000636		0.004 U	0.004 U	
Methyl Tertbutyl Ether	2	/	20	0.001	:	0.004	0.00025	-	0.00034	0.00063		0.004 U	0.004 U	
Naphthalene	1	/	20	0.005	:	0.02	0.00035	-	0.00035	0.003143		0.02 U	0.02 U	
Toluene	5	/	20	0.001	:	0.004	0.00045	-	0.00068	0.000667		0.004 U	0.004 U	
Trichloroethene	2	/	20	0.001	:	0.004	0.00031	-	0.0005	0.000641		0.004 U	0.004 U	
Xylene, o	1	/	20	0.001	:	0.004	0.00025	-	0.00025	0.000638		0.004 U	0.004 U	
Semivolatile Organics (mg/L)														
2,6-Dinitrotoluene	3	/	20	0.0045	:	0.005	0.00047	-	0.00063	0.002022		0.0045 U	0.0045 U	
2-Nitrophenol	5	/	20	0.0045	:	0.0047	0.0028	-	0.0055	0.002688		0.0045 U	0.0045 U	
4-Bromophenyl phenyl ether	6	/	20	0.0045	:	0.0047	0.00058	-	0.0021	0.001958		0.0045 U	0.0045 U	
4-Nitrophenol	5	/	20	0.0045	:	0.0047	0.0016	-	0.0023	0.002193		0.0045 UJ	0.0045 U	
Azobenzene	2	/	20	0.0045	:	0.005	0.00053	-	0.00057	0.002103		0.0045 U	0.0045 U	
Benzaldehyde	1	/	20	0.0045	:	0.005	0.00067	-	0.00067	0.002189		0.0045 U	0.0045 U	
Benzo(ghi)perylene	1	/	20	0.00045	:	0.0005	0.000098	-	0.000098	0.000221		0.000098 J	0.00045 U	
Benzoic Acid	1	/	12	0.0045	:	0.0045	0.0038	-	0.0038	0.002379		0.0038 J	0.0045 UJ	
Biphenyl	5	/	20	0.0045	:	0.005	0.0005	-	0.0018	0.002016		0.0018 J	0.0018 J	
Bis(2-Ethylhexyl)phthalate	2	/	20	0.0018	:	0.0019	0.00077	-	0.0017	0.000939		0.0017 J	0.0018 U	
Dibenz(a,h)anthracene	2	/	20	0.00045	:	0.0005	0.000066	-	0.0001	0.000213		0.0001 J	0.00045 U	
Diethylphthalate	3	/	20	0.0045	:	0.0047	0.0019	-	0.0025	0.002263		0.0024 J	0.0045 U	
Diphenyl ether	18	/	20	0.0045	:	0.0045	0.00063	-	0.012	0.004102		0.011	0.012	

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Olin Wilmington Superfund Site
Wilmington, Massachusetts

param_name	Frequency of Detection			Range of Non Detects			Range of Detected Concentrations			Average of All Samples	GW-10DR OC-GW-10D-DUP 2/29/2012	GW-10DR OC-GW-10DR-XXX 2/23/2011	GW-10DR OC-GW-10DR-XXX 5/18/2011	GW-10DR OC-GW-10D-XXX 2/29/2012
Diphenylamine	9	/	15	0.0045	:	0.0045	0.00049	-	0.004	0.001764		0.00064 J	0.004 J	
Diphenylmethanone	12	/	20	0.0045	:	0.0045	0.0005	-	0.0037	0.001835		0.0045 U	0.0045 U	
N-Nitrosodimethylamine	19	/	21	1.9E-06	:	4.8E-06	0.000026	-	0.0046	0.0007		0.0046 J	0.00087 J	
N-Nitrosodi-n-butylamine	2	/	3	1.9E-06	:	1.9E-06	2.7E-06	-	4.9E-06	2.85E-06	0.0000027 J			0.0000049 J
N-Nitrosodi-n-propylamine	2	/	23	5.4E-07	:	0.0001	9.4E-07	-	1.2E-06	7.23E-06	0.00000054 U	0.00000094 J	0.000019 U	0.00000077 U
N-Nitrosodiphenylamine	15	/	19	0.0045	:	0.0047	0.00065	-	0.026	0.004658		0.026	0.017	
N-Nitrosomethylethylamine	2	/	3	1.9E-06	:	1.9E-06	4.9E-07	-	5E-07	6.47E-07	0.00000049 J			0.0000005 J
Metals, Total (mg/L)														
Aluminum	15	/	20	0.1	:	0.1	0.015	-	11	3.06195		2.4	1.5	
Arsenic	9	/	20	0.001	:	0.1	0.0017	-	0.0057	0.00566		0.0024	0.0033	
Barium	16	/	20	0.01	:	0.01	0.0065	-	0.095	0.024795		0.032	0.022	
Beryllium	8	/	20	0.001	:	0.001	0.00024	-	0.0028	0.000847		0.001 U	0.001 U	
Cadmium	1	/	20	0.001	:	0.001	0.0013	-	0.0013	0.00054		0.001 U	0.001 U	
Calcium	20	/	20				1.7	-	230	80.025		2.3	2.3	
Chromium	14	/	20	0.005	:	0.0079	0.0025	-	1	0.242443		0.19	0.15	
Chromium, Hexavalent	2	/	16	0.001	:	0.001	0.00046	-	0.00062	0.000505		0.00062 J	0.001 UJ	
Cobalt	14	/	20	0.01	:	0.01	0.0019	-	0.087	0.02867		0.01 U	0.01 U	
Copper	2	/	20	0.01	:	0.019	0.0033	-	0.01	0.005665		0.0033 J	0.01 U	
Iron	19	/	20	0.31	:	0.31	0.045	-	67	13.32875		3.2	3.2	
Lead	1	/	20	0.005	:	0.005	0.0037	-	0.0037	0.00256		0.005 UJ	0.005 U	
Magnesium	20	/	20				0.12	-	31	12.4865		0.96	1.1	
Manganese	20	/	20				0.014	-	3.3	1.35435		0.065	0.078	
Mercury	4	/	20	0.0002	:	0.0003	0.00012	-	0.0003	0.000125		0.00012 J	0.0002 U	
Nickel	16	/	20	0.01	:	0.01	0.0018	-	0.096	0.02666		0.0032 J	0.0018 J	
Potassium	15	/	20	4	:	4	1.3	-	18	3.94		4 U	4 U	
Silver	4	/	20	0.005	:	0.006	0.0027	-	0.018	0.004335		0.0027 J	0.005 U	
Sodium	20	/	20				2.3	-	460	158.715		56	49	
Thallium	3	/	20	0.0001	:	0.001	0.00015	-	0.00043	0.00041		0.001 U	0.0001 U	
Tin	1	/	20	0.05	:	0.05	0.37	-	0.37	0.04225		0.05 U	0.05 U	
Vanadium	6	/	20	0.01	:	0.01	0.002	-	0.0096	0.00492		0.0096 J	0.0066 J	
Zinc	9	/	20	0.05	:	0.05	0.025	-	0.14	0.04945		0.05 U	0.05 U	
Metals, Dissolved (mg/L)														
Aluminum	1	/	3	0.1	:	0.1	1.9	-	1.9	0.666667				
Arsenic	1	/	1				0.0039	-	0.0039	0.0039				
Barium	1	/	1				0.0086	-	0.0086	0.0086				
Beryllium	1	/	1				0.00049	-	0.00049	0.00049				
Calcium	1	/	1				80	-	80	80				
Chromium	3	/	3				0.0021	-	0.37	0.124733				
Cobalt	1	/	1				0.051	-	0.051	0.051				

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Iron	1	/	1				20	-	20	20				
Magnesium	1	/	1				23	-	23	23				
Manganese	1	/	1				1.9	-	1.9	1.9				
Mercury	1	/	1				0.00006	-	0.00006	0.00006				
Nickel	1	/	1				0.056	-	0.056	0.056				
Potassium	1	/	1				1.9	-	1.9	1.9				
Silver	1	/	1				0.0042	-	0.0042	0.0042				
Sodium	1	/	1				190	-	190	190				
Zinc	1	/	1				0.065	-	0.065	0.065				
Inorganics (mg/L)														
Bromide	17	/	20	0.1	:	0.1	0.1	-	1.6	0.49		0.1	0.1 U	
Chloride	22	/	22				3.5	-	440	141.25		35	23	
LAB SPECIFIC CONDUCTANCE **(mS/cm)**	2	/	2				1.3	-	1.3	1.3				
Nitrate as N	6	/	20	0.05	:	0.05	0.092	-	16	0.9526		0.05 U	0.05 U	
Nitrogen, as Ammonia	22	/	22				0.19	-	520	126.7995		42	39	
Perchlorate	3	/	16	0.001	:	0.1	0.0047	-	0.0055	0.007		0.01 U	0.001 U	
Sulfate	22	/	22				19	-	3100	936.8182		130	100	
Site Specific Compounds (mg/L)														
Hydrazine	7	/	16	0.0002	:	0.0002	0.000072	-	0.00019	0.000105		0.000087 J	0.00014	
UDMH	1	/	16	0.0005	:	0.0005	0.00069	-	0.00069	0.000278		0.0005 U	0.0005 U	
Formaldehyde	3	/	16	0.03	:	0.03	0.0077	-	0.017	0.014419		0.017 J	0.011 J	
Dimethylformamide	1	/	16	0.02	:	0.02	0.019	-	0.019	0.010563		0.02 U	0.02 U	
4,4'-Isopropylidenediphenol	5	/	16	0.00094	:	0.00097	0.00049	-	0.00054	0.000486		0.00097 U	0.00096 U	
4-Nonylphenol (Tech.)	13	/	16	0.0048	:	0.0048	0.0032	-	0.038	0.013919		0.0048 U	0.0065	
OPEX	1	/	16	0.1	:	0.1	0.034	-	0.034	0.049		0.1 U	0.1 UJ	

mg/L = milligram per liter
U = not detected, value is the reporting limit
J = value is estimated
R = value is rejected

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Olin Wilmington Superfund Site
Wilmington, Massachusetts

param_name	GW-10S OC-GW-10S-XXX 10/18/2010	GW-10S OC-GW-10S-XXX 2/29/2012	GW-10S OC-GW-10S-XXX 5/14/2010	GW-202D OC-GW-202D-XXX 10/19/2010	GW-202D OC-GW-202D-XXX 5/14/2010	GW-202S OC-GW-202S-XXX 10/19/2010	GW-202S OC-GW-202S-XXX 5/14/2010	GW-408D OC-GW-408D-DUP 5/19/2011	GW-408D OC-GW-408D-DUP 5/25/2011
Volatile Organics (mg/L)									
1,1-Dichloroethane	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,1-Dichloroethene	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,2,4-Trichlorobenzene	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00029 J	
1,2,4-Trimethylbenzene	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
1,2-Dichloroethane	0.001 U		0.001 U	0.0011	0.0013	0.001 U	0.001 U	0.00078 J	
1,3-Dichlorobenzene	0.001 U		0.001 U	0.00061 J	0.0024	0.001 U	0.0013	0.001 U	
2,4,4-Trimethyl-1-pentene	0.026		0.001 U	0.0045	0.001 U	0.06	0.06	0.15 J	
2,4,4-Trimethyl-2-pentene	0.0046		0.001 U	0.00094 J	0.001 U	0.011	0.0021	0.035 J	
Acetone	0.05 U		0.05 UJ	0.05 U	0.05 UJ	0.05 U	0.05 UJ	0.05 U	
Benzene	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Bromochloromethane	0.001 U		0.001 U	0.00038 J	0.001 U	0.001 U	0.001 U	0.0003 J	
Bromodichloromethane	0.001 UJ		0.001 U	0.00096 J	0.0018	0.001 UJ	0.001 U	0.00083	
Bromoform	0.001 U		0.001 U	0.0041	0.0084	0.001 U	0.00078 J	0.0046	
Carbon disulfide	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.00033 J	
Chlorodibromomethane	0.0005 U		0.0005 U	0.0044	0.003	0.0005 U	0.00024 J	0.0012	
Chloroform	0.001 U		0.001 U	0.0025 U	0.0036 U	0.001 U	0.001 U	0.0018	
Chloromethane	0.002 U		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.00099 J	
Dibromomethane	0.001 U		0.001 U	0.0029	0.0041	0.001 U	0.001 U	0.0022	
Ethyl benzene	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Methyl Tertbutyl Ether	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Naphthalene	0.005 U		0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	
Toluene	0.001 U		0.001 U	0.00045 J	0.00068 J	0.001 U	0.001 U	0.00061 J	
Trichloroethene	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Xylene, o	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Semivolatile Organics (mg/L)									
2,6-Dinitrotoluene	0.0045 U		0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	
2-Nitrophenol	0.0045 U		0.0045 U	0.0029 J	0.0055	0.0045 U	0.0045 U	0.0042 J	
4-Bromophenyl phenyl ether	0.0045 U		0.0045 U	0.0045 U	0.0021 J	0.0045 U	0.0045 U	0.0014 J	
4-Nitrophenol	0.0045 UJ		0.0045 UJ	0.0019 J	0.0018 J	0.0045 UJ	0.0045 UJ	0.0023 J	
Azobenzene	0.0045 U		0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.00053 J	
Benzaldehyde	0.0045 U		0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	
Benzo(ghi)perylene	0.00045 U		0.00045 U	0.00045 U	0.00045 U	0.00045 U	0.00045 UJ	0.00045 U	
Benzoic Acid	0.0045 UJ		R	0.0045 UJ	R	0.0045 UJ	R	0.0045 UJ	
Biphenyl	0.0045 U		0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	
Bis(2-Ethylhexyl)phthalate	0.0018 U		0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	
Dibenz(a,h)anthracene	0.00045 U		0.00045 U	0.00045 U	0.00045 UJ	0.00045 U	0.00045 U	0.00045 U	
Diethylphthalate	0.0045 U		0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	0.0045 U	
Diphenyl ether	0.00063 J		0.0045 U	0.0021 J	0.004 J	0.0014 J	0.0045 U	0.0038 J	

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param_name	GW-10S OC-GW-10S-XXX 10/18/2010	GW-10S OC-GW-10S-XXX 2/29/2012	GW-10S OC-GW-10S-XXX 5/14/2010	GW-202D OC-GW-202D-XXX 10/19/2010	GW-202D OC-GW-202D-XXX 5/14/2010	GW-202S OC-GW-202S-XXX 10/19/2010	GW-202S OC-GW-202S-XXX 5/14/2010	GW-408D OC-GW-408D-DUP 5/19/2011	GW-408D OC-GW-408D-DUP 5/25/2011
Diphenylamine	0.0045 U		0.0045 U	0.0045 U	0.00049 J	0.0045 U	0.0023 J	0.00097 J	
Diphenylmethanone	0.0045 U		0.0045 U	0.0024 J	0.0037 J	0.0045 U	0.0045 U	0.0012 J	
N-Nitrosodimethylamine	0.000031	0.0000048 UJ	0.0000019 U	0.00069	0.00089	0.00014	0.0002	0.00065 J	
N-Nitrosodi-n-butylamine		0.0000019 U							
N-Nitrosodi-n-propylamine	0.0000019 U	0.0000019 U	0.0000095 U	0.000019 U	0.000047 U	0.0000019 U	0.000019 U	0.000019 U	
N-Nitrosodiphenylamine	0.0045 U		0.0045 U	0.0007 J	0.00065 J	0.0033 J	0.0023 J	0.0027 J	
N-Nitrosomethylethylamine		0.0000019 U							
Metals, Total (mg/L)									
Aluminum	1.5		2.1	9.8	11	0.021 J	0.1 U	7.9	
Arsenic	0.001 U		0.001 U	0.02 U	0.1 U	0.001 U	0.001 U	0.0035	
Barium	0.074		0.018	0.0065 J	0.0072 J	0.024	0.026	0.01 U	
Beryllium	0.00024 J		0.001 U	0.0022	0.0021	0.001 U	0.001 U	0.001	
Cadmium	0.001 U		0.001 U	0.001 U	0.0013 J	0.001 U	0.001 U	0.001 U	
Calcium	8.2		1.7	110	110	72	97	87	
Chromium	0.011		0.005 U	0.82	0.89	0.0058	0.005 U	1	
Chromium, Hexavalent	0.001 U		0.001 UJ	0.001 U	0.00046 J	0.001 U	0.001 UJ	0.001 U	
Cobalt	0.0063 J		0.0022 J	0.069	0.077	0.01 U	0.01 U	0.049	
Copper	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.019 U	
Iron	0.54		0.097 J	12	14	0.058 J	0.045 J	15	
Lead	0.005 U		0.005 U	0.005 UJ	0.005 UJ	0.005 UJ	0.005 UJ	0.005 U	
Magnesium	0.55		0.12 J	31	28	8.5	9.5	23	
Manganese	0.15		0.014	2.4	2.6	0.67	0.82	1.7	
Mercury	0.0002 U		0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Nickel	0.009 J		0.0025 J	0.093	0.096 J	0.0073 J	0.01 U	0.062	
Potassium	4 U		4 U	2.7 J	2.7 J	2.1 J	4 U	1.7 J	
Silver	0.005 UJ		0.005 U	0.013	0.018	0.005 UJ	0.005 U	0.006 U	
Sodium	13		2.3	280	280	79	86	190	
Thallium	0.001 U		0.001 U	0.00041 J	0.00043 J	0.001 U	0.001 U	0.00016 UJ	
Tin	0.05 U		0.05 UJ	0.05 U	0.37	0.05 U	0.05 UJ	0.05 U	
Vanadium	0.01 U		0.01 U	0.01 UJ	0.01 U	0.0036 J	0.0034 J	0.01 U	
Zinc	0.085		0.056	0.13	0.14	0.05 U	0.05 U	0.083	
Metals, Dissolved (mg/L)									
Aluminum									
Arsenic									
Barium									
Beryllium									
Calcium									
Chromium									
Cobalt									

Table 1
Summary of Compounds Detected in On-Site Groundwater
Olin Wilmington Superfund Site
Wilmington, Massachusetts

param_name	GW-10S OC-GW-10S-XXX 10/18/2010	GW-10S OC-GW-10S-XXX 2/29/2012	GW-10S OC-GW-10S-XXX 5/14/2010	GW-202D OC-GW-202D-XXX 10/19/2010	GW-202D OC-GW-202D-XXX 5/14/2010	GW-202S OC-GW-202S-XXX 10/19/2010	GW-202S OC-GW-202S-XXX 5/14/2010	GW-408D OC-GW-408D-DUP 5/19/2011	GW-408D OC-GW-408D-DUP 5/25/2011
Iron									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Silver									
Sodium									
Zinc									
Inorganics (mg/L)									
Bromide	0.1 U		0.1 U	0.77	0.68	0.31	0.37	0.61	
Chloride	10		3.5	240	250	75	61	180	
LAB SPECIFIC CONDUCTANCE **(mS/cm)**									
Nitrate as N	0.25		0.28	0.05 U	0.092	0.05 U	0.05 U	0.05 U	
Nitrogen, as Ammonia	2.4 J		0.19	190 J	230	63 J	67	150	
Perchlorate	0.001 U		0.001 U	0.0055 J	0.1 U	0.01 U	0.01 U	0.0053 J	
Sulfate	71 J		19	2000 J	2000	430 J	580	1000	
Site Specific Compounds (mg/L)									
Hydrazine	0.0002 U		0.0002 UJ	0.0002 U	0.0002 UJ	0.0002 U	0.0002 UJ		0.00011
UDMH	0.0005 U		0.0005 UJ	0.0005 U	0.00069 J	0.0005 U	0.0005 UJ		0.0005 U
Formaldehyde	0.03 U		0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.0077 J	
Dimethylformamide	0.02 UJ		0.02 U	0.02 U	0.019 J	0.02 U	0.02 U	0.02 U	
4,4'-Isopropylidenediphenol	0.00095 U		0.00095 U	0.00094 U	0.00051 J	0.00095 U	0.00049 J	0.00096 U	
4-Nonylphenol (Tech.)	0.0048 U		0.0048 U	0.027	0.026 J	0.029	0.038	0.012	
OPEX	0.1 U		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	

mg/L = milligram per liter
U = not detected, value is the reporting limit
J = value is estimated
R = value is rejected

Table 1
Summary of Compounds Detected in On-Site Groundwater
Olin Wilmington Superfund Site
Wilmington, Massachusetts

param_name	GW-408D OC-GW-408D-XXX 2/24/2011	GW-408D OC-GW-408D-XXX 5/19/2011	GW-408D OC-GW-408D-XXX 5/25/2011	GW-408S OC-GW-408S-XXX 2/23/2011	GW-408S OC-GW-408S-XXX 5/19/2011	GW-55D OC-GW-55D-XXX 10/14/2010	GW-55D OC-GW-55D-XXX 5/18/2010	GW-55S OC-GW-55S-XXX 10/14/2010	GW-55S OC-GW-55S-XXX 5/18/2010
Volatile Organics (mg/L)									
1,1-Dichloroethane	0.001 U	0.001 U		0.001 U	0.001 U	0.0016	0.0014	0.00086 J	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U		0.001 U	0.001 U	0.00048 J	0.00034 J	0.001 U	0.001 U
1,2,4-Trichlorobenzene	0.001 U	0.0003 J		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
1,2,4-Trimethylbenzene	0.001 U	0.001 U		0.001 U	0.001 U	0.00021 J	0.00035 J	0.001 U	0.001 U
1,2-Dichloroethane	0.00051 J	0.00078 J		0.001 U	0.001 U	0.0019	0.0017	0.0006 J	0.001 U
1,3-Dichlorobenzene	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
2,4,4-Trimethyl-1-pentene	0.081	0.14 J		0.14	0.19 J	0.0035	0.001 U	0.0035	0.001 U
2,4,4-Trimethyl-2-pentene	0.012	0.033 J		0.04	0.11	0.00065 J	0.001 U	0.001 U	0.001 U
Acetone	0.023 J	0.05 U		0.05 UJ	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 UJ
Benzene	0.001 U	0.001 U		0.001 U	0.001 U	0.0004 J	0.00038 J	0.001 U	0.001 U
Bromochloromethane	0.0002 J	0.0003 J		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Bromodichloromethane	0.00041 J	0.00081		0.0005 U	0.0005 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
Bromoform	0.0021	0.0047		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Carbon disulfide	0.01 U	0.0003 J		0.01 U	0.01 U	0.0063 J	0.0015 J	0.0018 J	0.01 U
Chlorodibromomethane	0.00065	0.0012		0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Chloroform	0.0014	0.0019		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chloromethane	0.002 U	0.00089 J		0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Dibromomethane	0.0012	0.0023		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Ethyl benzene	0.001 U	0.001 U		0.001 U	0.001 U	0.00022 J	0.001 U	0.001 U	0.001 U
Methyl Tertbutyl Ether	0.001 U	0.001 U		0.001 U	0.001 U	0.00034 J	0.00025 J	0.001 U	0.001 U
Naphthalene	0.005 U	0.005 U		0.005 U	0.005 U	0.00035 J	0.005 U	0.005 U	0.005 U
Toluene	0.00049 J	0.00061 J		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Trichloroethene	0.001 U	0.001 U		0.001 U	0.001 U	0.0005 J	0.00031 J	0.001 U	0.001 U
Xylene, o	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.00025 J	0.001 U	0.001 U
Semivolatile Organics (mg/L)									
2,6-Dinitrotoluene	0.005 U	0.00047 J		0.00063 J	0.00063 J	0.0045 U	0.0047 U	0.0045 U	0.0047 U
2-Nitrophenol	0.0028 J	0.0044 J		0.0045 U	0.0045 U	0.0045 U	0.0047 U	0.0045 U	0.0047 U
4-Bromophenyl phenyl ether	0.0012 J	0.0016 J		0.0045 U	0.0045 U	0.00067 J	0.00058 J	0.0045 U	0.0047 U
4-Nitrophenol	0.0016 J	0.0023 J		0.0045 UJ	0.0045 U	0.0045 U	0.0047 UJ	0.0045 U	0.0047 UJ
Azobenzene	0.005 U	0.00057 J		0.0045 U	0.0045 U	0.0045 U	0.0047 U	0.0045 U	0.0047 U
Benzaldehyde	0.005 U	0.0045 U		0.0045 U	0.0045 U	0.0045 U	0.00067 J	0.0045 U	0.0047 U
Benzo(ghi)perylene	0.0005 U	0.00045 U		0.00045 U	0.00045 U	0.00045 U	0.00047 UJ	0.00045 U	0.00047 UJ
Benzoic Acid	R	0.0045 UJ		R	0.0045 UJ	0.0045 UJ	R	0.0045 UJ	R
Biphenyl	0.005 U	0.0045 U		0.0045 U	0.0045 U	0.00092 J	0.0012 J	0.0005 J	0.0047 U
Bis(2-Ethylhexyl)phthalate	0.00077 J	0.0018 U		0.0018 U	0.0018 U	0.0018 U	0.0019 UJ	0.0018 U	0.0019 UJ
Dibenz(a,h)anthracene	0.0005 U	0.00045 U		0.000066 J	0.00045 U	0.00045 U	0.00047 UJ	0.00045 U	0.00047 UJ
Diethylphthalate	0.0019 J	0.0045 U		0.0025 J	0.0045 U	0.0045 U	0.0047 U	0.0045 U	0.0047 U
Diphenyl ether	0.0036 J	0.0041 J		0.0024 J	0.0028 J	0.0064	0.0081	0.0039 J	0.0019 J

Table 1
Summary of Compounds Detected in On-Site Groundwater
Olin Wilmington Superfund Site
Wilmington, Massachusetts

param_name	GW-408D OC-GW-408D-XXX 2/24/2011	GW-408D OC-GW-408D-XXX 5/19/2011	GW-408D OC-GW-408D-XXX 5/25/2011	GW-408S OC-GW-408S-XXX 2/23/2011	GW-408S OC-GW-408S-XXX 5/19/2011	GW-55D OC-GW-55D-XXX 10/14/2010	GW-55D OC-GW-55D-XXX 5/18/2010	GW-55S OC-GW-55S-XXX 10/14/2010	GW-55S OC-GW-55S-XXX 5/18/2010
Diphenylamine		0.001 J		0.0012 J	0.0018 J				
Diphenylmethanone	0.0011 J	0.0013 J		0.0045 U	0.0045 U	0.0028 J	0.0016 J	0.0022 J	0.00057 J
N-Nitrosodimethylamine	0.00095 J	0.00065 J		0.000088	0.00014	0.0017	0.0017	0.00044	0.00022
N-Nitrosodi-n-butylamine									
N-Nitrosodi-n-propylamine	0.0000019 U	0.0000095 U		0.0000019 U	0.0000019 U	0.0000019 U	0.0001 U	0.0000012 J	0.00002 U
N-Nitrosodiphenylamine		0.0028 J		0.0046	0.0044 J	0.00084 J	0.0047 U	0.00091 J	0.0047 U
N-Nitrosomethylethylamine									
Metals, Total (mg/L)									
Aluminum	5.2	7.8		0.016 J	0.1 U	0.1 U	0.1 U	11	0.72
Arsenic	0.0044 J	0.0036		0.0021	0.0017 J	0.0052 U	0.01 U	0.01 U	0.01 U
Barium	0.01	0.01 U		0.01 U	0.01 U	0.011	0.01	0.095	0.0072 J
Beryllium	0.00074 J	0.001		0.001 U	0.001 U	0.001 U	0.001 U	0.0028	0.00085 J
Cadmium	0.001 U	0.001 U		0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Calcium	76	87		45	51	160	210	42	41
Chromium	0.71	1		0.0025 J	0.0025 J	0.0072	0.0079 U	0.005 U	0.005 U
Chromium, Hexavalent	0.001 U	0.001 U		0.001 U	0.001 U				
Cobalt	0.048	0.049		0.002 J	0.0019 J	0.087	0.059	0.04	0.038
Copper	0.01	0.019 U		0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Iron	23	15		0.28	0.31 U	55	67	8.5	6.7
Lead	0.005 UJ	0.005 U		0.005 U	0.005 U	0.005 UJ	0.005 U	0.0037 J	0.005 U
Magnesium	21	23		4.6	5.3	23	23	4.7	6
Manganese	1.8	1.7		0.43	0.46	2.8	3.3	1.2	1.5
Mercury	0.0002 U	0.0002 U		0.00016 J	0.0002 U	0.0003	0.0002 U	0.0002 U	0.0002 U
Nickel	0.053	0.061		0.0073 J	0.0082 J	0.0089 J	0.017 J	0.045	0.038
Potassium	2.3 J	1.6 J		1.9 J	1.3 J	18	13	4.3	1.7 J
Silver	0.012	0.006 U		0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Sodium	180	190		48	51	460	420	140	120
Thallium	0.001 U	0.00016 UJ		0.001 U	0.00015	0.001 U	0.001 U	0.001 U	0.001 U
Tin	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 UJ
Vanadium	0.01 UJ	0.01 U		0.01 U	0.01 U	0.01 U	0.002 J	0.01 U	0.01 U
Zinc	0.062	0.084		0.05 U	0.05 U	0.05 U	0.05 U	0.049 J	0.025 J
Metals, Dissolved (mg/L)									
Aluminum	1.9								
Arsenic	0.0039 J								
Barium	0.0086 J								
Beryllium	0.00049 J								
Calcium	80								
Chromium	0.37								
Cobalt	0.051								

Table 1
Summary of Compounds Detected in On-Site Groundwater
Olin Wilmington Superfund Site
Wilmington, Massachusetts

param_name	GW-408D OC-GW-408D-XXX 2/24/2011	GW-408D OC-GW-408D-XXX 5/19/2011	GW-408D OC-GW-408D-XXX 5/25/2011	GW-408S OC-GW-408S-XXX 2/23/2011	GW-408S OC-GW-408S-XXX 5/19/2011	GW-55D OC-GW-55D-XXX 10/14/2010	GW-55D OC-GW-55D-XXX 5/18/2010	GW-55S OC-GW-55S-XXX 10/14/2010	GW-55S OC-GW-55S-XXX 5/18/2010
Iron	20								
Magnesium	23								
Manganese	1.9								
Mercury	0.00006 J								
Nickel	0.056								
Potassium	1.9 J								
Silver	0.0042 J								
Sodium	190								
Zinc	0.065								
Inorganics (mg/L)									
Bromide	0.57	0.59		0.18	0.2	1.6	1.3	0.56	0.41
Chloride	180	180		46	41	400 J	440	110 J	150
LAB SPECIFIC CONDUCTANCE **(mS/cm)**									
Nitrate as N	0.05 U	0.05 U		0.05 U	0.05 U	0.98 J	0.05 U	16 J	1.1
Nitrogen, as Ammonia	120	140		39	33	340	520	180	150
Perchlorate	0.01 U	0.0047 J		0.01 U	0.01 U				
Sulfate	980	1000		220	270	2800 J	3100	1200 J	870
Site Specific Compounds (mg/L)									
Hydrazine	0.00019		0.00011	0.000077 J	0.000072 J				
UDMH	0.0005 U		0.0005 U	0.0005 U	0.0005 U				
Formaldehyde	0.03 U	0.03 U		0.03 U	0.03 U				
Dimethylformamide	0.02 U	0.02 U		0.02 U	0.02 U				
4,4'-Isopropylidenediphenol	0.00095 U	0.00096 U		0.00094 U	0.00096 U				
4-Nonylphenol (Tech.)	0.0099	0.012		0.021	0.021				
OPEX	0.1 U	0.1 UJ		0.034 J	0.1 UJ				

mg/L = milligram per liter
U = not detected, value is the reporting limit
J = value is estimated
R = value is rejected

Table 1
Summary of Compounds Detected in On-Site Groundwater
Olin Wilmington Superfund Site
Wilmington, Massachusetts

param_name	GW-78S OC-GW-78S 11/17/2010	GW-78S OC-GW-78S 6/10/2010	GW-79S OC-GW-79S-DUP 10/14/2010	GW-79S OC-GW-79S-XXX 10/14/2010	GW-79S OC-GW-79S-XXX 5/17/2010
Volatile Organics (mg/L)					
1,1-Dichloroethane			0.001 U	0.001 U	0.0006 J
1,1-Dichloroethene			0.001 U	0.001 U	0.001 U
1,2,4-Trichlorobenzene			0.001 U	0.001 U	0.001 U
1,2,4-Trimethylbenzene			0.001 U	0.001 U	0.001 U
1,2-Dichloroethane			0.001 U	0.001 U	0.001 U
1,3-Dichlorobenzene			0.001 U	0.001 U	0.001 U
2,4,4-Trimethyl-1-pentene			0.001 U	0.001 U	0.001 U
2,4,4-Trimethyl-2-pentene			0.001 U	0.001 U	0.001 U
Acetone			0.05 U	0.05 U	0.05 UJ
Benzene			0.001 U	0.001 U	0.001 U
Bromochloromethane			0.001 U	0.001 U	0.001 U
Bromodichloromethane			0.001 UJ	0.001 UJ	0.001 U
Bromoform			0.001 U	0.001 U	0.001 U
Carbon disulfide			0.0027 J	0.0029 J	0.01 U
Chlorodibromomethane			0.0005 U	0.0005 U	0.0005 U
Chloroform			0.001 U	0.001 U	0.001 U
Chloromethane			0.002 U	0.002 U	0.002 U
Dibromomethane			0.001 U	0.001 U	0.001 U
Ethyl benzene			0.001 U	0.001 U	0.001 U
Methyl Tertbutyl Ether			0.001 U	0.001 U	0.001 U
Naphthalene			0.005 U	0.005 U	0.005 U
Toluene			0.001 U	0.001 U	0.001 U
Trichloroethene			0.001 U	0.001 U	0.001 U
Xylene, o			0.001 U	0.001 U	0.001 U
Semivolatile Organics (mg/L)					
2,6-Dinitrotoluene			0.0045 U	0.0045 U	0.0045 U
2-Nitrophenol			0.0045 U	0.0045 U	0.0045 U
4-Bromophenyl phenyl ether			0.0045 U	0.0045 U	0.0045 U
4-Nitrophenol			0.0045 UJ	0.0045 UJ	0.0045 UJ
Azobenzene			0.0045 U	0.0045 U	0.0045 U
Benzaldehyde			0.0045 U	0.0045 U	0.0045 U
Benzo(ghi)perylene			0.00045 U	0.00045 U	0.00045 UJ
Benzoic Acid			0.0045 UJ	0.0045 UJ	R
Biphenyl			0.0045 U	0.0045 U	0.0045 U
Bis(2-Ethylhexyl)phthalate			0.0018 U	0.0018 U	0.0018 UJ
Dibenz(a,h)anthracene			0.00045 U	0.00045 U	0.00045 UJ
Diethylphthalate			0.0045 U	0.0045 U	0.0045 U
Diphenyl ether			0.0028 J	0.0026 J	0.004 J

Table 1
Summary of Compounds Detected in On-Site Groundwater
Olin Wilmington Superfund Site
Wilmington, Massachusetts

param_name	GW-78S OC-GW-78S 11/17/2010	GW-78S OC-GW-78S 6/10/2010	GW-79S OC-GW-79S-DUP 10/14/2010	GW-79S OC-GW-79S-XXX 10/14/2010	GW-79S OC-GW-79S-XXX 5/17/2010
Diphenylamine			0.00056 J	0.0045 U	0.0045 UJ
Diphenylmethanone			0.00054 J	0.0005 J	0.00079 J
N-Nitrosodimethylamine			0.000032	0.000026	0.00067
N-Nitrosodi-n-butylamine					
N-Nitrosodi-n-propylamine			0.0000019 U	0.0000019 U	0.000048 U
N-Nitrosodiphenylamine			0.0056 J	0.0058 J	0.0017 J
N-Nitrosomethylethylamine					
Metals, Total (mg/L)					
Aluminum			0.015 J	0.017 J	0.1 U
Arsenic			0.0044 J	0.0057 J	0.005 U
Barium			0.06	0.061	0.012
Beryllium			0.001 U	0.001 U	0.001 U
Cadmium			0.001 U	0.001 U	0.001 U
Calcium			82	86	230
Chromium			0.021	0.021	0.0078 U
Chromium, Hexavalent			0.001 UJ	0.001 UJ	0.001 U
Cobalt			0.01 U	0.01 U	0.015
Copper			0.01 U	0.011 U	0.01 U
Iron			3.8	4	35
Lead			0.005 UJ	0.005 UJ	0.005 U
Magnesium			9.5	9.9	17
Manganese			1.5	1.5	2.4
Mercury			0.00027	0.0003 U	0.0002 U
Nickel			0.01 U	0.01 U	0.01 U
Potassium			4.3 J	5.2 J	6
Silver			0.005 U	0.005 U	0.005 U
Sodium			160	170	200
Thallium			0.001 U	0.001 U	0.001 U
Tin			0.05 U	0.05 U	0.05 UJ
Vanadium			0.01 U	0.01 U	0.0032 J
Zinc			0.05 U	0.05 U	0.05 U
Metals, Dissolved (mg/L)					
Aluminum	0.1 U	0.1 U			
Arsenic					
Barium					
Beryllium					
Calcium					
Chromium	0.0021 J	0.0021 J			
Cobalt					

Table 1
Summary of Compounds Detected in On-Site Groundwater
Olin Wilmington Superfund Site
Wilmington, Massachusetts

param_name	GW-78S OC-GW-78S 11/17/2010	GW-78S OC-GW-78S 6/10/2010	GW-79S OC-GW-79S-DUP 10/14/2010	GW-79S OC-GW-79S-XXX 10/14/2010	GW-79S OC-GW-79S-XXX 5/17/2010
Iron					
Magnesium					
Manganese					
Mercury					
Nickel					
Potassium					
Silver					
Sodium					
Zinc					
Inorganics (mg/L)					
Bromide			0.35	0.36	0.69
Chloride	19	24	220 J	230 J	190
LAB SPECIFIC CONDUCTANCE **(mS/cm)**	1.3	1.3			
Nitrate as N			0.05 UJ	0.05 UJ	0.05 U
Nitrogen, as Ammonia	51	53	100	100	180
Perchlorate			0.01 U	0.01 U	0.01 U
Sulfate	580	530	710 J	720 J	1300
Site Specific Compounds (mg/L)					
Hydrazine			0.0002 U	0.0002 U	0.0002 UJ
UDMH			0.0005 U	0.0005 U	0.0005 UJ
Formaldehyde			0.03 UJ	0.03 U	0.03 U
Dimethylformamide			0.02 U	0.02 U	0.02 U
4,4'-Isopropylidenediphenol			0.00054 J	0.00049 J	0.0005 J
4-Nonylphenol (Tech.)			0.0038 J	0.0032 J	0.0061 J
OPEX			0.1 UJ	0.1 UJ	0.1 U

mg/L = milligram per liter
U = not detected, value is the reporting limit
J = value is estimated
R = value is rejected

Prepared by / Date: KJC 02/28/14
Checked by / Date: CTM 02/28/14