Remedial Investigation and Risk Assessment Report

Site 17 – Pettibone Creek and Boat Basin

Volume II of II
Appendices B, C, D, and E

Naval Training Center Great Lakes
Great Lakes, Illinois

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Southern Division
Naval Facilities Engineering Command

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REMEDIAL INVESTIGATION AND RISK ASSESSMENT REPORT

SITE 17 – PETTIBONE CREEK AND BOAT BASIN
NAVAL TRAINING CENTER GREAT LAKES
GREAT LAKES, ILLINOIS

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

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APPENDIX B

DATA VALIDATION PACKAGES AND ASSESSMENT

APPENDIX B.1

DATA ASSESSMENT

Site 17 – Data Review

The Navy requested that 10% of the data be validated for Site 17. Even though only 10% of the data was validated a relative percent difference (RPD) was calculated for the field duplicate pairs. The results of the RPD report were what was expected for each matrix. This evaluation can be found in the attached memorandum at the end of this appendix. The actual detection limits of nondetected values were compared to the proposed reporting limits from the laboratory (Tables B-1 through B-7). Table B-1 presents the surface water detection limit comparison; a few slight exceedances are noted, mostly with inorganic analyses. These exceedances are not considered to be significant and are likely due to dilution of the samples prior to analysis and/or an updated MDL/IDL study performed by the laboratory. Several detection limit exceedances were noted in the surface sediment (Tables B-2 through B-4); several VOCs, SVOCs, pesticides, and metals (South Branch and the Boat Basin for metals only) were detected in the sediment samples at high concentrations. Due to the high concentrations, the sediment samples were diluted before analysis accounting for the elevated detection limits. This dilution will not have any significant impact on the usability of the data. Lower detected concentrations are attributed to updated MDL/IDL studies by the laboratory. Tables B-5 through B-7 present the detection limit comparison of sediment samples at depth. Exceedences of the detection limits are noted for VOCs, SVOCs, pesticides/PCBs, and a few metals (South Branch and the Boat Basin for metals only). Very high detections are noted for the SVOCs and pesticides/PCBs which is attributable to necessary sample dilutions due to high concentrations. Lower detected concentrations are due to an update of the MDL/IDL studies by the laboratory as previously noted. In addition, any concentration that was detected between the reporting limit and the MDL/IDL would have been reported as an estimated J value from the laboratory.

The validation letters are included in this appendix as well the qualified validated data. A few pesticides and PCBs were rejected due to a percent difference of positive results between two columns greater than 100%. The rejected data were not used in the RI/RA evaluations. The laboratory performed the analyses using the methods that were specified. Overall the laboratory performed very well and the data is considered usable for this RI.

TABLE B-1

SURFACE WATER RANGE OF NON-DETECTS
SITE 17
NTC GREAT LAKES, ILLINOIS

Parameter	Frequency of Detection	Minimum Non detect	Maximum Non-detect	Laboratory Reporting Limit
Volatile Organics (ug/L)				
1,1,1-TRICHLOROETHANE	0/6	1	1	1
1,1,2,2-TETRACHLOROETHANE	0/6	1	1	1
1,1,2-TRICHLOROETHANE	0/6	1	1	1
1,1,2-TRICHLOROTRIFLUOROETHANE	0/6	10	10	#N/A
1,1-DICHLOROETHANE	0/6	1	1	1
1,1-DICHLOROETHENE	0/6	1	1	1
1,2,4-TRICHLOROBENZENE	0/6	1	1	1
1,2-DIBROMO-3-CHLOROPROPANE	0/6	1	1	1
1,2-DIBROMOETHANE	0/6	1	1	1
1,2-DICHLOROBENZENE	0/6	1	1	1
1,2-DICHLOROETHANE	0/6	1	1	1
1,2-DICHLOROPROPANE	0/6	1	1	1
1,3-DICHLOROBENZENE	0/6	1	1	1
1,4-DICHLOROBENZENE	0/6	1	1	1
2-HEXANONE	0/6	5	5	5
4-METHYL-2-PENTANONE	0/6	5	5	5
BENZENE	0/6	1	1	1
BROMOFORM	0/6	1	1	1
BROMOMETHANE	0/6	1	1	1
CARBON DISULFIDE	0/6	1	1	1
CARBON TETRACHLORIDE	0/6	1	1	1
CHLOROBENZENE	0/6	1	1	1
CHLOROETHANE	0/6	2	2	2
CHLOROMETHANE	0/6	2	2	2
CIS-1,3-DICHLOROPROPENE	0/6	1	1	1
CYCLOHEXANE	0/6	10	10	10
DICHLORODIFLUOROMETHANE	0/6	2	2	2
ETHYLBENZENE	0/6	1	1	1
ISOPROPYLBENZENE	0/6	1	1	10
METHYL ACETATE	0/6	10	10	10
METHYL CYCLOHEXANE	0/6	10	10	#N/A
METHYL TERT-BUTYL ETHER	0/6	1	1	1
METHYLENE CHLORIDE	0/6	2	2	2
STYRENE	0/6	1	1	1
TOTAL XYLENES	0/6	3	3	#N/A
TRANS-1,2-DICHLOROETHENE	0/6	1	1	1
TRANS-1,3-DICHLOROPROPENE	0/6	1	1	1
TRICHLOROFLUOROMETHANE	0/6	2	2	2
Semivolatile Organics (ug/L)				
1,1-BIPHENYL	0/6	10	10	#N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	0/6	10	10	#N/A
2,4,5-TRICHLOROPHENOL	0/6	10	10	10
2,4,6-TRICHLOROPHENOL	0/6	10	10	10
2,4-DICHLOROPHENOL	0/6	10	10	10
2,4-DIMETHYLPHENOL	0/6	10	10	50
2,4-DINITROPHENOL	0/6	50	50	10
2,4-DINITROTOLUENE	0/6	10	10	10
2,6-DINITROTOLUENE	0/6	10	10	10
2-CHLORONAPHTHALENE	0/6	10	10	10
2-CHLOROPHENOL	0/6	10	10	10
2-METHYLNAPHTHALENE	0/6	10	10	10
2-METHYLPHENOL	0/6	10	10	#N/A
2-NITROANILINE	0/6	50	50	50
2-NITROPHENOL	0/6	10	10	10
3,3'-DICHLOROBENZIDINE	0/6	50	50	50

TABLE B-1

SURFACE WATER RANGE OF NON-DETECTS
SITE 17
NTC GREAT LAKES, ILLINOIS

Parameter	Frequency of Detection	Minimum Non detect	Maximum Non-detect	Laboratory Reporting Limit
3-NITROANILINE	0/6	50	50	50
4,6-DINITRO-2-METHYLPHENOL	0/6	50	50	#N/A
4-BROMOPHENYL PHENYL ETHER	0/6	10	10	10
4-CHLORO-3-METHYLPHENOL	0/6	10	10	10
4-CHLOROANILINE	0/6	10	10	10
4-CHLOROPHENYL PHENYL ETHER	0/6	10	10	10
4-METHYLPHENOL	0/6	10	10	#N/A
4-NITROANILINE	0/6	50	50	50
4-NITROPHENOL	0/6	50	50	50
ACENAPHTHENE	0/6	10	10	10
ACENAPHTHYLENE	0/6	10	10	10
ACETOPHENONE	0/6	10	10	10
ANTHRACENE	0/6	10	10	10
ATRAZINE	0/6	10	10	10
BENZALDEHYDE	0/6	10	10	10
BENZO(A)ANTHRACENE	0/6	10	10	10
BENZO(A)PYRENE	0/6	10	10	10
BENZO(B)FLUORANTHENE	0/6	10	10	10
BENZO(G,H,I)PERYLENE	0/6	10	10	10
BENZO(K)FLUORANTHENE	0/6	10	10	10
BIS(2-CHLOROETHOXY)METHANE	0/6	10	10	10
BIS(2-CHLOROETHYL)ETHER	0/6	10	10	10
BIS(2-ETHYLHEXYL)PHTHALATE	0/6	10	10	10
BUTYL BENZYL PHTHALATE	0/6	10	10	10
CAPROLACTAM	0/6	10	10	10
CARBAZOLE	0/6	10	10	10
CHRYSENE	0/6	10	10	10
DI-N-OCTYL PHTHALATE	0/6	10	10	10
DIBENZO(A,H)ANTHRACENE	0/6	10	10	10
DIBENZOFURAN	0/6	10	10	10
DIETHYL PHTHALATE	0/6	10	10	10
DIMETHYL PHTHALATE	0/6	10	10	10
FLUORANTHENE	0/6	10	10	10
FLUORENE	0/6	10	10	10
HEXACHLOROBENZENE	0/6	10	10	10
HEXACHLOROBUTADIENE	0/6	10	10	10
HEXACHLOROCYCLOPENTADIENE	0/6	50	50	50
HEXACHLOROETHANE	0/6	10	10	10
INDENO(1,2,3-CD)PYRENE	0/6	10	10	10
ISOPHORONE	0/6	10	10	10
N-NITROSO-DI-N-PROPYLAMINE	0/6	10	10	10
N-NITROSODIPHENYLAMINE	0/6	10	10	10
NAPHTHALENE	0/6	10	10	10
NITROBENZENE	0/6	10	10	10
PENTACHLOROPHENOL	0/6	50	50	50
PHENANTHRENE	0/6	10	10	10
PHENOL	0/6	10	10	10
PYRENE	0/6	10	10	10
Pesticides/PCBs (ug/L)				
ALDRIN	0/6	0.05	0.05	0.05
ALPHA-BHC	0/6	0.05	0.05	0.05
ALPHA-CHLORDANE	0/6	0.05	0.05	0.05
AROCLOR-1016	0/6	1	1	1
AROCLOR-1221	0/6	1	1	1
AROCLOR-1232	0/6	1	1	1
AROCLOR-1242	0/6	1	1	1

TABLE B-1

SURFACE WATER RANGE OF NON-DETECTS
SITE 17
NTC GREAT LAKES, ILLINOIS

Parameter	Frequency of Detection	Minimum Non detect	Maximum Non-detect	Laboratory Reporting Limit
AROCLOR-1248	0/6	1	1	1
AROCLOR-1254	0/6	1	1	1
AROCLOR-1260	0/6	1	1	1
BETA-BHC	0/6	0.05	0.05	0.05
DELTA-BHC	0/6	0.05	0.05	0.05
DIELDRIN	0/5	0.05	0.05	0.05
ENDOSULFAN II	0/6	0.05	0.05	0.05
ENDOSULFAN SULFATE	0/6	0.05	0.05	0.05
ENDRIN	0/6	0.05	0.05	0.05
ENDRIN ALDEHYDE	0/6	0.05	0.05	0.05
ENDRIN KETONE	0/6	0.05	0.05	0.05
GAMMA-BHC (LINDANE)	0/6	0.05	0.05	0.05
GAMMA-CHLORDANE	0/6	0.05	0.05	0.05
HEPTACHLOR	0/6	0.05	0.05	0.05
HEPTACHLOR EPOXIDE	0/6	0.05	0.05	0.05
METHOXYCHLOR	0/6	0.1	0.1	0.1
TOXAPHENE	0/6	2	2	2
Inorganics (ug/L)				
ANTIMONY	0/6	2.4	3.9	2
CADMIUM	0/6	0.39	0.51	0.46
SELENIUM	0/6	3.3	4.5	2.7
SILVER	0/6	0.8	1.5	1
THALLIUM	0/6	5.7	7.9	5.9
Dissolved Inorganics (ug/L)				
ANTIMONY	0/6	2.4	3.2	2
BERYLLIUM	0/6	0.17	0.17	0.13
CHROMIUM	0/6	1.5	3.3	1.2
COBALT	0/6	2.9	2.9	4.1
NICKEL	0/6	10.4	10.4	9.8
SILVER	0/6	0.8	1	1
THALLIUM	0/6	5.7	7.9	5.9
Miscellaneous Parameters (mg/L)				
ETHANOL	0/6	1	1	#N/A
ETHYL ACETATE	0/6	1	1	#N/A

Footnotes:
- Shaded cells are non-detected values that are greater than the laboratory reporting limit.
- Laboratory reporting limits are from Table A-15 of the Quality Assurance Project Plan (TtNUS, July 2001).

TABLE B-2

SEDIMENT RANGE OF NON-DETECTS
SITE 17 - NORTH BRANCH PETTIBONE CREEK
NTC GREAT LAKES, ILLINOIS

Parameter	Frequency of Detection	Minimum Non-detect	Maximum Non-detect	Laboratory Reporting Limit
Volatile Organics (ug/kg)				
1,1,1-TRICHLOROETHANE	0/6	5.3	6.4	10
1,1,2,2-TETRACHLOROETHANE	0/6	5.3	6.4	5
1,1,2-TRICHLOROETHANE	0/6	5.3	6.4	5
1,1,2-TRICHLOROTRIFLUOROETHANE	0/6	5.3	6.4	#N/A
1,1-DICHLOROETHANE	0/6	5.3	6.4	5
1,1-DICHLOROETHENE	0/6	5.3	6.4	5
1,2,4-TRICHLOROBENZENE	0/6	5.3	6.4	5
1,2-DIBROMO-3-CHLOROPROPANE	0/6	11	13	10
1,2-DIBROMOETHANE	0/6	5.3	6.4	5
1,2-DICHLOROBENZENE	0/6	5.3	6.4	5
1,2-DICHLOROETHANE	0/6	5.3	6.4	5
1,2-DICHLOROPROPANE	0/6	5.3	6.4	5
1,3-DICHLOROBENZENE	0/6	5.3	6.4	5
1,4-DICHLOROBENZENE	0/6	5.3	6.4	5
2-BUTANONE	0/6	21	25	#N/A
2-HEXANONE	0/6	21	25	20
4-METHYL-2-PENTANONE	0/6	21	25	20
ACETONE	0/6	21	25	20
BENZENE	0/6	5.3	6.4	5
BROMODICHLOROMETHANE	0/6	5.3	6.4	5
BROMOFORM	0/6	5.3	6.4	5
BROMOMETHANE	0/6	11	13	10
CARBON DISULFIDE	0/6	5.3	6.4	5
CARBON TETRACHLORIDE	0/6	5.3	6.4	5
CHLOROBENZENE	0/6	5.3	6.4	5
CHLORODIBROMOMETHANE	0/6	5.3	6.4	#N/A
CHLOROETHANE	0/6	11	13	10
CHLOROFORM	0/6	5.3	6.4	5
CHLOROMETHANE	0/6	11	13	10
CIS-1,2-DICHLOROETHENE	0/6	5.3	6.4	5
CIS-1,3-DICHLOROPROPENE	0/6	5.3	6.4	5
CYCLOHEXANE	0/6	5.3	6.4	10
DICHLORODIFLUOROMETHANE	0/6	11	13	10
ETHYLBENZENE	0/6	5.3	6.4	5
ISOPROPYLBENZENE	0/6	5.3	6.4	10
METHYL ACETATE	0/6	5.3	6.4	10
METHYL CYCLOHEXANE	0/6	5.3	6.4	#N/A
METHYL TERT-BUTYL ETHER	0/6	5.3	6.4	5
STYRENE	0/6	5.3	6.4	5
TETRACHLOROETHENE	0/6	5.3	6.4	5
TOLUENE	0/6	5.3	6.4	5
TOTAL XYLENES	0/6	16	19	#N/A
TRANS-1,2-DICHLOROETHENE	0/6	5.3	6.4	5
TRANS-1,3-DICHLOROPROPENE	0/6	5.3	6.4	5
TRICHLOROETHENE	0/6	5.3	6.4	5
TRICHLOROFLUOROMETHANE	0/6	11	13	10
VINYL CHLORIDE	0/6	11	13	10
Semivolatile Organics (ug/kg)				
1,1-BIPHENYL	0/6	350	420	#N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	0/6	350	420	#N/A
2,4,5-TRICHLOROPHENOL	0/6	350	420	330
2,4,6-TRICHLOROPHENOL	0/6	350	420	330
2,4-DICHLOROPHENOL	0/6	350	420	330
2,4-DIMETHYLPHENOL	0/6	350	420	1600
2,4-DINITROPHENOL	0/6	1700	2000	330
2,4-DINITROTOLUENE	0/6	350	420	330

TABLE B-2

SEDIMENT RANGE OF NON-DETECTS
SITE 17 - NORTH BRANCH PETTIBONE CREEK
NTC GREAT LAKES, ILLINOIS
Page 2 of 2

Parameter	Frequency of Detection	Minimum Non-detect	Maximum Non-detect	Laboratory Reporting Limit
2,6-DINITROTOLUENE	0/6	350	420	330
2-CHLORONAPHTHALENE	0/6	350	420	330
2-CHLOROPHENOL	0/6	350	420	330
2-METHYLPHENOL	0/6	350	420	#N/A
2-NITROANILINE	0/6	1700	2000	1600
2-NITROPHENOL	0/6	350	420	330
3,3'-DICHLOROBENZIDINE	0/6	1700	2000	1600
3-NITROANILINE	0/6	1700	2000	1600
4,6-DINITRO-2-METHYLPHENOL	0/6	1700	2000	#N/A
4-BROMOPHENYL PHENYL ETHER	0/6	350	420	330
4-CHLORO-3-METHYLPHENOL	0/6	350	420	330
4-CHLOROANILINE	0/6	350	420	330
4-CHLOROPHENYL PHENYL ETHER	0/6	350	420	330
4-METHYLPHENOL	0/6	350	420	#N/A
4-NITROANILINE	0/6	1700	2000	1600
4-NITROPHENOL	0/6	1700	2000	1600
ACENAPHTHENE	0/24	180	16000	330
ACETOPHENONE	0/6	350	420	330
ATRAZINE	0/6	350	420	330
BIS(2-CHLOROETHOXY)METHANE	0/6	350	420	330
BIS(2-CHLOROETHYL)ETHER	0/6	350	420	330
DI-N-BUTYL PHTHALATE	0/6	350	420	330
DI-N-OCTYL PHTHALATE	0/6	350	420	330
DIBENZO(A,H)ANTHRACENE	0/24	37	3200	330
DIETHYL PHTHALATE	0/6	350	420	330
DIMETHYL PHTHALATE	0/6	350	420	330
HEXACHLOROBENZENE	0/6	350	420	330
HEXACHLOROBUTADIENE	0/6	350	420	330
HEXACHLOROCYCLOPENTADIENE	0/6	1700	2000	1600
HEXACHLOROETHANE	0/6	350	420	330
ISOPHORONE	0/6	350	420	330
N-NITROSO-DI-N-PROPYLAMINE	0/6	350	420	330
N-NITROSODIPHENYLAMINE	0/6	350	420	330
NAPHTHALENE	0/24	180	16000	330
NITROBENZENE	0/6	350	420	330
PENTACHLOROPHENOL	0/6	1700	2000	1600
Pesticides/PCBs (ug/kg)				
ALPHA-BHC	0/24	1.9	210	1.7
AROCLOR-1016	0/23	35	43	33
AROCLOR-1221	0/23	35	43	33
AROCLOR-1232	0/23	35	43	33
AROCLOR-1242	0/23	35	43	33
AROCLOR-1248	0/23	35	43	33
BETA-BHC	0/24	1.9	210	1.7
DELTA-BHC	0/24	1.9	210	1.7
ENDOSULFAN SULFATE	0/24	1.9	210	1.7
ENDRIN KETONE	0/24	1.9	210	1.7
GAMMA-BHC (LINDANE)	0/24	1.9	210	1.7
HEPTACHLOR	0/24	1.9	210	1.7
METHOXYCHLOR	0/24	19	2100	3.3
TOXAPHENE	0/24	76	8200	67
Miscellaneous Parameters (mg/kg)				
ETHANOL	0/6	1	1.2	#N/A
ETHYL ACETATE	0/6	1	1.2	#N/A

Footnotes:

- *Shaded cells are non-detected values that are greater than the laboratory reporting limit.*
- Laboratory reporting limits are from Table A-15 of the Quality Assurance Project Plan (TtNUS, July 2001).

TABLE B-3

SEDIMENT RANGE OF NON-DETECTS
SITE 17 - SOUTH BRANCH PETTIBONE CREEK
NTC GREAT LAKES, ILLINOIS

Parameter	Frequency of Detection	Minimum Non-detect	Maximum Non-detect	Laboratory Reporting Limit
Volatile Organics (ug/kg)				
1,1,1-TRICHLOROETHANE	0/2	6	6.3	10
1,1,2,2-TETRACHLOROETHANE	0/2	6	6.3	5
1,1,2-TRICHLOROETHANE	0/2	6	6.3	5
1,1,2-TRICHLOROTRIFLUOROETHANE	0/2	6	6.3	#N/A
1,1-DICHLOROETHANE	0/2	6	6.3	5
1,1-DICHLOROETHENE	0/2	6	6.3	5
1,2,4-TRICHLOROBENZENE	0/2	6	6.3	5
1,2-DIBROMO-3-CHLOROPROPANE	0/2	12	13	10
1,2-DIBROMOETHANE	0/2	6	6.3	5
1,2-DICHLOROBENZENE	0/2	6	6.3	5
1,2-DICHLOROETHANE	0/2	6	6.3	5
1,2-DICHLOROPROPANE	0/2	6	6.3	5
1,3-DICHLOROBENZENE	0/2	6	6.3	5
1,4-DICHLOROBENZENE	0/2	6	6.3	5
2-BUTANONE	0/2	24	25	#N/A
2-HEXANONE	0/2	24	25	20
4-METHYL-2-PENTANONE	0/2	24	25	20
ACETONE	0/2	24	25	20
BENZENE	0/2	6	6.3	5
BROMODICHLOROMETHANE	0/2	6	6.3	5
BROMOFORM	0/2	6	6.3	5
BROMOMETHANE	0/2	12	13	10
CARBON DISULFIDE	0/2	6	6.3	5
CARBON TETRACHLORIDE	0/2	6	6.3	5
CHLOROBENZENE	0/2	6	6.3	5
CHLORODIBROMOMETHANE	0/2	6	6.3	#N/A
CHLOROETHANE	0/2	12	13	10
CHLOROFORM	0/2	6	6.3	5
CHLOROMETHANE	0/2	12	13	10
CIS-1,2-DICHLOROETHENE	0/2	6	6.3	5
CIS-1,3-DICHLOROPROPENE	0/2	6	6.3	5
CYCLOHEXANE	0/2	6	6.3	10
DICHLORODIFLUOROMETHANE	0/2	12	13	10
ETHYLBENZENE	0/2	6	6.3	5
ISOPROPYLBENZENE	0/2	6	6.3	10
METHYL ACETATE	0/2	6	6.3	10
METHYL CYCLOHEXANE	0/2	6	6.3	#N/A
METHYL TERT-BUTYL ETHER	0/2	6	6.3	5
STYRENE	0/2	6	6.3	5
TETRACHLOROETHENE	0/2	6	6.3	5
TOLUENE	0/2	6	6.3	5
TOTAL XYLENES	0/2	18	19	#N/A
TRANS-1,2-DICHLOROETHENE	0/2	6	6.3	5
TRANS-1,3-DICHLOROPROPENE	0/2	6	6.3	5
TRICHLOROETHENE	0/2	6	6.3	5
TRICHLOROFLUOROMETHANE	0/2	12	13	10
VINYL CHLORIDE	0/2	12	13	10
Semivolatile Organics (ug/kg)				
1,1-BIPHENYL	0/2	400	420	#N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	0/2	400	420	#N/A
2,4,5-TRICHLOROPHENOL	0/2	400	420	330
2,4,6-TRICHLOROPHENOL	0/2	400	420	330
2,4-DICHLOROPHENOL	0/2	400	420	330
2,4-DIMETHYLPHENOL	0/2	400	420	1600
2,4-DINITROPHENOL	0/2	1900	2000	330
2,4-DINITROTOLUENE	0/2	400	420	330
2,6-DINITROTOLUENE	0/2	400	420	330
2-CHLORONAPHTHALENE	0/2	400	420	330
2-CHLOROPHENOL	0/2	400	420	330

TABLE B-3

SEDIMENT RANGE OF NON-DETECTS
SITE 17 - SOUTH BRANCH PETTIBONE CREEK
NTC GREAT LAKES, ILLINOIS

Parameter	Frequency of Detection	Minimum Non-detect	Maximum Non-detect	Laboratory Reporting Limit
2-METHYLNAPHTHALENE	0/2	400	420	330
2-METHYLPHENOL	0/2	400	420	#N/A
2-NITROANILINE	0/2	1900	2000	1600
2-NITROPHENOL	0/2	400	420	330
3,3'-DICHLOROBENZIDINE	0/2	1900	2000	1600
3-NITROANILINE	0/2	1900	2000	1600
4,6-DINITRO-2-METHYLPHENOL	0/2	1900	2000	#N/A
4-BROMOPHENYL PHENYL ETHER	0/2	400	420	330
4-CHLORO-3-METHYLPHENOL	0/2	400	420	330
4-CHLOROANILINE	0/2	400	420	330
4-CHLOROPHENYL PHENYL ETHER	0/2	400	420	330
4-METHYLPHENOL	0/2	400	420	#N/A
4-NITROANILINE	0/2	1900	2000	1600
4-NITROPHENOL	0/2	1900	2000	1600
ACENAPHTHENE	0/14	79	4100	330
ACETOPHENONE	0/2	400	420	330
ATRAZINE	0/2	400	420	330
BENZALDEHYDE	0/2	400	420	330
BIS(2-CHLOROETHOXY)METHANE	0/2	400	420	330
BIS(2-CHLOROETHYL)ETHER	0/2	400	420	330
BUTYL BENZYL PHTHALATE	0/2	400	420	330
CAPROLACTAM	0/2	400	420	330
CARBAZOLE	0/2	400	420	330
DI-N-BUTYL PHTHALATE	0/2	400	420	330
DI-N-OCTYL PHTHALATE	0/2	400	420	330
DIBENZO(A,H)ANTHRACENE	0/14	16	830	330
DIBENZOFURAN	0/2	400	420	330
DIETHYL PHTHALATE	0/2	400	420	330
DIMETHYL PHTHALATE	0/2	400	420	330
HEXACHLOROBENZENE	0/2	400	420	330
HEXACHLOROBUTADIENE	0/2	400	420	330
HEXACHLOROCYCLOPENTADIENE	0/2	1900	2000	1600
HEXACHLOROETHANE	0/2	400	420	330
ISOPHORONE	0/2	400	420	330
N-NITROSO-DI-N-PROPYLAMINE	0/2	400	420	330
N-NITROSODIPHENYLAMINE	0/2	400	420	330
NAPHTHALENE	0/14	79	4100	330
NITROBENZENE	0/2	400	420	330
PENTACHLOROPHENOL	0/2	1900	2000	1600
PHENOL	0/2	400	420	330
Pesticides/PCBs (ug/kg)				
ALDRIN	0/14	2	20	1.7
ALPHA-BHC	0/14	2	20	1.7
AROCLOR-1016	0/14	39	46	33
AROCLOR-1221	0/14	39	46	33
AROCLOR-1232	0/14	39	46	33
AROCLOR-1242	0/14	39	46	33
BETA-BHC	0/14	2	20	1.7
DELTA-BHC	0/14	2	20	1.7
ENDOSULFAN I	0/14	2	20	1.7
ENDOSULFAN SULFATE	0/14	2	20	1.7
ENDRIN KETONE	0/14	2	20	1.7
GAMMA-BHC (LINDANE)	0/14	2	20	1.7
HEPTACHLOR	0/14	2	20	1.7
METHOXYCHLOR	0/14	20	200	3.3
TOXAPHENE	0/14	81	780	67
Inorganics (mg/kg)				
SELENIUM	0/14	0.39	0.46	0.0027
SILVER	0/14	0.1	0.5	0.001
Miscellaneous Parameters (mg/kg)				
ETHANOL	0/2	1.1	1.1	#N/A
ETHYL ACETATE	0/2	1.1	1.1	#N/A

Footnotes:
- Shaded cells are non-detected values that are greater than the laboratory reporting limit.
- Laboratory reporting limits are from Table A-15 of the Quality Assurance Project Plan (TtNUS, July 2001).

TABLE B-4

SEDIMENT RANGE OF NON-DETECTS
SITE 17 - BOAT BASIN
NTC GREAT LAKES, ILLINOIS

Parameter	Frequency of Detection	Minimum Non-detect	Maximum Non-detect	Laboratory Reporting Limit
Volatile Organics (ug/kg)				
1,1,1-TRICHLOROETHANE	0/1	6	6	10
1,1,2,2-TETRACHLOROETHANE	0/1	6	6	5
1,1,2-TRICHLOROETHANE	0/1	6	6	5
1,1,2-TRICHLOROTRIFLUOROETHANE	0/1	6	6	#N/A
1,1-DICHLOROETHANE	0/1	6	6	5
1,1-DICHLOROETHENE	0/1	6	6	5
1,2,4-TRICHLOROBENZENE	0/1	6	6	5
1,2-DIBROMO-3-CHLOROPROPANE	0/1	12	12	10
1,2-DIBROMOETHANE	0/1	6	6	5
1,2-DICHLOROBENZENE	0/1	6	6	5
1,2-DICHLOROETHANE	0/1	6	6	5
1,2-DICHLOROPROPANE	0/1	6	6	5
1,3-DICHLOROBENZENE	0/1	6	6	5
1,4-DICHLOROBENZENE	0/1	6	6	5
2-BUTANONE	0/1	24	24	#N/A
2-HEXANONE	0/1	24	24	20
4-METHYL-2-PENTANONE	0/1	24	24	20
ACETONE	0/1	11	11	20
BENZENE	0/1	6	6	5
BROMODICHLOROMETHANE	0/1	6	6	5
BROMOFORM	0/1	6	6	5
BROMOMETHANE	0/1	12	12	10
CARBON DISULFIDE	0/1	6	6	5
CARBON TETRACHLORIDE	0/1	6	6	5
CHLOROBENZENE	0/1	6	6	5
CHLORODIBROMOMETHANE	0/1	6	6	#N/A
CHLOROETHANE	0/1	12	12	10
CHLOROFORM	0/1	6	6	5
CHLOROMETHANE	0/1	12	12	10
CIS-1,2-DICHLOROETHENE	0/1	6	6	5
CIS-1,3-DICHLOROPROPENE	0/1	6	6	5
CYCLOHEXANE	0/1	6	6	10
DICHLORODIFLUOROMETHANE	0/1	12	12	10
ETHYLBENZENE	0/1	6	6	5
ISOPROPYLBENZENE	0/1	6	6	10
METHYL ACETATE	0/1	6	6	10
METHYL CYCLOHEXANE	0/1	6	6	#N/A
METHYL TERT-BUTYL ETHER	0/1	6	6	5
STYRENE	0/1	6	6	5
TETRACHLOROETHENE	0/1	6	6	5
TOLUENE	0/1	6	6	5
TOTAL XYLENES	0/1	18	18	#N/A
TRANS-1,2-DICHLOROETHENE	0/1	6	6	5
TRANS-1,3-DICHLOROPROPENE	0/1	6	6	5
TRICHLOROETHENE	0/1	6	6	5
TRICHLOROFLUOROMETHANE	0/1	12	12	10
VINYL CHLORIDE	0/1	12	12	10
Semivolatile Organics (ug/kg)				
1,1-BIPHENYL	0/1	800	800	#N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	0/1	800	800	#N/A
2,4,5-TRICHLOROPHENOL	0/1	800	800	330
2,4,6-TRICHLOROPHENOL	0/1	800	800	330
2,4-DICHLOROPHENOL	0/1	800	800	330
2,4-DIMETHYLPHENOL	0/1	800	800	1600
2,4-DINITROPHENOL	0/1	3900	3900	330
2,4-DINITROTOLUENE	0/1	800	800	330
2,6-DINITROTOLUENE	0/1	800	800	330
2-CHLORONAPHTHALENE	0/1	800	800	330

TABLE B-4

SEDIMENT RANGE OF NON-DETECTS
SITE 17 - BOAT BASIN
NTC GREAT LAKES, ILLINOIS

Parameter	Frequency of Detection	Minimum Non-detect	Maximum Non-detect	Laboratory Reporting Limit
2-CHLOROPHENOL	0/1	800	800	330
2-METHYLNAPHTHALENE	0/1	800	800	330
2-METHYLPHENOL	0/1	800	800	#N/A
2-NITROANILINE	0/1	3900	3900	1600
2-NITROPHENOL	0/1	800	800	330
3,3'-DICHLOROBENZIDINE	0/1	3900	3900	1600
3-NITROANILINE	0/1	3900	3900	1600
4,6-DINITRO-2-METHYLPHENOL	0/1	3900	3900	#N/A
4-BROMOPHENYL PHENYL ETHER	0/1	800	800	330
4-CHLORO-3-METHYLPHENOL	0/1	800	800	330
4-CHLOROANILINE	0/1	800	800	330
4-CHLOROPHENYL PHENYL ETHER	0/1	800	800	330
4-METHYLPHENOL	0/1	800	800	#N/A
4-NITROANILINE	0/1	3900	3900	1600
4-NITROPHENOL	0/1	3900	3900	1600
ACENAPHTHENE	0/12	360	4200	330
ACETOPHENONE	0/1	800	800	330
ATRAZINE	0/1	800	800	330
BENZALDEHYDE	0/1	800	800	330
BIS(2-CHLOROETHOXY)METHANE	0/1	800	800	330
BIS(2-CHLOROETHYL)ETHER	0/1	800	800	330
BUTYL BENZYL PHTHALATE	0/1	800	800	330
CAPROLACTAM	0/1	800	800	330
CARBAZOLE	0/1	800	800	330
DI-N-BUTYL PHTHALATE	0/1	800	800	330
DI-N-OCTYL PHTHALATE	0/1	800	800	330
DIBENZO(A,H)ANTHRACENE	0/12	74	860	330
DIBENZOFURAN	0/1	800	800	330
DIETHYL PHTHALATE	0/1	800	800	330
DIMETHYL PHTHALATE	0/1	800	800	330
HEXACHLOROBENZENE	0/1	800	800	330
HEXACHLOROBUTADIENE	0/1	800	800	330
HEXACHLOROCYCLOPENTADIENE	0/1	3900	3900	1600
HEXACHLOROETHANE	0/1	800	800	330
ISOPHORONE	0/1	800	800	330
N-NITROSO-DI-N-PROPYLAMINE	0/1	800	800	330
N-NITROSODIPHENYLAMINE	0/1	800	800	330
NITROBENZENE	0/1	800	800	330
PENTACHLOROPHENOL	0/1	3900	3900	1600
PHENOL	0/1	800	800	330
Pesticides/PCBs (ug/kg)				
AROCLOR-1016	0/12	36	50	33
AROCLOR-1221	0/12	36	50	33
AROCLOR-1232	0/12	36	50	33
AROCLOR-1242	0/12	36	50	33
AROCLOR-1248	0/12	36	50	33
ENDRIN ALDEHYDE	0/12	8.2	51	1.7
HEPTACHLOR	0/12	8.2	51	1.7
HEPTACHLOR EPOXIDE	0/12	8.2	51	1.7
TOXAPHENE	0/12	320	2000	67
Inorganics (mg/kg)				
THALLIUM	0/12	0.87	2.8	0.0059
Miscellaneous Parameters (mg/kg)				
ETHANOL	0/1	1.2	1.2	#N/A
ETHYL ACETATE	0/1	1.2	1.2	#N/A

Footnotes:
- Shaded cells are non-detected values that are greater than the laboratory reporting limit.
- Laboratory reporting limits are from Table A-15 of the Quality Assurance Project Plan (TtNUS, July 2001).

TABLE B-5

SUBSURFACE SEDIMENT RANGE OF NON-DETECTS
SITE 17 - NORTH BRANCH PETTIBONE CREEK
NTC GREAT LAKES, ILLINOIS

Parameter	Frequency of Detection	Minimum Non-detect	Maximum Non-detect	Laboratory Reporting Limit
Semivolatile Organics (ug/kg)				
ACENAPHTHENE	0/11	180	3600	330
DIBENZO(A,H)ANTHRACENE	0/11	37	730	330
NAPHTHALENE	0/11	180	3600	330
Pesticides/PCBs (ug/kg)				
ALPHA-BHC	0/11	1.8	87	1.7
AROCLOR-1016	0/11	35	45	33
AROCLOR-1221	0/11	35	45	33
AROCLOR-1232	0/11	35	45	33
AROCLOR-1242	0/11	35	45	33
BETA-BHC	0/11	1.8	87	1.7
ENDOSULFAN I	0/11	1.8	87	1.7
ENDOSULFAN SULFATE	0/11	1.8	87	1.7
ENDRIN KETONE	0/11	1.8	87	1.7
GAMMA-BHC (LINDANE)	0/11	1.8	87	1.7
HEPTACHLOR	0/11	1.8	87	1.7
METHOXYCHLOR	0/11	18	870	3.3
TOXAPHENE	0/11	73	3400	67

Footnotes:

- Shaded cells are non-detected values that are greater than the laboratory reporting limit.
- Laboratory reporting limits are from Table A-15 of the Quality Assurance Project Plan (TtNUS, July 2001)

TABLE B-6

SUBSURFACE SEDIMENT RANGE OF NON-DETECTS
SITE 17 - SOUTH BRANCH PETTIBONE CREEK
NTC GREAT LAKES, ILLINOIS

Parameter	Frequency of Detection	Minimum Non-detect	Maximum Non-detect	Laboratory Reporting Limit
Semivolatile Organics (ug/kg)				
ACENAPHTHENE	0/3	78	440	330
DIBENZO(A,H)ANTHRACENE	0/3	16	89	330
NAPHTHALENE	0/3	78	440	330
Pesticides/PCBs (ug/kg)				
ALDRIN	0/3	2	9	1.7
ALPHA-BHC	0/3	2	9	1.7
AROCLOR-1016	0/3	39	44	33
AROCLOR-1221	0/3	39	44	33
AROCLOR-1232	0/3	39	44	33
AROCLOR-1242	0/3	39	44	33
AROCLOR-1248	0/3	39	44	33
AROCLOR-1254	0/3	39	44	33
AROCLOR-1260	0/3	39	44	33
BETA-BHC	0/3	2	9	1.7
ENDOSULFAN I	0/3	2	9	1.7
ENDOSULFAN SULFATE	0/3	2	9	1.7
ENDRIN KETONE	0/3	2	9	1.7
GAMMA-BHC (LINDANE)	0/3	2	9	1.7
HEPTACHLOR	0/3	2	9	1.7
HEPTACHLOR EPOXIDE	0/3	2	9	1.7
METHOXYCHLOR	0/3	20	90	3.3
TOXAPHENE	0/3	79	360	67
Inorganics (mg/kg)				
SILVER	0/3	0.09	0.22	0.001

Footnotes:

- Shaded cells are non-detected values that are greater than the laboratory reporting limit.
- Laboratory reporting limits are from Table A-15 of the Quality Assurance Project Plan (TtNUS, July 2001).

TABLE B-7

SUBSURFACE SEDIMENT RANGE OF NON-DETECTS
SITE 17 - BOAT BASIN
NTC GREAT LAKES, ILLINOIS

Parameter	Frequency of Detection	Minimum Non-detect	Maximum Non-detect	Laboratory Reporting Limit
Volatile Organics (ug/kg)				
1,1,1-TRICHLOROETHANE	0/1	7.2	7.2	10
1,1,2,2-TETRACHLOROETHANE	0/1	7.2	7.2	5
1,1,2-TRICHLOROETHANE	0/1	7.2	7.2	5
1,1,2-TRICHLOROTRIFLUOROETHANE	0/1	7.2	7.2	#N/A
1,1-DICHLOROETHANE	0/1	7.2	7.2	5
1,1-DICHLOROETHENE	0/1	7.2	7.2	5
1,2,4-TRICHLOROBENZENE	0/1	7.2	7.2	5
1,2-DIBROMO-3-CHLOROPROPANE	0/1	14	14	10
1,2-DIBROMOETHANE	0/1	7.2	7.2	5
1,2-DICHLOROBENZENE	0/1	7.2	7.2	5
1,2-DICHLOROETHANE	0/1	7.2	7.2	5
1,2-DICHLOROPROPANE	0/1	7.2	7.2	5
1,3-DICHLOROBENZENE	0/1	7.2	7.2	5
1,4-DICHLOROBENZENE	0/1	7.2	7.2	5
2-BUTANONE	0/1	29	29	#N/A
2-HEXANONE	0/1	29	29	20
4-METHYL-2-PENTANONE	0/1	29	29	20
ACETONE	0/1	19	19	20
BENZENE	0/1	7.2	7.2	5
BROMODICHLOROMETHANE	0/1	7.2	7.2	5
BROMOFORM	0/1	7.2	7.2	5
BROMOMETHANE	0/1	14	14	10
CARBON DISULFIDE	0/1	7.2	7.2	5
CARBON TETRACHLORIDE	0/1	7.2	7.2	5
CHLOROBENZENE	0/1	7.2	7.2	5
CHLORODIBROMOMETHANE	0/1	7.2	7.2	#N/A
CHLOROETHANE	0/1	14	14	10
CHLOROFORM	0/1	7.2	7.2	5
CHLOROMETHANE	0/1	14	14	10
CIS-1,2-DICHLOROETHENE	0/1	7.2	7.2	5
CIS-1,3-DICHLOROPROPENE	0/1	7.2	7.2	5
CYCLOHEXANE	0/1	7.2	7.2	10
DICHLORODIFLUOROMETHANE	0/1	14	14	10
ETHYLBENZENE	0/1	7.2	7.2	5
ISOPROPYLBENZENE	0/1	7.2	7.2	10
METHYL ACETATE	0/1	7.2	7.2	10
METHYL CYCLOHEXANE	0/1	7.2	7.2	#N/A
METHYL TERT-BUTYL ETHER	0/1	7.2	7.2	5
STYRENE	0/1	7.2	7.2	5
TETRACHLOROETHENE	0/1	7.2	7.2	5
TOLUENE	0/1	7.2	7.2	5
TOTAL XYLENES	0/1	22	22	#N/A
TRANS-1,2-DICHLOROETHENE	0/1	7.2	7.2	5
TRANS-1,3-DICHLOROPROPENE	0/1	7.2	7.2	5
TRICHLOROETHENE	0/1	7.2	7.2	5
TRICHLOROFLUOROMETHANE	0/1	14	14	10
VINYL CHLORIDE	0/1	14	14	10
Semivolatile Organics (ug/kg)				
1,1-BIPHENYL	0/1	2400	2400	#N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	0/1	2400	2400	#N/A
2,4,5-TRICHLOROPHENOL	0/1	2400	2400	330
2,4,6-TRICHLOROPHENOL	0/1	2400	2400	330
2,4-DICHLOROPHENOL	0/1	2400	2400	330
2,4-DIMETHYLPHENOL	0/1	2400	2400	1600
2,4-DINITROPHENOL	0/1	12000	12000	330
2,4-DINITROTOLUENE	0/1	2400	2400	330
2,6-DINITROTOLUENE	0/1	2400	2400	330

TABLE B-7

SUBSURFACE SEDIMENT RANGE OF NON-DETECTS
SITE 17 - BOAT BASIN
NTC GREAT LAKES, ILLINOIS

Parameter	Frequency of Detection	Minimum Non-detect	Maximum Non-detect	Laboratory Reporting Limit
2-CHLORONAPHTHALENE	0/1	2400	2400	330
2-CHLOROPHENOL	0/1	2400	2400	330
2-METHYLNAPHTHALENE	0/1	2400	2400	330
2-METHYLPHENOL	0/1	2400	2400	#N/A
2-NITROANILINE	0/1	12000	12000	1600
2-NITROPHENOL	0/1	2400	2400	330
3,3'-DICHLOROBENZIDINE	0/1	12000	12000	1600
3-NITROANILINE	0/1	12000	12000	1600
4,6-DINITRO-2-METHYLPHENOL	0/1	12000	12000	#N/A
4-BROMOPHENYL PHENYL ETHER	0/1	2400	2400	330
4-CHLORO-3-METHYLPHENOL	0/1	2400	2400	330
4-CHLOROANILINE	0/1	2400	2400	330
4-CHLOROPHENYL PHENYL ETHER	0/1	2400	2400	330
4-METHYLPHENOL	0/1	2400	2400	#N/A
4-NITROANILINE	0/1	12000	12000	1600
4-NITROPHENOL	0/1	12000	12000	1600
ACENAPHTHENE	0/36	210	4100	330
ACETOPHENONE	0/1	2400	2400	330
ATRAZINE	0/1	2400	2400	330
BENZALDEHYDE	0/1	2400	2400	330
BIS(2-CHLOROETHOXY)METHANE	0/1	2400	2400	330
BIS(2-CHLOROETHYL)ETHER	0/1	2400	2400	330
BUTYL BENZYL PHTHALATE	0/1	2400	2400	330
CAPROLACTAM	0/1	2400	2400	330
CARBAZOLE	0/1	2400	2400	330
DI-N-BUTYL PHTHALATE	0/1	2400	2400	330
DI-N-OCTYL PHTHALATE	0/1	2400	2400	330
DIBENZOFURAN	0/1	2400	2400	330
DIETHYL PHTHALATE	0/1	2400	2400	330
DIMETHYL PHTHALATE	0/1	2400	2400	330
HEXACHLOROBENZENE	0/1	2400	2400	330
HEXACHLOROBUTADIENE	0/1	2400	2400	330
HEXACHLOROCYCLOPENTADIENE	0/1	12000	12000	1600
HEXACHLOROETHANE	0/1	2400	2400	330
ISOPHORONE	0/1	2400	2400	330
N-NITROSO-DI-N-PROPYLAMINE	0/1	2400	2400	330
N-NITROSODIPHENYLAMINE	0/1	2400	2400	330
NITROBENZENE	0/1	2400	2400	330
PENTACHLOROPHENOL	0/1	12000	12000	1600
PHENOL	0/1	2400	2400	330
Pesticides/PCBs (ug/kg)				
AROCLOR-1016	0/36	41	260	33
AROCLOR-1221	0/36	41	260	33
AROCLOR-1232	0/36	41	260	33
AROCLOR-1242	0/36	41	260	33
HEPTACHLOR	0/36	2.1	710	1.7
HEPTACHLOR EPOXIDE	0/36	2.1	710	1.7
TOXAPHENE	0/36	84	28000	67
Inorganics (mg/kg)				
THALLIUM	0/36	0.97	3.6	0.0059
Miscellaneous Parameters (mg/kg)				
ETHANOL	0/1	7.1	7.1	#N/A
ETHYL ACETATE	0/1	7.1	7.1	#N/A

Footnotes:

- Shaded cells are non-detected values that are greater than the laboratory reporting limit.
- Laboratory reporting limits are from Table A-15 of the Quality Assurance Project Plan (TtNUS, July 2001).

APPENDIX B.2

DATA VALIDATION PACKAGES

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **MR. B. DAVIS** **DATE:** **NOVEMBER 21, 2001**

FROM: **ANGELA SCHEETZ** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- PEST/PCB/ PAH**
CTO 154, NTC GREAT LAKES
SDG GL001

SAMPLES: 1/Sediment

NTC17BBSD5504

OVERVIEW

The sample set for CTO 154 NTC Great Lakes, SDG GL001 consists of one (1) sediment environmental sample. The sample was analyzed for target compound list (TCL) organochlorine pesticides, polychlorinated biphenyls (PCBs), and polynuclear aromatic hydrocarbons (PAHs).

The sample was collected by TetraTech NUS on September 5, 2001 and analyzed by Severn Trent Laboratory-Pittsburgh. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Methods 8081A, 8082, and 8310 analysis and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
* • Holding times
* • Initial/continuing calibrations
* • Laboratory method blank results
• Surrogate Recoveries
* • Blank Spike/Blank Spike Duplicate Results
* • Matrix Spike/Matrix Spike Duplicate Results
* • Compound Quantitation
* • Compound Identification
* • Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A.

Pesticides / PCBs

Surrogate recoveries were diluted out in sample NTC17BBSD5504 due to a dilution of 20X. No qualifications were made on this basis.

The percent difference between columns exceeded 100% for the following compounds. The positive results were rejected, R.

Sample	Compound	%D
NTC17BBSD5504	beta-BHC	203.9%
	Delta-BHC	144.4%
	Gamma-chlordane	242.8%

The percent difference between columns exceeded 25% for the following compounds. The positive results were reported as estimated, J for these compounds.

Sample	Compound	%D
NTC17BBSD5504	Endrin	33.4%
	Endosulfan I	39.8%
	4,4'-DDT	73.9%

PAHs

Surrogate recoveries were diluted out in sample NTC17BBSD5504 due to a dilution of 20X. No qualifications were made on this basis.

The percent difference between columns exceeded 25% for the following compounds. The positive results were reported as estimated, J for these compounds.

Sample	Compound	%D
NTC17BBSD5504	Fluoranthene	28.0%
	Pyrene	34.1%
	Indeno(1,2,3-cd)pyrene	48.2%
	dibenzo(a,h)anthracene	203.9%
	Benzo(g,h,i)perylene	120.3%

Additional Comments:

Positive results below the reporting limit (RL) were qualified as estimated, J, due to uncertainty near the detection limit.

It should be noted that the laboratory reported the lower concentration of the two columns.

As per project directive, only 10% of the analytical results were validated.

EXECUTIVE SUMMARY

Laboratory Performance Issues: Several %Ds exceeded the quality control limit between columns for positive results.

Other factors affecting data quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99), EPA Region V (08/93), and the NFESC guidelines IRCDQM (Sept., 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS

Angela Scheetz
Chemist/Data Validator

Tetra Tech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17RB09050101		
SAMPLE DATE:	09/05/01	/ /	/ /	/ /
LABORATORY ID:	C1I060230020			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	0.050	U										
4,4'-DDE	0.050	U										
4,4'-DDT	0.050	U										
ALDRIN	0.050	U										
ALPHA-BHC	0.050	U										
ALPHA-CHLORDANE	0.050	U										
AROCLOR-1016	1.0	U										
AROCLOR-1221	1.0	U										
AROCLOR-1232	1.0	U										
AROCLOR-1242	1.0	U										
AROCLOR-1248	1.0	U										
AROCLOR-1254	1.0	U										
AROCLOR-1260	1.0	U										
BETA-BHC	0.050	U										
DELTA-BHC	0.050	U										
DIELDRIN	0.050	U										
ENDOSULFAN I	0.050	U										
ENDOSULFAN II	0.050	U										
ENDOSULFAN SULFATE	0.050	U										
ENDRIN	0.050	U										
ENDRIN ALDEHYDE	0.050	U										
ENDRIN KETONE	0.050	U										
GAMMA-BHC (LINDANE)	0.050	U										
GAMMA-CHLORDANE	0.050	U										
HEPTACHLOR	0.050	U										
HEPTACHLOR EPOXIDE	0.050	U										
METHOXYCHLOR	0.10	U										
TOXAPHENE	2.0	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD4801			NTC17BBSD4803			NTC17BBSD4804			NTC17BBSD4805		
SAMPLE DATE:	09/05/01			09/05/01			09/05/01			09/05/01		
LABORATORY ID:	C1I060230009			C1I060230010			C1I060230011			C1I060230012		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	66.0 %			67.0 %			66.0 %			79.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	310			420			900			120		
4,4'-DDE	230			210			360			93		
4,4'-DDT	67			68			87	J	P	69		
ALDRIN	51	U		51	U		130	U		1.8	J	P
ALPHA-BHC	51	U		51	U		130	U		21	U	
ALPHA-CHLORDANE	11	J	P	23	J	P	65	J	P	4.1	J	P
AROCLOR-1016	50	U		50	U		99	U		42	U	
AROCLOR-1221	50	U		50	U		99	U		42	U	
AROCLOR-1232	50	U		50	U		99	U		42	U	
AROCLOR-1242	50	U		50	U		99	U		42	U	
AROCLOR-1248	50	U		540			1500			42	U	
AROCLOR-1254	660			1300			2800			180		
AROCLOR-1260	270			1100			920			42	U	
BETA-BHC	51	U		51	U		130	U		21	U	
DELTA-BHC	7.9	J	P	51	U		130	U		21	U	
DIELDRIN	13	J	P	17	J	P	39	J	P	3.9	J	P
ENDOSULFAN I	8.7	J	P	7.1	J	P	25	J	P	1.7	J	P
ENDOSULFAN II	7.5	J	P	21	J	P	41	J	P	3.8	J	P
ENDOSULFAN SULFATE	51	U		51	U		130	U		21	U	
ENDRIN	51	U		12	J	P	130	U		2.6	J	P
ENDRIN ALDEHYDE	51	U		51	U		130	U		21	U	
ENDRIN KETONE	51	U		6.7	J	P	130	U		21	U	
GAMMA-BHC (LINDANE)	51	U		51	U		130	U		21	U	
GAMMA-CHLORDANE	8.0	J	P	13	J	P	36	J	P	2.4	J	P
HEPTACHLOR	51	U		51	U		130	U		21	U	
HEPTACHLOR EPOXIDE	51	U		51	U		130	U		21	U	
METHOXYCHLOR	510	U		510	U		1300	U		210	U	
TOXAPHENE	2000	U		2000	U		5000	U		840	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD5201			NTC17BBSD5203			NTC17BBSD5204			NTC17BBSD5205		
SAMPLE DATE:	09/05/01			09/05/01			09/05/01			09/05/01		
LABORATORY ID:	C1I060230013			C1I060230014			C1I060230015			C1I060230016		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	74.0 %			64.0 %			73.0 %			64.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	190			410			340			340		
4,4'-DDE	140			97			140			230		
4,4'-DDT	46	U		65			37	J	P	100		
ALDRIN	46	U		53	U		70	U		27	U	
ALPHA-BHC	46	U		53	U		70	U		27	U	
ALPHA-CHLORDANE	6.7	J	P	21	J	P	24	J	P	6.9	J	P
AROCLOR-1016	44	U		51	U		45	U		51	U	
AROCLOR-1221	44	U		51	U		45	U		51	U	
AROCLOR-1232	44	U		51	U		45	U		51	U	
AROCLOR-1242	44	U		51	U		45	U		51	U	
AROCLOR-1248	44	U		51	U		600			51	U	
AROCLOR-1254	44	U		1400			1200			410		
AROCLOR-1260	44	U		560			530			230		
BETA-BHC	7.6	J	P	53	U		70	U		27	U	
DELTA-BHC	2.0	J	P	53	U		70	U		2.9	J	P
DIELDRIN	6.3	J	P	15	J	P	9.7	J	P	8.7	J	P
ENDOSULFAN I	7.7	J	P	5.0	J	P	12	J	P	5.8	J	P
ENDOSULFAN II	12	J	P	19	J	P	70	U		6.4	J	P
ENDOSULFAN SULFATE	7.3	J	P	53	U		70	U		27	U	
ENDRIN	46	U		8.9	J	P	70	U		27	U	
ENDRIN ALDEHYDE	46	U		53	U		70	U		27	U	
ENDRIN KETONE	46	U		53	U		70	U		27	U	
GAMMA-BHC (LINDANE)	46	U		53	U		70	U		27	U	
GAMMA-CHLORDANE	46	U		6.4	J	P	12	J	P	7.2	J	P
HEPTACHLOR	46	U		53	U		70	U		27	U	
HEPTACHLOR EPOXIDE	46	U		53	U		70	U		27	U	
METHOXYCHLOR	32	J	P	530	U		700	U		270	U	
TOXAPHENE	1800	U		2100	U		2800	U		1000	U	

SAMPLE NUMBER:	NTC17BBSD5401			NTC17BBSD5403			NTC17BBSD5501			NTC17BBSD5503		
SAMPLE DATE:	09/05/01			09/05/01			09/05/01			09/05/01		
LABORATORY ID:	C1I060230018			C1I060230019			C1I060230005			C1I060230006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	83.0 %			74.0 %			75.0 %			74.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	71			190			140			160		
4,4'-DDE	57			160			100			130		
4,4'-DDT	58			51			73			57		
ALDRIN	8.2	U		46	U		23	U		23	U	
ALPHA-BHC	8.2	U		46	U		23	U		23	U	
ALPHA-CHLORDANE	1.6	J	P	5.9	J	P	6.5	J	P	3.2	J	P
AROCLOR-1016	40	U		44	U		44	U		45	U	
AROCLOR-1221	40	U		44	U		44	U		45	U	
AROCLOR-1232	40	U		44	U		44	U		45	U	
AROCLOR-1242	40	U		44	U		44	U		45	U	
AROCLOR-1248	40	U		44	U		44	U		45	U	
AROCLOR-1254	40	U		330			400			260		
AROCLOR-1260	40	U		170			170			84		
BETA-BHC	8.2	U		46	U		5.6	J	P	2.9	J	P
DELTA-BHC	8.2	U		46	U		5.3	J	P	23	U	
DIELDRIN	1.7	J	P	6.6	J	P	5.0	J	P	4.0	J	P
ENDOSULFAN I	1.1	J	P	8.0	J	P	2.8	J	P	2.4	J	P
ENDOSULFAN II	0.94	J	P	46	U		8.2	J	P	2.8	J	P
ENDOSULFAN SULFATE	8.2	U		46	U		23	U		23	U	
ENDRIN	8.2	U		46	U		23	U		23	U	
ENDRIN ALDEHYDE	8.2	U		46	U		23	U		23	U	
ENDRIN KETONE	8.2	U		46	U		23	U		23	U	
GAMMA-BHC (LINDANE)	8.2	U		46	U		23	U		23	U	
GAMMA-CHLORDANE	1.3	J	P	46	U		2.8	J	P	3.2	J	P
HEPTACHLOR	8.2	U		46	U		23	U		23	U	
HEPTACHLOR EPOXIDE	8.2	U		46	U		23	U		23	U	
METHOXYCHLOR	82	U		460	U		230	U		230	U	
TOXAPHENE	320	U		1800	U		890	U		910	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD5504			NTC17BBSD5505			NTC17BBSD5601			NTC17BBSD5603		
SAMPLE DATE:	09/05/01			09/05/01			09/05/01			09/05/01		
LABORATORY ID:	C1I060230007			C1I060230008			C1I060230001			C1I060230002		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	70.0 %			73.0 %			70.0 %			75.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	290			210			82			160		
4,4'-DDE	120			160			67			100		
4,4'-DDT	37	J	PU	46			43			88		
ALDRIN	48	U		46	U		9.7	U		23	U	
ALPHA-BHC	48	U		46	U		6.5	J	P	4.1	J	P
ALPHA-CHLORDANE	14	J	P	6.1	J	P	2.2	J	P	5.9	J	P
AROCLOR-1016	47	U		45	U		47	U		44	U	
AROCLOR-1221	47	U		45	U		47	U		44	U	
AROCLOR-1232	47	U		45	U		47	U		44	U	
AROCLOR-1242	47	U		45	U		47	U		44	U	
AROCLOR-1248	290			45	U		47	U		44	U	
AROCLOR-1254	810			310			79			340		
AROCLOR-1260	420			140			47	U		44	U	
BETA-BHC	4.3	R	PU	46	U		6.9	J	P	4.3	J	P
DELTA-BHC	3.5	R	PU	46	U		8.5	J	P	5.2	J	P
DIELDRIN	15	J	P	6.0	J	P	2.9	J	P	3.6	J	P
ENDOSULFAN I	7.5	J	PU	46	U		9.7	U		1.5	J	P
ENDOSULFAN II	9.6	J	P	46	U		2.7	J	P	7.4	J	P
ENDOSULFAN SULFATE	48	U		46	U		9.7	U		23	U	
ENDRIN	8.5	J	PU	46	U		9.7	U		23	U	
ENDRIN ALDEHYDE	48	U		46	U		9.7	U		23	U	
ENDRIN KETONE	48	U		46	U		9.7	U		23	U	
GAMMA-BHC (LINDANE)	48	U		46	U		4.6	J	P	2.8	J	P
GAMMA-CHLORDANE	6.4	R	PU	4.6	J	P	1.2	J	P	2.9	J	P
HEPTACHLOR	48	U		46	U		9.7	U		23	U	
HEPTACHLOR EPOXIDE	48	U		46	U		9.7	U		23	U	
METHOXYCHLOR	480	U		460	U		97	U		230	U	
TOXAPHENE	1900	U		1800	U		380	U		890	U	

SAMPLE NUMBER:	NTC17BBSD5604	NTC17BBSD5605	NTCFD09050101
SAMPLE DATE:	09/05/01	09/05/01	09/05/01
LABORATORY ID:	C1I060230003	C1I060230004	C1I060230017
QC_TYPE:	NORMAL	NORMAL	NORMAL
% SOLIDS:	77.0 %	79.0 %	80.0 %
UNITS:	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:			NTC17BBSD4803

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	310			30			110					
4,4'-DDE	120			13			80					
4,4'-DDT	35	J	P	6.5			96					
ALDRIN	44	U		2.1	U		1.4	J	P			
ALPHA-BHC	44	U		2.1	U		21	U				
ALPHA-CHLORDANE	18	J	P	2.0	J	P	3.0	J	P			
AROCLOR-1016	43	U		42	U		41	U				
AROCLOR-1221	43	U		42	U		41	U				
AROCLOR-1232	43	U		42	U		41	U				
AROCLOR-1242	43	U		42	U		41	U				
AROCLOR-1248	43	U		42	U		41	U				
AROCLOR-1254	1100			130			41	U				
AROCLOR-1260	420			47			41	U				
BETA-BHC	6.4	J	P	2.1	U		21	U				
DELTA-BHC	6.1	J	P	2.1	U		21	U				
DIELDRIN	15	J	P	1.6	J	P	3.6	J	P			
ENDOSULFAN I	10	J	P	0.92	J	P	2.4	J	P			
ENDOSULFAN II	7.5	J	P	1.2	J	P	21	U				
ENDOSULFAN SULFATE	44	U		0.26	J	P	21	U				
ENDRIN	6.2	J	P	2.1	U		21	U				
ENDRIN ALDEHYDE	44	U		2.1	U		21	U				
ENDRIN KETONE	44	U		2.1	U		21	U				
GAMMA-BHC (LINDANE)	44	U		2.1	U		21	U				
GAMMA-CHLORDANE	7.3	J	P	1.1	J	P	21	U				
HEPTACHLOR	44	U		2.1	U		21	U				
HEPTACHLOR EPOXIDE	44	U		2.1	U		21	U				
METHOXYCHLOR	440	U		21	U		210	U				
TOXAPHENE	1700	U		84	U		840	U				

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD4801	NTC17BBSD4803	NTC17BBSD4804	NTC17BBSD4805
SAMPLE DATE:	09/05/01	09/05/01	09/05/01	09/05/01
LABORATORY ID:	C1I060230009	C1I060230010	C1I060230011	C1I060230012
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	66.0 %	67.0 %	66.0 %	79.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	1000	U		250	U		250	U		420	U	
ACENAPHTHYLENE	1000	U		49	J	P	58	J	P	42	J	P
ANTHRACENE	190	J	P	64			50	U		93		
BENZO(A)ANTHRACENE	680			280			230			260		
BENZO(A)PYRENE	680			250			200			290		
BENZO(B)FLUORANTHENE	680			280			220			260		
BENZO(G,H,I)PERYLENE	630			210			140			170		
BENZO(K)FLUORANTHENE	400			170			140			140		
CHRYSENE	670			290			240			260		
DIBENZO(A,H)ANTHRACENE	200	U		50	U		50	U		84	U	
FLUORANTHENE	1900			770			630			760		
FLUORENE	120	J	P	79			70			38	J	P
INDENO(1,2,3-CD)PYRENE	340			120			91			120		
NAPHTHALENE	1000	U		250	U		250	U		420	U	
PHENANTHRENE	1000			460			400			450		
PYRENE	1300			590			480			540		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD5201			NTC17BBSD5203			NTC17BBSD5204			NTC17BBSD5205		
SAMPLE DATE:	09/05/01			09/05/01			09/05/01			09/05/01		
LABORATORY ID:	C1I060230013			C1I060230014			C1I060230015			C1I060230016		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	74.0 %			64.0 %			73.0 %			64.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	2200	U		1000	U		910	U		1000	U	
ACENAPHTHYLENE	160	J	P	42	J	P	910	U		1000	U	
ANTHRACENE	620			160	J	P	120	J	P	180	J	P
BENZO(A)ANTHRACENE	1900			540			490			680		
BENZO(A)PYRENE	1700			520			500			650		
BENZO(B)FLUORANTHENE	1600			580			520			690		
BENZO(G,H,I)PERYLENE	450	U		210	U		180	U		210	U	
BENZO(K)FLUORANTHENE	1000			320			270			430		
CHRYSENE	1800			620			540			670		
DIBENZO(A,H)ANTHRACENE	450	U		210	U		42	J	P	210	U	
FLUORANTHENE	4500			1800			1400			1800		
FLUORENE	270	J	P	150	J	P	100	J	P	120	J	P
INDENO(1,2,3-CD)PYRENE	610			270			230			210	U	
NAPHTHALENE	2200	U		1000	U		910	U		1000	U	
PHENANTHRENE	2600			1100			900			980		
PYRENE	3600			1300			1000			1300		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD5401			NTC17BBSD5403			NTC17BBSD5501			NTC17BBSD5503		
SAMPLE DATE:	09/05/01			09/05/01			09/05/01			09/05/01		
LABORATORY ID:	C1I060230018			C1I060230019			C1I060230005			C1I060230006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	83.0 %			74.0 %			75.0 %			74.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	800	U		890	U		880	U		900	U	
ACENAPHTHYLENE	800	U		890	U		880	U		900	U	
ANTHRACENE	180			230			360			360		
BENZO(A)ANTHRACENE	380			550			770			1000		
BENZO(A)PYRENE	400			480			690			980		
BENZO(B)FLUORANTHENE	370			520			700			970		
BENZO(G,H,I)PERYLENE	160	U		180	U		410			590		
BENZO(K)FLUORANTHENE	210			290			400			560		
CHRYSENE	380			550			720			1000		
DIBENZO(A,H)ANTHRACENE	160	U		180	U		180	U		180	U	
FLUORANTHENE	1100			1600			2200			3100		
FLUORENE	76	J	P	130	J	P	170	J	P	190		
INDENO(1,2,3-CD)PYRENE	190			200			320			450		
NAPHTHALENE	800	U		890	U		880	U		900	U	
PHENANTHRENE	700			1100			1400			1900		
PYRENE	740			1100			1500			2100		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD5504			NTC17BBSD5505			NTC17BBSD5601			NTC17BBSD5603		
SAMPLE DATE:	09/05/01			09/05/01			09/05/01			09/05/01		
LABORATORY ID:	C1I060230007			C1I060230008			C1I060230001			C1I060230002		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	70.0 %			73.0 %			70.0 %			75.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	940	U		900	U		2400	U		880	U	
ACENAPHTHYLENE	940	U		900	U		200	J	P	880	U	
ANTHRACENE	360			370			360	J	P	140	J	P
BENZO(A)ANTHRACENE	700			850			1000			440		
BENZO(A)PYRENE	590			830			900			450		
BENZO(B)FLUORANTHENE	640			870			1100			460		
BENZO(G,H,I)PERYLENE	300	J	U	570			700			290		
BENZO(K)FLUORANTHENE	360			500			600			250		
CHRYSENE	660			880			1100			460		
DIBENZO(A,H)ANTHRACENE	57	J	U	180	U		480	U		180	U	
FLUORANTHENE	2100	J	U	2700			3200			1300		
FLUORENE	260			230			330	J	P	80	J	P
INDENO(1,2,3-CD)PYRENE	270	J	U	390			330	J	P	230		
NAPHTHALENE	940	U		200	J	P	2400	U		880	U	
PHENANTHRENE	1600			1800			2300			790		
PYRENE	1300	J	U	1800			2300			930		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD5604	NTC17BBSD5605	NTCFD09050101	
SAMPLE DATE:	09/05/01	09/05/01	09/05/01	/ /
LABORATORY ID:	C1I060230003	C1I060230004	C1I060230017	
QC_TYPE:	NORMAL	NORMAL	NORMAL	
% SOLIDS:	77.0 %	79.0 %	80.0 %	100.0 %
UNITS:	UG/KG	UG/KG	UG/KG	
FIELD DUPLICATE OF:			NTC17BBSD4803	

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	850	U		210	U		21000	U				
ACENAPHTHYLENE	850	U		14	J	P	21000	U				
ANTHRACENE	100	J	P	40	J	P	3800	J	P			
BENZO(A)ANTHRACENE	320			180			6600					
BENZO(A)PYRENE	310			170			5400					
BENZO(B)FLUORANTHENE	320			140			5300					
BENZO(G,H,I)PERYLENE	210			170			2900	J	P			
BENZO(K)FLUORANTHENE	160	J	P	80			3000	J	P			
CHRYSENE	330			160			6100					
DIBENZO(A,H)ANTHRACENE	170	U		42	U		4200	U				
FLUORANTHENE	860			300			20000					
FLUORENE	66	J	P	33	J	P	1800	J	P			
INDENO(1,2,3-CD)PYRENE	120	J	P	67			2200	J	P			
NAPHTHALENE	850	U		210	U		21000	U				
PHENANTHRENE	540			140			15000					
PYRENE	640			210			14000					

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **B. DAVIS** **DATE:** **NOVEMBER 21, 2001**

FROM: **ANGELA SCHEETZ** **COPIES:** **DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – APPENDIX IX METALS AND MISCELLANEOUS PARAMETERS**
CTO-154 NTC GREAT LAKES
SAMPLE DELIVERY GROUP (SDG) – GL001

SAMPLES: 1/Sediment/

NTC17BBSD5504

Overview

The sample set for CTO 154, NTC Great Lakes, SDG GL001, consists of one (1) sediment environmental sample.

The sample was analyzed for target analyte list (TAL) metals. The sample was collected by TetraTech NUS on September 5, 2001 and analyzed by Severn Trent Laboratory - Pittsburgh under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses, with the exception of mercury were conducted using SW 846 method 6010B. Mercury analyses were conducted using SW 846 method 7471A. TOC and pH were conducted using Walkley-Black and SW 846 9045C, respectively.

Metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
* • Laboratory Control Sample Results
* • ICP Interference Check Sample Results
• Matrix Spike Recoveries
* • ICP Serial Dilution Results
* • Laboratory Duplicate Results
* • Sample Quantitation
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses

The following contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Antimony	4.1 µg/L	2.05 mg/kg
Barium[(1)]	0.07 mg/kg	0.35 mg/kg
Beryllium	0.3 µg/L	0.15 mg/kg
Calcium[(1)]	1.8 mg/kg	9.0 mg/kg
Chromium[(1)]	0.23 mg/kg	1.15 mg/kg
Cobalt	3.3 µg/L	1.65 mg/kg
Copper	3.6 µg/L	1.8 mg/kg
Iron[(1)]	2.3 mg/kg	11.5 mg/kg
Lead[(1)]	0.26 mg/kg	1.3 mg/kg
Manganese[(1)]	0.26 mg/kg	1.3 mg/kg
Mercury	0.1 µg/L	0.08 mg/kg
Sodium	15.3 µg/L	7.65 mg/kg
Thallium	9.5 µg/L	4.75 mg/kg
Vanadium	4.3 µg/L	2.15 mg/kg
Zinc[(1)]	0.26 µg/L	1.3 mg/kg

[(1)]Maximum contamination present in a soil preparation blank.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot, dilution factors and percent solids, if applicable, were taken into consideration when evaluating for blank contamination. Positive results less than the action level reported for antimony and thallium were qualified "U" as a result of laboratory blank contamination. Positive results greater than the action level were reported for several of the above analytes and were qualified as estimated, "J", per regional guidance.

Matrix Spike Recoveries

The Matrix Spike (MS) percent recoveries for lead and nickel were < 75% quality control limit. Positive results were qualified as estimated, "J".

The MS had relative percent differences exceeding the quality control limits for calcium, copper, lead, magnesium, and zinc. No qualifications were made on this basis since the recoveries were compliant.

Notes

As per project directive, only 10% of the analytical results were validated.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method/preparation blanks.

Other Factors Affecting Data Quality: Lead and nickel were qualified due to MS noncompliance.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1994, EPA Region V (09/93), and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Angela Scheetz
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17RB09050101			
SAMPLE DATE:	09/05/01	/ /	/ /	/ /
LABORATORY ID:	C1I060230020			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	21.1	U										
ANTIMONY	3.0	U										
ARSENIC	2.6	U										
BARIUM	0.37	U										
BERYLLIUM	0.17	U										
CADMIUM	0.39	U										
CALCIUM	89.9											
CHROMIUM	4.8											
COBALT	2.9	U										
COPPER	2.4	U										
IRON	30.3											
LEAD	4.4											
MAGNESIUM	21.4	U										
MANGANESE	1.8											
MERCURY	0.05	U										
NICKEL	10.4	U										
POTASSIUM	438	U										
SELENIUM	4.5	U										
SILVER	0.87	U										
SODIUM	19.8											
THALLIUM	7.9	U										
VANADIUM	2.5	U										
ZINC	2.4	U										

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17RB09050101			
SAMPLE DATE:	09/05/01	/ /	/ /	/ /
LABORATORY ID:	C1I060230020			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANIC PARAMETERS												
TOTAL ORGANIC CARBON(MG/L)	1	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD4801	NTC17BBSD4803	NTC17BBSD4804	NTC17BBSD4805
SAMPLE DATE:	09/05/01	09/05/01	09/05/01	09/05/01
LABORATORY ID:	C1I060230009	C1I060230010	C1I060230011	C1I060230012
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	66.2 %	66.7 %	66.5 %	79.3 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
PH()	7.2			7.1			7.2			7.2		
TOTAL ORGANIC CARBON(MG/KG)	21800			20700			25500			2110		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD5201	NTC17BBSD5203	NTC17BBSD5204	NTC17BBSD5205
SAMPLE DATE:	09/05/01	09/05/01	09/05/01	09/05/01
LABORATORY ID:	C1I060230013	C1I060230014	C1I060230015	C1I060230016
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	74.3 %	64.4 %	72.6 %	64.1 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
PH()	7.9			7.5			7.2			7.1		
TOTAL ORGANIC CARBON(MG/KG)	7030			17600			18300			23000		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD5401	NTC17BBSD5403	NTC17BBSD5501	NTC17BBSD5503
SAMPLE DATE:	09/05/01	09/05/01	09/05/01	09/05/01
LABORATORY ID:	C1I060230018	C1I060230019	C1I060230005	C1I060230006
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	82.5 %	74.3 %	75.1 %	73.6 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
PH()	7.8			7.2			7.6			7.6		
TOTAL ORGANIC CARBON(MG/KG)	60.6	U		11600			3500			11500		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD5504	NTC17BBSD5505	NTC17BBSD5601	NTC17BBSD5603
SAMPLE DATE:	09/05/01	09/05/01	09/05/01	09/05/01
LABORATORY ID:	C1I060230007	C1I060230008	C1I060230001	C1I060230002
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	70.3 %	73.2 %	69.8 %	74.9 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
PH()	7.3			7.2			7.5			7.2		
TOTAL ORGANIC CARBON(MG/KG)	21000			17300			13200			11200		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD5604	NTC17BBSD5605	NTCFD09050101	
SAMPLE DATE:	09/05/01	09/05/01	09/05/01	/ /
LABORATORY ID:	C1I060230003	C1I060230004	C1I060230017	
QC_TYPE:	NORMAL	NORMAL	NORMAL	
% SOLIDS:	77.2 %	79.4 %	79.8 %	100.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
PH()	7.1			7.9			7.1					
TOTAL ORGANIC CARBON(MG/KG)	12700			9630			2780					

CTO 154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD4801			NTC17BBSD4803			NTC17BBSD4804			NTC17BBSD4805		
SAMPLE DATE:	09/05/01			09/05/01			09/05/01			09/05/01		
LABORATORY ID:	C1I060230009			C1I060230010			C1I060230011			C1I060230012		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	66.2 %			66.7 %			66.5 %			79.3 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	6860			6970			9050			8180		
ANTIMONY	0.74	U	A	0.84	U	A	1.0	U	A	1.3	U	A
ARSENIC	9.9			10.3			13.1			8.8		
BARIUM	57.8			57.2			71.7			66.3		
BERYLLIUM	0.94			0.59			0.82			1.1		
CADMIUM	2.2			2.6			3.5			5.3		
CALCIUM	73200			72900			66200			55700		
CHROMIUM	28.9			25.8			31.9			35.2		
COBALT	10.1			9.6			12.1			10.7		
COPPER	283			265			391			871		
IRON	19200			18000			21100			20000		
LEAD	289			298			379			395		
MAGNESIUM	37600			37400			33600			28400		
MANGANESE	635			598			588			527		
MERCURY	0.95			1.8			3.1			0.20		
NICKEL	29.4			30.5			81.6			118		
POTASSIUM	1150			1180			1590			1210		
SELENIUM	1.2			3.1			1.3			1.9		
SILVER	4.2			3.9			17.1			44.8		
SODIUM	272			243			246			234		
THALLIUM	2.8	U	A	3.6	U	A	2.1	U	A	1.8	U	A
VANADIUM	18.9			18.4			22.6			19.4		
ZINC	1050			911			1130			1580		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD5201			NTC17BBSD5203			NTC17BBSD5204			NTC17BBSD5205		
SAMPLE DATE:	09/05/01			09/05/01			09/05/01			09/05/01		
LABORATORY ID:	C1I060230013			C1I060230014			C1I060230015			C1I060230016		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	74.3 %			64.4 %			72.6 %			64.1 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	2470			11000			6750			6530		
ANTIMONY	0.40	U		1.6	U	A	1.2	U	A	0.87	U	A
ARSENIC	4.3			20.3			13.2			12.3		
BARIUM	19.3			141			88.1			78.0		
BERYLLIUM	0.57			1.4			1.1			0.87		
CADMIUM	0.23			15.7			6.2			6.3		
CALCIUM	50800			60600			58200			68300		
CHROMIUM	9.4			95.9			55.9			50.4		
COBALT	4.5			43.2			21.4			12.8		
COPPER	78.8			497			393			545		
IRON	10500			23900			18700			19000		
LEAD	56.4			330			281			317		
MAGNESIUM	25300			27300			28100			34500		
MANGANESE	308			993			784			600		
MERCURY	0.34			4.0			1.6			0.91		
NICKEL	12.4			92.2			74.2			117		
POTASSIUM	408			1880			915			956		
SELENIUM	0.61	U		2.5			3.1			3.7		
SILVER	0.36			29.0			28.9			59.6		
SODIUM	255			352			265			240		
THALLIUM	2.5	U	A	3.0	U	A	1.3	U	A	1.4	U	A
VANADIUM	9.8			25.8			18.7			18.4		
ZINC	531			1020			904			949		

SAMPLE NUMBER:	NTC17BBSD5401			NTC17BBSD5403			NTC17BBSD5501			NTC17BBSD5503		
SAMPLE DATE:	09/05/01			09/05/01			09/05/01			09/05/01		
LABORATORY ID:	C1I060230018			C1I060230019			C1I060230005			C1I060230006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	82.5 %			74.3 %			75.1 %			73.6 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	3690			3060			2220			3230		
ANTIMONY	0.36	U		0.64	U	A	0.55	U	A	0.72	U	A
ARSENIC	5.2			6.2			5.8			5.7		
BARIUM	34.0			34.2			26.3			30.6		
BERYLLIUM	0.79			0.38			1.1			0.36		
CADMIUM	0.86			0.83			0.65			0.77		
CALCIUM	69200			60900			65700			48400		
CHROMIUM	12.7			17.7			15.4			19.5		
COBALT	8.6			5.8			5.9			6.7		
COPPER	150			109			125			101		
IRON	15400			11600			10300			10600		
LEAD	130			104			88.1			101		
MAGNESIUM	37000			30900			35400			24500		
MANGANESE	458			393			411			333		
MERCURY	0.13			0.38			0.24			0.31		
NICKEL	31.5			17.7			17.0			18.0		
POTASSIUM	366			436			281			431		
SELENIUM	0.55	U		2.4			0.60	U		0.61	U	
SILVER	0.52			1.7			1.0			1.1		
SODIUM	351			190			182			181		
THALLIUM	2.1	U	A	1.6	U	A	1.1	U		1.1	U	A
VANADIUM	12.3			11.2			8.2			11.1		
ZINC	976			373			378			366		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD5504			NTC17BBSD5505			NTC17BBSD5601			NTC17BBSD5603		
SAMPLE DATE:	09/05/01			09/05/01			09/05/01			09/05/01		
LABORATORY ID:	C1I060230007			C1I060230008			C1I060230001			C1I060230002		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	70.3 %			73.2 %			69.8 %			74.9 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	6980			3470			1780			3790		
ANTIMONY	0.81	U	A	0.78	U	A	0.58	U	A	0.79	U	A
ARSENIC	11.7			6.7			4.1			7.0		
BARIUM	69.2	J	A	31.8			17.4			37.2		
BERYLLIUM	0.83	J	A	0.37			0.26			0.49		
CADMIUM	4.9			1.3			0.43			1.6		
CALCIUM	76500	J	A	94400			36800			55700		
CHROMIUM	44.8	J	A	23.4			8.4			16.6		
COBALT	11.0	J	A	6.2			5.5			8.7		
COPPER	453	J	A	125			73.2			156		
IRON	18800	J	A	16400			9180			13200		
LEAD	304	J	AD	104			61.9			134		
MAGNESIUM	34600			45500			18700			28600		
MANGANESE	599	J	A	743			226			433		
MERCURY	1.3	J	A	0.59			0.16			0.19		
NICKEL	98.3	J	D	19.6			8.9			41.2		
POTASSIUM	1130			574			261			572		
SELENIUM	3.2			0.62	U		0.65	U		0.65		
SILVER	41.6			2.3			0.29			8.3		
SODIUM	221	J	A	254			144			147		
THALLIUM	1.8	U	A	2.4	U	A	1.1	U		1.6	U	A
VANADIUM	19.1	J	A	11.8			13.3			12.7		
ZINC	1000	J	A	457			247			449		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL001

SAMPLE NUMBER:	NTC17BBSD5604	NTC17BBSD5605	NTCFD09050101
SAMPLE DATE:	09/05/01	09/05/01	09/05/01
LABORATORY ID:	C1I060230003	C1I060230004	C1I060230017
QC_TYPE:	NORMAL	NORMAL	NORMAL
% SOLIDS:	77.2 %	79.4 %	79.8 %
UNITS:	MG/KG	MG/KG	MG/KG
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	3300			1340			2890					
ANTIMONY	0.93	U	A	1.0	U	A	0.84	U	A			
ARSENIC	8.9			3.9			6.0					
BARIUM	47.4			15.4			29.3					
BERYLLIUM	0.51			0.18			2.6					
CADMIUM	3.5			0.81			0.36					
CALCIUM	50700			47700			62600					
CHROMIUM	34.0			7.8			10.0					
COBALT	7.0			3.4			7.0					
COPPER	267			135			274					
IRON	11500			7750			12700					
LEAD	189			72.9			194					
MAGNESIUM	25700			23000			31100					
MANGANESE	414			234			499					
MERCURY	1.1			0.15			0.11					
NICKEL	51.3			11.5			21.2					
POTASSIUM	423			180			363					
SELENIUM	2.4			0.57	U		0.56	U				
SILVER	18.9			1.2			0.63					
SODIUM	149			103			521					
THALLIUM	1.0	U		1.0	U		1.5					
VANADIUM	11.3			7.2			9.3					
ZINC	574			257			1890					

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **MR. B. DAVIS** **DATE:** **NOVEMBER 21, 2001**

FROM: **ANGELA SCHEETZ** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- VOA/SVOC/PEST/PCB/ PAH**
CTO 154, NTC GREAT LAKES
SDG GL002

SAMPLES: 2/Sediment

NTC17BBSD4701 NTC17BBSD5303

OVERVIEW

The sample set for CTO 154 NTC Great Lakes, SDG GL002 consists of two (2) sediment environmental samples. The samples were analyzed for target compound list (TCL) volatile organic compounds, ethanol, and ethyl acetate, semivolatile organic compounds, organochlorine pesticides, polychlorinated biphenyls (PCBs), and polynuclear aromatic hydrocarbons (PAHs).

The samples were collected by TetraTech NUS on September 6, 2001 and analyzed by Severn Trent Laboratory-Pittsburgh. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Methods 8260, 8015, 8270C, 8081A, 8082, and 8310 analysis and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
* • Holding times
* • GC/MS Tuning and System Performance
• Initial/continuing calibrations
• Laboratory method blank results
• Surrogate Recoveries
• Blank Spike/Blank Spike Duplicate Results
• Matrix Spike/Matrix Spike Duplicate Results
* • Compound Quantitation
* • Compound Identification
* • Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A.

Volatiles

The following compound was detected in the method blank:

Compound	Maximum Concentration	Blank Action Level
Acetone	9.8 µg/kg	98 µg/kg

- Value < Contract Required Quantitation Limit (CRQL); report CRQL followed by a U.
- Value > CRQL and < Action level; report value followed by a U.
- Value > CRQL and > Action level; report value followed by a J.

Sample aliquot, % solids, and dilution factors were taken into consideration when applying the blank action levels. Positive results for acetone below the blank action level were qualified as nondetected, U.

Initial calibration percent relative standard deviations (%RSDs) exceeded the 30% quality control limit on 08/24/01 at 10:42 for acetone. No qualifications were made on this basis since acetone was qualified due to blank contamination.

Continuing calibration percent differences (%Ds) exceeded the 25% quality control limit on 09/11/01 at 9:12 for acetone and trichlorofluoromethane. No further qualifiers were assigned to acetone on this basis since it was previously qualified due to blank contamination. Nondetected results for trichlorofluoromethane were qualified as estimated, UJ in the samples.

The blank spike percent recovery for trichlorofluoromethane fell below the quality control limits. Nondetected results were qualified as estimated, UJ since the matrix spike / matrix spike duplicate recoveries for trichlorofluoromethane were not compliant.

The matrix spike / matrix spike duplicate percent recoveries exceeded the quality control limits for bromomethane and trichlorofluoromethane associated with sample NTC17BBSD5303. Nondetected results were qualified as estimated, UJ in the sample.

Despite the absence of methylene chloride in the associated method blank, methylene chloride is suspected to be a lab contaminant. No action was taken on this basis.

Ethanol and Ethyl Acetate

The surrogate recovery of hexafluoro-2-propanol fell below the quality control limits in sample NTC17BBSD5303. No qualifications were made on this basis.

Semivolatiles

Initial calibration percent relative standard deviations (%RSDs) exceeded the 30% quality control limit on 09/22/01 for 2,4-dinitrophenol. Nondetected results for 2,4-dinitrophenol were qualified as estimated, UJ in the samples.

Continuing calibration percent differences (%Ds) exceeded the 25% quality control limit on 09/25/01 at 10:26 for 2,4-dinitrophenol, benzaldehyde, and atrazine. Nondetected results were qualified as estimated, UJ in sample NTC17BBSD5303.

Continuing calibration percent differences (%Ds) exceeded the 25% quality control limit on 09/25/01 at 20:12 for benzaldehyde and atrazine. Nondetected results were qualified as estimated, UJ in sample NTC17BBSD4701.

Samples NTC17BBSD4701 and NTC17BBSD5303 were diluted 2X and 5X respectively causing elevated reporting limits.

Pesticides / PCBs

Surrogate recoveries were diluted out in the samples due to a dilution of 10X. No qualifications were made on this basis.

The percent difference between columns exceeded 100% for the following compounds. The positive results were rejected, R.

Sample	Compound	%D

NTC17BBSD5303	Aldrin	471.1%
	Gamma-chlordane	193.1%

The percent difference between columns exceeded 25% for the following compounds. The positive results were reported as estimated, J for these compounds.

Sample	Compound	%D
NTC17BBSD4701	Endosulfan I	30.7%
	Alpha-chlordane	43.0%
NTC17BBSD5303	Endosulfan I	98.4%
	Endrin	32.3%
	Endosulfan II	64.4%
	4,4'-DDT	35.4%

The matrix spike / matrix spike duplicate percent recoveries were not calculated due to the dilution factors associated with the samples. No qualifications were made on this basis.

PAHs

Surrogate recoveries were diluted out in samples NTC17BBSD4701 and NTC17BBSD5303 due to a dilution of 20X and 25X. No qualifications were made on this basis.

The percent difference between columns exceeded 25% for the following compounds. The positive results were reported as estimated, J for these compounds.

Sample	Compound	%D
NTC17BBSD4701	Benzo(g,h,I)perylene	55.0%
	Indeno(1,2,3-cd)pyrene	38.9%
NTC17BBSD5303	Indeno(1,2,3-cd)pyrene	51.8%

A continuing calibration %D exceeded the 15% quality control limits on 10/01/01 at 13:59 for fluorene. No qualifications were made on this basis since it was compliant on the other detector.

The matrix spike / matrix spike duplicate percent recoveries were not calculated due to the dilution factors associated with the samples. No qualifications were made on this basis.

Additional Comments:

Positive results below the reporting limit (RL) were qualified as estimated, J, due to uncertainty near the detection limit.

It should be noted that the laboratory reported the lower concentration of the two columns.

As per project directive, only 10% of the analytical results were validated.

EXECUTIVE SUMMARY

Laboratory Performance Issues: Several %Ds exceeded the quality control limit between columns for positive results.

Other factors affecting data quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99), EPA Region V (08/93), and the NFESC guidelines IRCDQM (Sept., 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS

Angela Scheetz
Chemist/Data Validator

Tetra Tech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's r < 0.995
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning r < 0.995 (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD4701	NTC17BBSD5303		
SAMPLE DATE:	09/06/01	09/06/01	/ /	/ /
LABORATORY ID:	C1I070323001	C1I070323010		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	83.0 %	69.0 %	100.0 %	100.0 %
UNITS:	UG/KG	UG/KG		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	6	U		7.2	U							
1,1,2,2-TETRACHLOROETHANE	6	U		7.2	U							
1,1,2-TRICHLOROETHANE	6	U		7.2	U							
1,1,2-TRICHLOROTRIFLUOROETHANE	6	U		7.2	U							
1,1-DICHLOROETHANE	6	U		7.2	U							
1,1-DICHLOROETHENE	6	U		7.2	U							
1,2,4-TRICHLOROBENZENE	6	U		7.2	U							
1,2-DIBROMO-3-CHLOROPROPANE	12	U		14	U							
1,2-DIBROMOETHANE	6	U		7.2	U							
1,2-DICHLOROBENZENE	6	U		7.2	U							
1,2-DICHLOROETHANE	6	U		7.2	U							
1,2-DICHLOROPROPANE	6	U		7.2	U							
1,3-DICHLOROBENZENE	6	U		7.2	U							
1,4-DICHLOROBENZENE	6	U		7.2	U							
2-BUTANONE	24	U		29	U							
2-HEXANONE	24	U		29	U							
4-METHYL-2-PENTANONE	24	U		29	U							
ACETONE	11	U	A	19	U	A						
BENZENE	6	U		7.2	U							
BROMODICHLOROMETHANE	6	U		7.2	U							
BROMOFORM	6	U		7.2	U							
BROMOMETHANE	12	U		14	UJ	D						
CARBON DISULFIDE	6	U		7.2	U							
CARBON TETRACHLORIDE	6	U		7.2	U							
CHLOROBENZENE	6	U		7.2	U							
CHLORODIBROMOMETHANE	6	U		7.2	U							
CHLOROETHANE	12	U		14	U							
CHLOROFORM	6	U		7.2	U							
CHLOROMETHANE	12	U		14	U							
CIS-1,2-DICHLOROETHENE	6	U		7.2	U							
CIS-1,3-DICHLOROPROPENE	6	U		7.2	U							

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD4701	NTC17BBSD5303		
SAMPLE DATE:	09/06/01	09/06/01	/ /	/ /
LABORATORY ID:	C1I070323001	C1I070323010		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	83.0 %	69.0 %	100.0 %	100.0 %
UNITS:	UG/KG	UG/KG		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
CYCLOHEXANE	6	U		7.2	U							
DICHLORODIFLUOROMETHANE	12	U		14	U							
ETHYLBENZENE	6	U		7.2	U							
ISOPROPYLBENZENE	6	U		7.2	U							
METHYL ACETATE	6	U		7.2	U							
METHYL CYCLOHEXANE	6	U		7.2	U							
METHYL TERT-BUTYL ETHER	6	U		7.2	U							
METHYLENE CHLORIDE	6.6			11								
STYRENE	6	U		7.2	U							
TETRACHLOROETHENE	6	U		7.2	U							
TOLUENE	6	U		7.2	U							
TOTAL XYLENES	18	U		22	U							
TRANS-1,2-DICHLOROETHENE	6	U		7.2	U							
TRANS-1,3-DICHLOROPROPENE	6	U		7.2	U							
TRICHLOROETHENE	6	U		7.2	U							
TRICHLOROFLUOROMETHANE	12	UJ	CE	14	UJ	CDE						
VINYL CHLORIDE	12	U		14	U							

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTCRB09060101	NTCTB09060101		
SAMPLE DATE:	09/06/01	09/06/01	/ /	/ /
LABORATORY ID:	C1I070323017	C1I070323018		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U							
1,1,2,2-TETRACHLOROETHANE	1	U		1	U							
1,1,2-TRICHLOROETHANE	1	U		1	U							
1,1,2-TRICHLOROTRIFLUOROETHANE	10	U		10	U							
1,1-DICHLOROETHANE	1	U		1	U							
1,1-DICHLOROETHENE	1	U		1	U							
1,2,4-TRICHLOROBENZENE	1.2			1	U							
1,2-DIBROMO-3-CHLOROPROPANE	1	U		1	U							
1,2-DIBROMOETHANE	1	U		1	U							
1,2-DICHLOROBENZENE	1	U		1	U							
1,2-DICHLOROETHANE	1	U		1	U							
1,2-DICHLOROPROPANE	1	U		1	U							
1,3-DICHLOROBENZENE	1	U		1	U							
1,4-DICHLOROBENZENE	1	U		1	U							
2-BUTANONE	11			5	U							
2-HEXANONE	5	U		5	U							
4-METHYL-2-PENTANONE	5	U		5	U							
ACETONE	17	B		8.1	J	P						
BENZENE	1	U		1	U							
BROMODICHLOROMETHANE	1	U		1	U							
BROMOFORM	1	U		1	U							
BROMOMETHANE	1	U		1	U							
CARBON DISULFIDE	1	U		1	U							
CARBON TETRACHLORIDE	1	U		1	U							
CHLOROBENZENE	1	U		1	U							
CHLORODIBROMOMETHANE	1	U		1	U							
CHLOROETHANE	2	U		2	U							
CHLOROFORM	1	U		1	U							
CHLOROMETHANE	2	U		2	U							
CIS-1,2-DICHLOROETHENE	1	U		1	U							
CIS-1,3-DICHLOROPROPENE	1	U		1	U							
CYCLOHEXANE	10	U		10	U							

SAMPLE NUMBER:	NTCRB09060101	NTCTB09060101		
SAMPLE DATE:	09/06/01	09/06/01	/ /	/ /
LABORATORY ID:	C1I070323017	C1I070323018		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
DICHLORODIFLUOROMETHANE	2	U		2	U							
ETHYLBENZENE	1	U		1	U							
ISOPROPYLBENZENE	1	U		1	U							
METHYL ACETATE	10	U		10	U							
METHYL CYCLOHEXANE	10	U		10	U							
METHYL TERT-BUTYL ETHER	1	U		1	U							
METHYLENE CHLORIDE	1.6	J	P	2	U							
STYRENE	1	U		1	U							
TETRACHLOROETHENE	1	U		1	U							
TOLUENE	1	U		1	U							
TOTAL XYLENES	3	U		3	U							
TRANS-1,2-DICHLOROETHENE	1	U		1	U							
TRANS-1,3-DICHLOROPROPENE	1	U		1	U							
TRICHLOROETHENE	1	U		1	U							
TRICHLOROFLUOROMETHANE	2	U		2	U							
VINYL CHLORIDE	2	U		2	U							

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTCRB09060101			
SAMPLE DATE:	09/06/01	/ /	/ /	/ /
LABORATORY ID:	C1I070323017			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,1-BIPHENYL	10	U										
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U										
2,4,5-TRICHLOROPHENOL	10	U										
2,4,6-TRICHLOROPHENOL	10	U										
2,4-DICHLOROPHENOL	10	U										
2,4-DIMETHYLPHENOL	10	U										
2,4-DINITROPHENOL	50	U										
2,4-DINITROTOLUENE	10	U										
2,6-DINITROTOLUENE	10	U										
2-CHLORONAPHTHALENE	10	U										
2-CHLOROPHENOL	10	U										
2-METHYLNAPHTHALENE	10	U										
2-METHYLPHENOL	10	U										
2-NITROANILINE	50	U										
2-NITROPHENOL	10	U										
3,3'-DICHLOROBENZIDINE	50	U										
3-NITROANILINE	50	U										
4,6-DINITRO-2-METHYLPHENOL	50	U										
4-BROMOPHENYL PHENYL ETHER	10	U										
4-CHLORO-3-METHYLPHENOL	10	U										
4-CHLOROANILINE	10	U										
4-CHLOROPHENYL PHENYL ETHER	10	U										
4-METHYLPHENOL	10	U										
4-NITROANILINE	50	U										
4-NITROPHENOL	50	U										
ACENAPHTHENE	10	U										
ACENAPHTHYLENE	10	U										
ACETOPHENONE	10	U										
ANTHRACENE	10	U										
ATRAZINE	10	U										
BENZALDEHYDE	3.9	J	P									
BENZO(A)ANTHRACENE	10	U										

SAMPLE NUMBER:	NTCRB09060101			
SAMPLE DATE:	09/06/01	/ /	/ /	/ /
LABORATORY ID:	C1I070323017			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
BENZO(A)PYRENE	10	U										
BENZO(B)FLUORANTHENE	10	U										
BENZO(G,H,I)PERYLENE	10	U										
BENZO(K)FLUORANTHENE	10	U										
BIS(2-CHLOROETHOXY)METHANE	10	U										
BIS(2-CHLOROETHYL)ETHER	10	U										
BIS(2-ETHYLHEXYL)PHTHALATE	5.1	J	P									
BUTYL BENZYL PHTHALATE	10	U										
CAPROLACTAM	10	U										
CARBAZOLE	10	U										
CHRYSENE	10	U										
DI-N-BUTYL PHTHALATE	1.6	J	P									
DI-N-OCTYL PHTHALATE	10	U										
DIBENZO(A,H)ANTHRACENE	10	U										
DIBENZOFURAN	10	U										
DIETHYL PHTHALATE	0.77	J	P									
DIMETHYL PHTHALATE	10	U										
FLUORANTHENE	10	U										
FLUORENE	10	U										
HEXACHLOROBENZENE	10	U										
HEXACHLOROBUTADIENE	10	U										
HEXACHLOROCYCLOPENTADIENE	50	U										
HEXACHLOROETHANE	10	U										
INDENO(1,2,3-CD)PYRENE	10	U										
ISOPHORONE	10	U										
N-NITROSO-DI-N-PROPYLAMINE	10	U										
N-NITROSODIPHENYLAMINE	10	U										
NAPHTHALENE	10	U										
NITROBENZENE	10	U										
PENTACHLOROPHENOL	50	U										
PHENANTHRENE	10	U										
PHENOL	10	U										

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTCRB09060101		
SAMPLE DATE:	09/06/01	/ /	/ /	/ /
LABORATORY ID:	C1I070323017		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
PYRENE	10	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD4701	NTC17BBSD5303		
SAMPLE DATE:	09/06/01	09/06/01	/ /	/ /
LABORATORY ID:	C1I070323001	C1I070323010		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	83.0 %	69.0 %	100.0 %	100.0 %
UNITS:	UG/KG	UG/KG		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,1-BIPHENYL	800	U		2400	U							
2,2'-OXYBIS(1-CHLOROPROPANE)	800	U		2400	U							
2,4,5-TRICHLOROPHENOL	800	U		2400	U							
2,4,6-TRICHLOROPHENOL	800	U		2400	U							
2,4-DICHLOROPHENOL	800	U		2400	U							
2,4-DIMETHYLPHENOL	800	U		2400	U							
2,4-DINITROPHENOL	3900	UJ	C	12000	UJ	C						
2,4-DINITROTOLUENE	800	U		2400	U							
2,6-DINITROTOLUENE	800	U		2400	U							
2-CHLORONAPHTHALENE	800	U		2400	U							
2-CHLOROPHENOL	800	U		2400	U							
2-METHYLNAPHTHALENE	800	U		2400	U							
2-METHYLPHENOL	800	U		2400	U							
2-NITROANILINE	3900	U		12000	U							
2-NITROPHENOL	800	U		2400	U							
3,3'-DICHLOROBENZIDINE	3900	U		12000	U							
3-NITROANILINE	3900	U		12000	U							
4,6-DINITRO-2-METHYLPHENOL	3900	U		12000	U							
4-BROMOPHENYL PHENYL ETHER	800	U		2400	U							
4-CHLORO-3-METHYLPHENOL	800	U		2400	U							
4-CHLOROANILINE	800	U		2400	U							
4-CHLOROPHENYL PHENYL ETHER	800	U		2400	U							
4-METHYLPHENOL	800	U		2400	U							
4-NITROANILINE	3900	U		12000	U							
4-NITROPHENOL	3900	U		12000	U							
ACENAPHTHENE	800	U		2400	U							
ACENAPHTHYLENE	800	U		2400	U							
ACETOPHENONE	800	U		2400	U							
ANTHRACENE	800	U		2400	U							
ATRAZINE	800	UJ	C	2400	UJ	C						
BENZALDEHYDE	800	UJ	C	2400	UJ	C						

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD4701	NTC17BBSD5303		
SAMPLE DATE:	09/06/01	09/06/01	/ /	/ /
LABORATORY ID:	C1I070323001	C1I070323010		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	83.0 %	69.0 %	100.0 %	100.0 %
UNITS:	UG/KG	UG/KG		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
BENZO(A)ANTHRACENE	160	J	P	880	J	P						
BENZO(A)PYRENE	140	J	P	880	J	P						
BENZO(B)FLUORANTHENE	140	J	P	970	J	P						
BENZO(G,H,I)PERYLENE	98	J	P	450	J	P						
BENZO(K)FLUORANTHENE	130	J	P	700	J	P						
BIS(2-CHLOROETHOXY)METHANE	800	U		2400	U							
BIS(2-CHLOROETHYL)ETHER	800	U		2400	U							
BIS(2-ETHYLHEXYL)PHTHALATE	610	J	P	6300								
BUTYL BENZYL PHTHALATE	800	U		2400	U							
CAPROLACTAM	800	U		2400	U							
CARBAZOLE	800	U		2400	U							
CHRYSENE	180	J	P	1100	J	P						
DI-N-BUTYL PHTHALATE	800	U		2400	U							
DI-N-OCTYL PHTHALATE	800	U		2400	U							
DIBENZO(A,H)ANTHRACENE	800	U		2400	U							
DIBENZOFURAN	800	U		2400	U							
DIETHYL PHTHALATE	800	U		2400	U							
DIMETHYL PHTHALATE	800	U		2400	U							
FLUORANTHENE	360	J	P	2300	J	P						
FLUORENE	800	U		2400	U							
HEXACHLOROBENZENE	800	U		2400	U							
HEXACHLOROBUTADIENE	800	U		2400	U							
HEXACHLOROCYCLOPENTADIENE	3900	U		12000	U							
HEXACHLOROETHANE	800	U		2400	U							
INDENO(1,2,3-CD)PYRENE	84	J	P	470	J	P						
ISOPHORONE	800	U		2400	U							
N-NITROSO-DI-N-PROPYLAMINE	800	U		2400	U							
N-NITROSODIPHENYLAMINE	800	U		2400	U							
NAPHTHALENE	800	U		2400	U							
NITROBENZENE	800	U		2400	U							
PENTACHLOROPHENOL	3900	U		12000	U							

SAMPLE NUMBER:	NTC17BBSD4701	NTC17BBSD5303		
SAMPLE DATE:	09/06/01	09/06/01	/ /	/ /
LABORATORY ID:	C1I070323001	C1I070323010		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	83.0 %	69.0 %	100.0 %	100.0 %
UNITS:	UG/KG	UG/KG		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
PHENANTHRENE	220	J	P	1400	J	P						
PHENOL	800	U		2400	U							
PYRENE	310	J	P	1700	J	P						

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTCRB09060101		
SAMPLE DATE:	09/06/01	/ /	/ /	/ /
LABORATORY ID:	C1I070323017		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	0.05	U										
4,4'-DDE	0.05	U										
4,4'-DDT	0.05	U										
ALDRIN	0.05	U										
ALPHA-BHC	0.05	U										
ALPHA-CHLORDANE	0.05	U										
AROCLOR-1016	1	U										
AROCLOR-1221	1	U										
AROCLOR-1232	1	U										
AROCLOR-1242	1	U										
AROCLOR-1248	1	U										
AROCLOR-1254	1	U										
AROCLOR-1260	1	U										
BETA-BHC	0.05	U										
DELTA-BHC	0.05	U										
DIELDRIN	0.05	U										
ENDOSULFAN I	0.05	U										
ENDOSULFAN II	0.05	U										
ENDOSULFAN SULFATE	0.05	U										
ENDRIN	0.05	U										
ENDRIN ALDEHYDE	0.05	U										
ENDRIN KETONE	0.05	U										
GAMMA-BHC (LINDANE)	0.05	U										
GAMMA-CHLORDANE	0.05	U										
HEPTACHLOR	0.05	U										
HEPTACHLOR EPOXIDE	0.05	U										
METHOXYCHLOR	0.1	U										
TOXAPHENE	2	U										

SAMPLE NUMBER:	NTCRB09060101		
SAMPLE DATE:	09/06/01	/ /	/ /	/ /
LABORATORY ID:	C1I070323017		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	1	U										
ACENAPHTHYLENE	1	U										
ANTHRACENE	0.2	U										
BENZO(A)ANTHRACENE	0.2	U										
BENZO(A)PYRENE	0.2	U										
BENZO(B)FLUORANTHENE	0.2	U										
BENZO(G,H,I)PERYLENE	0.2	U										
BENZO(K)FLUORANTHENE	0.2	U										
CHRYSENE	0.2	U										
DIBENZO(A,H)ANTHRACENE	0.2	U										
FLUORANTHENE	0.2	U										
FLUORENE	0.2	U										
INDENO(1,2,3-CD)PYRENE	0.2	U										
NAPHTHALENE	1	U										
PHENANTHRENE	0.2	U										
PYRENE	0.2	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD4701			NTC17BBSD4703			NTC17BBSD4704			NTC17BBSD4705		
SAMPLE DATE:	09/06/01			09/06/01			09/06/01			09/06/01		
LABORATORY ID:	C1I070323001			C1I070323002			C1I070323003			C1I070323004		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	83.0 %			71.0 %			70.0 %			70.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	100			240			740			390		
4,4'-DDE	68			170			250			60		
4,4'-DDT	120			85			43	J	P	11	J	P
ALDRIN	4.1	J	P	24	U		73	U		48	U	
ALPHA-BHC	21	U		24	U		73	U		48	U	
ALPHA-CHLORDANE	2.3	J	PU	8.3	J	P	31	J	P	16	J	P
AROCLOR-1016	40	U		46	U		47	U		47	U	
AROCLOR-1221	40	U		46	U		47	U		47	U	
AROCLOR-1232	40	U		46	U		47	U		47	U	
AROCLOR-1242	40	U		46	U		47	U		47	U	
AROCLOR-1248	40	U		46	U		47	U		47	U	
AROCLOR-1254	40	U		46	U		1200			840		
AROCLOR-1260	40	U		99			540			47	U	
BETA-BHC	21	U		24	U		73	U		48	U	
DELTA-BHC	21	U		24	U		73	U		48	U	
DIELDRIN	21	U		7.1	J	P	31	J	P	15	J	P
ENDOSULFAN I	4.6	J	PU	3.7	J	P	24	J	P	8.6	J	P
ENDOSULFAN II	21	U		8.1	J	P	14	J	P	48	U	
ENDOSULFAN SULFATE	21	U		24	U		73	U		48	U	
ENDRIN	21	U		5.6	J	P	19	J	P	8.9	J	P
ENDRIN ALDEHYDE	21	U		24	U		73	U		48	U	
ENDRIN KETONE	21	U		24	U		73	U		48	U	
GAMMA-BHC (LINDANE)	21	U		24	U		73	U		48	U	
GAMMA-CHLORDANE	21	U		5.2	J	P	18	J	P	4.9	J	P
HEPTACHLOR	21	U		24	U		73	U		48	U	
HEPTACHLOR EPOXIDE	21	U		24	U		73	U		48	U	
METHOXYCHLOR	210	U		240	U		730	U		480	U	
TOXAPHENE	810	U		940	U		2900	U		1900	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5001			NTC17BBSD5003			NTC17BBSD5005			NTC17BBSD5101		
SAMPLE DATE:	09/06/01			09/06/01			09/06/01			09/06/01		
LABORATORY ID:	C1I070323014			C1I070323015			C1I070323016			C1I070323005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	90.9 %			81.0 %			79.0 %			79.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	110			130			750			73		
4,4'-DDE	55			95			260			62		
4,4'-DDT	86			110			120			90		
ALDRIN	15	U		17	U		64	U		11	U	
ALPHA-BHC	15	U		17	U		64	U		11	U	
ALPHA-CHLORDANE	1.8	J	P	3.2	J	P	30	J	P	2	J	P
AROCLOR-1016	36	U		41	U		83	U		42	U	
AROCLOR-1221	36	U		41	U		83	U		42	U	
AROCLOR-1232	36	U		41	U		83	U		42	U	
AROCLOR-1242	36	U		41	U		83	U		42	U	
AROCLOR-1248	36	U		130			1500			42	U	
AROCLOR-1254	36	U		41	U		1900			42	U	
AROCLOR-1260	36	U		54			490			42	U	
BETA-BHC	15	U		17	U		64	U		11	U	
DELTA-BHC	15	U		17	U		64	U		11	U	
DIELDRIN	2.2	J	P	2.5	J	P	24	J	P	1.9	J	P
ENDOSULFAN I	2.5	J	P	3.2	J	P	19	J	P	1.2	J	P
ENDOSULFAN II	15	U		2.9	J	P	16	J	P	1.9	J	P
ENDOSULFAN SULFATE	15	U		17	U		64	U		11	U	
ENDRIN	15	U		17	U		64	U		11	U	
ENDRIN ALDEHYDE	15	U		17	U		64	U		11	U	
ENDRIN KETONE	15	U		17	U		64	U		11	U	
GAMMA-BHC (LINDANE)	15	U		17	U		64	U		11	U	
GAMMA-CHLORDANE	2	J	P	2.4	J	P	12	J	P	1.6	J	P
HEPTACHLOR	15	U		17	U		64	U		11	U	
HEPTACHLOR EPOXIDE	15	U		17	U		64	U		11	U	
METHOXYCHLOR	150	U		170	U		640	U		110	U	
TOXAPHENE	590	U		660	U		2500	U		430	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5103	NTC17BBSD5104	NTC17BBSD5105	NTC17BBSD5301
SAMPLE DATE:	09/06/01	09/06/01	09/06/01	09/06/01
LABORATORY ID:	C1I070323006	C1I070323007	C1I070323008	C1I070323009
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	75.0 %	70.0 %	70.0 %	79.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	170			400			1100			80		
4,4'-DDE	100			180			310			59		
4,4'-DDT	36			93			220			34		
ALDRIN	23	U		48	U		120	U		11	U	
ALPHA-BHC	23	U		48	U		120	U		11	U	
ALPHA-CHLORDANE	3.1	J	P	20	J	P	41	J	P	2.5	J	P
AROCLOR-1016	44	U		47	U		95	U		42	U	
AROCLOR-1221	44	U		47	U		95	U		42	U	
AROCLOR-1232	44	U		47	U		95	U		42	U	
AROCLOR-1242	44	U		47	U		95	U		42	U	
AROCLOR-1248	44	U		47	U		920			42	U	
AROCLOR-1254	230			1100			2600			42	U	
AROCLOR-1260	44	U		320			810			42	U	
BETA-BHC	23	U		48	U		120	U		11	U	
DELTA-BHC	23	U		48	U		120	U		11	U	
DIELDRIN	4	J	P	11	J	P	31	J	P	2.6	J	P
ENDOSULFAN I	3.5	J	P	6.3	J	P	31	J	P	1.8	J	P
ENDOSULFAN II	2.8	J	P	16	J	P	28	J	P	1.6	J	P
ENDOSULFAN SULFATE	23	U		48	U		120	U		11	U	
ENDRIN	3.7	J	P	48	U		20	J	P	11	U	
ENDRIN ALDEHYDE	23	U		48	U		120	U		11	U	
ENDRIN KETONE	23	U		48	U		120	U		11	U	
GAMMA-BHC (LINDANE)	23	U		48	U		120	U		11	U	
GAMMA-CHLORDANE	3	J	P	12	J	P	18	J	P	1.6	J	P
HEPTACHLOR	23	U		48	U		120	U		11	U	
HEPTACHLOR EPOXIDE	23	U		48	U		120	U		11	U	
METHOXYCHLOR	230	U		480	U		1200	U		110	U	
TOXAPHENE	900	U		1900	U		4800	U		430	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5303			NTC17BBSD5304			NTC17BBSD5305			NTC17BBSD5404		
SAMPLE DATE:	09/06/01			09/06/01			09/06/01			09/05/01		
LABORATORY ID:	C1I070323010			C1I070323011			C1I070323012			C1I060259001		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	69.0 %			70.0 %			66.0 %			71.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	180			320			510			440		
4,4'-DDE	120			190			150			200		
4,4'-DDT	46	J	U	61			36	J	P	110		
ALDRIN	1.6	R	U	24	U		51	U		48	U	
ALPHA-BHC	25	U		24	U		51	U		48	U	
ALPHA-CHLORDANE	9.7	J	P	20	J	P	55			19	J	P
AROCLOR-1016	48	U		47	U		250	U		46	U	
AROCLOR-1221	48	U		47	U		250	U		46	U	
AROCLOR-1232	48	U		47	U		250	U		46	U	
AROCLOR-1242	48	U		47	U		250	U		46	U	
AROCLOR-1248	48	U		800			250	U		420		
AROCLOR-1254	350			1000			3500			890		
AROCLOR-1260	170			500			250	U		360		
BETA-BHC	25	U		24	U		51	U		48	U	
DELTA-BHC	25	U		24	U		51	U		48	U	
DIELDRIN	10	J	P	25			26	J	P	22	J	P
ENDOSULFAN I	6.1	J	PU	9.1	J	P	19	J	P	11	J	P
ENDOSULFAN II	6.1	J	PU	21	J	P	51	U		13	J	P
ENDOSULFAN SULFATE	25	U		24	U		51	U		48	U	
ENDRIN	7.8	J	PU	24	U		51	U		18	J	P
ENDRIN ALDEHYDE	25	U		24	U		12	J	P	48	U	
ENDRIN KETONE	25	U		16	J	P	51	U		48	U	
GAMMA-BHC (LINDANE)	25	U		24	U		51	U		48	U	
GAMMA-CHLORDANE	5	R	U	11	J	P	18	J	P	12	J	P
HEPTACHLOR	25	U		24	U		51	U		48	U	
HEPTACHLOR EPOXIDE	25	U		24	U		51	U		48	U	
METHOXYCHLOR	250	U		14	J	P	510	U		480	U	
TOXAPHENE	970	U		960	U		2000	U		1900	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5405	NTCFD09050102	NTCFD09060101	
SAMPLE DATE:	09/05/01	09/05/01	09/06/01	/ /
LABORATORY ID:	C1I060259002	C1I060259003	C1I070323013	
QC_TYPE:	NORMAL	NORMAL	NORMAL	
% SOLIDS:	76.0 %	69.0 %	80.0 %	100.0 %
UNITS:	UG/KG	UG/KG	UG/KG	
FIELD DUPLICATE OF:		NTC17BBSD5404	NTC17BBSD5301	

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	180			670			62					
4,4'-DDE	42			190			51					
4,4'-DDT	11	J	P	130			22					
ALDRIN	22	U		73	U		0.43	J	P			
ALPHA-BHC	22	U		73	U		4.3	U				
ALPHA-CHLORDANE	8.1	J	P	18	J	P	1.8	J	P			
AROCLOR-1016	43	U		48	U		41	U				
AROCLOR-1221	43	U		48	U		41	U				
AROCLOR-1232	43	U		48	U		41	U				
AROCLOR-1242	43	U		48	U		41	U				
AROCLOR-1248	43	U		430			41	U				
AROCLOR-1254	360			870			41	U				
AROCLOR-1260	150			320			41	U				
BETA-BHC	22	U		73	U		4.3	U				
DELTA-BHC	22	U		73	U		4.3	U				
DIELDRIN	8.7	J	P	25	J	P	4.3	U				
ENDOSULFAN I	4.8	J	P	14	J	P	0.92	J	P			
ENDOSULFAN II	5.9	J	P	18	J	P	2	J	P			
ENDOSULFAN SULFATE	22	U		73	U		4.3	U				
ENDRIN	10	J	P	27	J	P	0.84	J	P			
ENDRIN ALDEHYDE	22	U		73	U		4.3	U				
ENDRIN KETONE	22	U		73	U		4.3	U				
GAMMA-BHC (LINDANE)	22	U		73	U		4.3	U				
GAMMA-CHLORDANE	4	J	P	13	J	P	1.6	J	P			
HEPTACHLOR	22	U		73	U		4.3	U				
HEPTACHLOR EPOXIDE	22	U		73	U		4.3	U				
METHOXYCHLOR	220	U		730	U		43	U				
TOXAPHENE	880	U		2900	U		170	U				

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD4701			NTC17BBSD4703			NTC17BBSD4704			NTC17BBSD4705		
SAMPLE DATE:	09/06/01			09/06/01			09/06/01			09/06/01		
LABORATORY ID:	C1I070323001			C1I070323002			C1I070323003			C1I070323004		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	83.0 %			71.0 %			70.0 %			70.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	1000	U		460	U		470	U		470	U	
ACENAPHTHYLENE	36	J	P	460	U		470	U		470	U	
ANTHRACENE	240			180			86	J	P	100		
BENZO(A)ANTHRACENE	670			94	U		300			400		
BENZO(A)PYRENE	550			480			280			360		
BENZO(B)FLUORANTHENE	590			560			310			440		
BENZO(G,H,I)PERYLENE	330	J	U	94	U		120			240		
BENZO(K)FLUORANTHENE	340			94	U		180			240		
CHRYSENE	730			580			310			440		
DIBENZO(A,H)ANTHRACENE	200	U		94	U		96	U		95	U	
FLUORANTHENE	2400			1600			770			1200		
FLUORENE	220			100			82	J	P	120		
INDENO(1,2,3-CD)PYRENE	260	J	U	270			150			170		
NAPHTHALENE	1000	U		460	U		470	U		470	U	
PHENANTHRENE	2000			940			540			770		
PYRENE	1800			1100			570			830		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5001	NTC17BBSD5003	NTC17BBSD5005	NTC17BBSD5101
SAMPLE DATE:	09/06/01	09/06/01	09/06/01	09/06/01
LABORATORY ID:	C1I070323014	C1I070323015	C1I070323016	C1I070323005
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	90.9 %	81.0 %	79.0 %	79.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	360	U		410	U		830	U		840	U	
ACENAPHTHYLENE	36	J	P	19	J	P	830	U		840	U	
ANTHRACENE	89			130			220			110	J	P
BENZO(A)ANTHRACENE	380			260			660			350		
BENZO(A)PYRENE	360			220			710			370		
BENZO(B)FLUORANTHENE	370			210			660			410		
BENZO(G,H,I)PERYLENE	250			130			410			270		
BENZO(K)FLUORANTHENE	200			120			370			220		
CHRYSENE	390			240			670			390		
DIBENZO(A,H)ANTHRACENE	74	U		83	U		170	U		170	U	
FLUORANTHENE	960			770			1800			1100		
FLUORENE	40	J	P	74	J	P	160	J	P	54	J	P
INDENO(1,2,3-CD)PYRENE	200			130			320			230		
NAPHTHALENE	360	U		410	U		830	U		840	U	
PHENANTHRENE	510			610			1300			710		
PYRENE	850			610			1300			720		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5103	NTC17BBSD5104	NTC17BBSD5105	NTC17BBSD5301
SAMPLE DATE:	09/06/01	09/06/01	09/06/01	09/06/01
LABORATORY ID:	C1I070323006	C1I070323007	C1I070323008	C1I070323009
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	75.0 %	70.0 %	70.0 %	79.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	1100	U		2300	U		470	U		420	U	
ACENAPHTHYLENE	1100	U		220	J	P	22	J	P	420	U	
ANTHRACENE	240			650			69	J	P	110		
BENZO(A)ANTHRACENE	690			1800			260			390		
BENZO(A)PYRENE	710			1600			270			430		
BENZO(B)FLUORANTHENE	670			1700			250			400		
BENZO(G,H,I)PERYLENE	390			860			120			210		
BENZO(K)FLUORANTHENE	360			920			120			220		
CHRYSENE	690			2000			260			380		
DIBENZO(A,H)ANTHRACENE	220	U		480	U		96	U		85	U	
FLUORANTHENE	2000			5900			670			1000		
FLUORENE	170	J	P	640			82	J	P	53	J	P
INDENO(1,2,3-CD)PYRENE	370			790			160			200		
NAPHTHALENE	1100	U		2300	U		470	U		420	U	
PHENANTHRENE	1200			5000			500			540		
PYRENE	1500			4500			570			640		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5303	NTC17BBSD5304	NTC17BBSD5305	NTC17BBSD5404
SAMPLE DATE:	09/06/01	09/06/01	09/06/01	09/05/01
LABORATORY ID:	C1I070323010	C1I070323011	C1I070323012	C1I060259001
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	69.0 %	70.0 %	66.0 %	71.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	950	U		470	U		500	U		460	U	
ACENAPHTHYLENE	66	J	P	46	J	P	64	J	P	460	U	
ANTHRACENE	460			56	J	P	130			210		
BENZO(A)ANTHRACENE	1100			320			500			700		
BENZO(A)PYRENE	1000			400			430			610		
BENZO(B)FLUORANTHENE	1000			370			460			690		
BENZO(G,H,I)PERYLENE	500			160			200			380		
BENZO(K)FLUORANTHENE	550			200			210			370		
CHRYSENE	1100			360			530			710		
DIBENZO(A,H)ANTHRACENE	190	U		96	U		100	U		94	U	
FLUORANTHENE	3300			810			1200			1800		
FLUORENE	330			85	J	P	180			140		
INDENO(1,2,3-CD)PYRENE	470	J	U	200			240			250		
NAPHTHALENE	950	U		470	U		500	U		460	U	
PHENANTHRENE	2500			490			940			1100		
PYRENE	2500			730			1100			1400		

SAMPLE NUMBER:	NTC17BBSD5405	NTCFD09050102	NTCFD09060101	
SAMPLE DATE:	09/05/01	09/05/01	09/06/01	/ /
LABORATORY ID:	C1I060259002	C1I060259003	C1I070323013	
QC_TYPE:	NORMAL	NORMAL	NORMAL	
% SOLIDS:	76.0 %	69.0 %	80.0 %	100.0 %
UNITS:	UG/KG	UG/KG	UG/KG	
FIELD DUPLICATE OF:		NTC17BBSD5404	NTC17BBSD5301	

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	430	U		950	U		410	U				
ACENAPHTHYLENE	430	U		94	J	P	410	U				
ANTHRACENE	140			130	J	P	240					
BENZO(A)ANTHRACENE	370			700			550					
BENZO(A)PYRENE	310			550			590					
BENZO(B)FLUORANTHENE	310			700			460					
BENZO(G,H,I)PERYLENE	210			490			380					
BENZO(K)FLUORANTHENE	160			400			290					
CHRYSENE	370			700			550					
DIBENZO(A,H)ANTHRACENE	88	U		190	U		84	U				
FLUORANTHENE	860			2000			1600					
FLUORENE	120			180	J	P	120					
INDENO(1,2,3-CD)PYRENE	110			270			260					
NAPHTHALENE	430	U		950	U		410	U				
PHENANTHRENE	750			1300			1100					
PYRENE	730			1500			1100					

CTO154-NTC GREAT LAKES
SOIL DATA
ALSI
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD4701			NTC17BBSD5303								
SAMPLE DATE:	09/06/01			09/06/01			/ /			/ /		
LABORATORY ID:	189677-1			189677-2								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	100.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	MG/KG			MG/KG								
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
DISSOLVED GASES												
ETHANOL	1.2	U		7.1	U							
ETHYL ACETATE	1.2	U		7.1	U							

CTO154-NTC GREAT LAKES
WATER DATA
ALSI
SDG: GL002

SAMPLE NUMBER:	NTCRB09060101			
SAMPLE DATE:	09/06/01	/ /	/ /	/ /
LABORATORY ID:	189619-1			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
DISSOLVED GASES												
ETHANOL	1	U										
ETHYL ACETATE	1	U										

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **B. DAVIS** **DATE:** **NOVEMBER 21, 2001**

FROM: **ANGELA SCHEETZ** **COPIES:** **DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS AND MISCELLANEOUS PARAMETERS**
CTO-154 NTC GREAT LAKES
SAMPLE DELIVERY GROUP (SDG) – GL002

SAMPLES: 2/Sediment/

NTC17BBSD4701 NTC17BBSD5303

Overview

The sample set for CTO 154, NTC Great Lakes, SDG GL002, consists of two (2) sediment environmental samples.

The samples were analyzed for target analyte list (TAL) metals. The samples were collected by TetraTech NUS on September 6, 2001 and analyzed by Severn Trent Laboratory - Pittsburgh under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses, with the exception of mercury were conducted using SW 846 method 6010B. Mercury analyses were conducted using SW 846 method 7471A. TOC and pH were conducted using Walkley-Black and SW 846 9045C.

Metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

These data were evaluated based on the following parameters:

* • Data Completeness
• Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
* • Laboratory Control Sample Results
* • ICP Interference Check Sample Results
• Matrix Spike Recoveries
* • ICP Serial Dilution Results
* • Laboratory Duplicate Results
* • Sample Quantitation
* • Detection Limits

* - All quality control criteria were met for this parameter.

Holding Times

The holding time for pH was exceeded by three days. Positive results were qualified as estimated, J in the samples.

Laboratory Blank Analyses

The following contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Barium	0.4 µg /L	0.2 mg/kg
Beryllium	0.3 µg/L	0.15 mg/kg
Calcium[(1)]	1.5 mg/kg	7.5 mg/kg
Chromium[(1)]	0.22 mg/kg	1.1 mg/kg
Cobalt	3.3 µg/L	1.65 mg/kg
Copper	5.1 µg/L	2.55 mg/kg
Iron[(1)]	1.3 mg/kg	6.5 mg/kg
Manganese[(1)]	0.12 mg/kg	0.6 mg/kg
Sodium[(1)]	2.8 mg/kg	14.0 mg/kg
Vanadium	4.3 µg/L	2.15 mg/kg

[(1)]Maximum contamination present in a soil preparation blank.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot, dilution factors and percent solids, if applicable, were taken into consideration when evaluating for blank contamination. Positive results greater than the action level were reported for several of the above analytes and were qualified as estimated, "J", per regional guidance.

Matrix Spike Recoveries

The Matrix Spike (MS) / Matrix Spike duplicate (MSD) percent recoveries for lead, antimony, copper, magnesium, cadmium, and silver were outside the quality control limits. Nondetected and positive results were qualified as estimated, "UJ", "J", respectively.

The MS/MSD had relative percent differences exceeding the quality control limits for cadmium, copper, lead, magnesium, manganese, silver, and zinc. No qualifications were made on this basis since the recoveries were compliant or previously qualified.

Notes

As per project directive, only 10% of the analytical results were validated.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method/preparation blanks. The holding time for pH was exceeded.

Other Factors Affecting Data Quality: Several analytes were qualified due to MS / MSD noncompliance.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1994, EPA Region V, September 1993, and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Angela Scheetz
Environmental Scientist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTCRB09060101			
SAMPLE DATE:	09/06/01	/ /	/ /	/ /
LABORATORY ID:	C1I070323017			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	21.1	U										
ANTIMONY	3	U										
ARSENIC	2.6	U										
BARIUM	0.37	U										
BERYLLIUM	0.22											
CADMIUM	0.39	U										
CALCIUM	67.2											
CHROMIUM	1											
COBALT	2.9	U										
COPPER	2.4	U										
IRON	36.6											
LEAD	1.8	U										
MAGNESIUM	21.4	U										
MANGANESE	1.2											
MERCURY	0.047	U										
NICKEL	10.4	U										
POTASSIUM	438	U										
SELENIUM	4.5	U										
SILVER	0.87	U										
SODIUM	28.1											
THALLIUM	7.9	U										
VANADIUM	2.5	U										
ZINC	2.4	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD05001			NTC17BBSD05003			NTC17BBSD05004			NTC17BBSD4701		
SAMPLE DATE:	09/06/01			09/06/01			09/06/01			09/06/01		
LABORATORY ID:	C1I070323014			C1I070323015			C1I070323016			C1I070323001		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	90.9 %			81.0 %			79.0 %			83.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	1740			3200			3760			2730		
ANTIMONY	0.45			0.83			0.84			0.36	UJ	D
ARSENIC	4.9			7.4			10.9			5.5		
BARIUM	12			30.9			49.6			17.2	J	A
BERYLLIUM	0.37			1.3			0.69			0.41	J	A
CADMIUM	0.37			2			3.2			0.36	J	D
CALCIUM	33500			47000			45000			45300	J	A
CHROMIUM	7.9			13.5			26.3			10.8	J	A
COBALT	3.8			7.6			8.2			4.8	J	A
COPPER	60.6			284			357			90	J	AD
IRON	9110			12400			12600			10400	J	A
LEAD	72.6			173			200			66.7	J	D
MAGNESIUM	17200			23300			22000			22000	J	D
MANGANESE	258			389			381			324	J	A
MERCURY	0.11			0.71			0.86			0.094		
NICKEL	13.3			48.6			88.4			16.8		
POTASSIUM	248			454			588			368		
SELENIUM	0.5	U		0.62			1.3			0.54	U	
SILVER	0.52			4.7			25.2			0.33	J	D
SODIUM	152			219			167			196	J	A
THALLIUM	0.87	U		0.98	U		1	U		0.95	U	
VANADIUM	6.8			11.4			12.1			7.6	J	A
ZINC	387			1090			755			535		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD4703			NTC17BBSD4704			NTC17BBSD4705			NTC17BBSD5101		
SAMPLE DATE:	09/06/01			09/06/01			09/06/01			09/06/01		
LABORATORY ID:	C1I070323002			C1I070323003			C1I070323004			C1I070323005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	71.0 %			70.0 %			70.0 %			79.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	3980			6700			6920			2280		
ANTIMONY	0.88			1.3			6.2			0.38	U	
ARSENIC	7.4			12.6			19.9			5.1		
BARIUM	43			77.6			177			25		
BERYLLIUM	0.46			0.97			0.8			1.7		
CADMIUM	1.7			7.4			26			0.57		
CALCIUM	71500			81300			54000			60900		
CHROMIUM	21.6			43.7			147			12.4		
COBALT	7.1			12.3			20.1			4.5		
COPPER	177			573			948			83.1		
IRON	13800			19700			22300			11500		
LEAD	189			392			451			77.3		
MAGNESIUM	35400			40200			25400			24900		
MANGANESE	519			625			874			368		
MERCURY	0.78			4.2			1.5			0.09		
NICKEL	21			154			139			15.6		
POTASSIUM	603			923			881			304		
SELENIUM	0.86			2.6			2.6			0.57	U	
SILVER	3.7			43.8			11.5			0.56		
SODIUM	250			250			266			217		
THALLIUM	1.1	U		1.1	U		1.1	U		1	U	
VANADIUM	13.8			19.8			18.7			9.8		
ZINC	653			1310			1290			623		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5103			NTC17BBSD5104			NTC17BBSD5105			NTC17BBSD5301		
SAMPLE DATE:	09/06/01			09/06/01			09/06/01			09/06/01		
LABORATORY ID:	C1I070323006			C1I070323007			C1I070323008			C1I070323009		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	75.0 %			70.0 %			70.0 %			79.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	2310			3560			5530			1300		
ANTIMONY	0.55			0.82			0.74			0.47		
ARSENIC	5.8			7.9			12.6			3.4		
BARIUM	20.2			69.8			79.4			16.6		
BERYLLIUM	0.35			0.44			0.78			0.33		
CADMIUM	0.81			1.9			7.7			0.4		
CALCIUM	67800			69600			64700			46600		
CHROMIUM	14.1			16.3			51.7			9.7		
COBALT	5.4			7.3			10.4			3.7		
COPPER	86.4			181			592			55.5		
IRON	11000			12900			16500			7410		
LEAD	78.9			226			328			47.6		
MAGNESIUM	33900			34800			31700			24000		
MANGANESE	463			525			538			279		
MERCURY	0.25			2.1			1.3			0.13		
NICKEL	16.3			60.3			158			10.4		
POTASSIUM	325			484			741			180		
SELENIUM	0.6	U		0.64	U		2.8			0.57	U	
SILVER	2.3			3.2			62.5			0.58		
SODIUM	183			191			215			136		
THALLIUM	1.1	U		1.1	U		1.1	U		1	U	
VANADIUM	10.2			12.4			16.5			6		
ZINC	319			590			967			255		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5303			NTC17BBSD5304			NTC17BBSD5305			NTC17BBSD5404		
SAMPLE DATE:	09/06/01			09/06/01			09/06/01			09/05/01		
LABORATORY ID:	C1I070323010			C1I070323011			C1I070323012			C1I060259001		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	69.0 %			70.0 %			66.0 %			71.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	4040			8160			9870			3550		
ANTIMONY	1.1	J	D	0.99			8			1.2		
ARSENIC	8.6			11.3			28.7			7.9		
BARIUM	43.9	J	A	72			230			47.7		
BERYLLIUM	0.46	J	A	0.76			1.5			0.6		
CADMIUM	1.9	J	D	4			9.3			2.8		
CALCIUM	70200	J	A	61000			68900			57800		
CHROMIUM	20.8	J	A	36.3			61.4			25.2		
COBALT	7.2	J	A	10.3			17.1			7.3		
COPPER	199	J	AD	401			378			288		
IRON	13800	J	A	18900			24600			12400		
LEAD	201	J	D	400			369			209		
MAGNESIUM	34900	J	D	30400			32100			28500		
MANGANESE	515	J	A	524			1290			447		
MERCURY	0.57			1.7			3.2			1		
NICKEL	21.6			69.4			97.1			48.1		
POTASSIUM	573			1300			1880			432		
SELENIUM	1			1.9			13.4			1.4		
SILVER	3	J	D	24.6			67.7			15.2		
SODIUM	211	J	A	223			376			168		
THALLIUM	1.1	U		1.1	U		1.2	U		1.1	U	
VANADIUM	13.1	J	A	19.9			27			11		
ZINC	591			1040			934			745		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5405	NTCFD09050102	NTCFD09060101	
SAMPLE DATE:	09/05/01	09/05/01	09/06/01	/ /
LABORATORY ID:	C1I060259002	C1I060259003	C1I070323013	
QC_TYPE:	NORMAL	NORMAL	NORMAL	
% SOLIDS:	76.0 %	69.0 %	80.0 %	100.0 %
UNITS:	MG/KG	MG/KG	MG/KG	
FIELD DUPLICATE OF:		NTC17BBSD5404	NTC17BBSD5301	

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	5110			5330			2180					
ANTIMONY	2.3			0.43	U		0.38	U				
ARSENIC	9.7			11.5			4.7					
BARIUM	61.5			57.6			18.9					
BERYLLIUM	0.75			0.68			0.46					
CADMIUM	4.2			4.5			0.37					
CALCIUM	61900			59900			41400					
CHROMIUM	32.8			35.5			11.5					
COBALT	9.3			11			4.8					
COPPER	737			363			78.2					
IRON	18500			18800			10600					
LEAD	334			238			103					
MAGNESIUM	31200			29900			19600					
MANGANESE	532			498			229					
MERCURY	0.75			1			0.08					
NICKEL	61			92.7			12.4					
POTASSIUM	793			800			374					
SELENIUM	1.7			2.1			0.57	U				
SILVER	20.1			37.3			0.27					
SODIUM	199			221			177					
THALLIUM	1	U		1.1	U		0.99	U				
VANADIUM	16.3			18.6			9.3					
ZINC	1320			750			313					

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTCRB09060101		
SAMPLE DATE:	09/06/01	/ /	/ /	/ /
LABORATORY ID:	C1I070323017		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
TOTAL ORGANIC CARBON(MG/L)	1	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD05001	NTC17BBSD05003	NTC17BBSD05004	NTC17BBSD4701
SAMPLE DATE:	09/06/01	09/06/01	09/06/01	09/06/01
LABORATORY ID:	C1I070323014	C1I070323015	C1I070323016	C1I070323001
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	90.9 %	81.0 %	79.0 %	83.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
PH(NO UN)	8	J	H	7.5	J	H	7.4	J	H	7.8	J	H
TOTAL ORGANIC CARBON(MG/KG)	2510			5480			17600			1460		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD4703			NTC17BBSD4704			NTC17BBSD4705			NTC17BBSD5101		
SAMPLE DATE:	09/06/01			09/06/01			09/06/01			09/06/01		
LABORATORY ID:	C1I070323002			C1I070323003			C1I070323004			C1I070323005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	71.0 %			70.0 %			70.0 %			79.0 %		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
MISCELLANEOUS PARAMETERS												
PH(NO UN)	7.2	J	H	7.3	J	H	7.3	J	H	7.5	J	H
TOTAL ORGANIC CARBON(MG/KG)	15700			23300			22400			6490		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5103			NTC17BBSD5104			NTC17BBSD5105			NTC17BBSD5301		
SAMPLE DATE:	09/06/01			09/06/01			09/06/01			09/06/01		
LABORATORY ID:	C1I070323006			C1I070323007			C1I070323008			C1I070323009		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	75.0 %			70.0 %			70.0 %			79.0 %		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
MISCELLANEOUS PARAMETERS												
PH(NO UN)	7.4	J	H	7.3	J	H	7.3	J	H	7.4	J	H
TOTAL ORGANIC CARBON(MG/KG)	7010			16700			25200			3660		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5303	NTC17BBSD5304	NTC17BBSD5305	NTC17BBSD5404
SAMPLE DATE:	09/06/01	09/06/01	09/06/01	09/05/01
LABORATORY ID:	C1I070323010	C1I070323011	C1I070323012	C1I060259001
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	69.0 %	70.0 %	66.0 %	71.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
PH(NO UN)	7.1	J	H	7.2	J	H	7.2	J	H	7.1		
TOTAL ORGANIC CARBON(MG/KG)	18800			21800			29600			20100		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5405	NTCFD09050102	NTCFD09060101	
SAMPLE DATE:	09/05/01	09/05/01	09/06/01	/ /
LABORATORY ID:	C1I060259002	C1I060259003	C1I070323013	
QC_TYPE:	NORMAL	NORMAL	NORMAL	
% SOLIDS:	76.0 %	69.0 %	80.0 %	100.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
PH(NO UN)	7.3			7.1			7.3	J	H			
TOTAL ORGANIC CARBON(MG/KG)	14100			19100			5070					

CTO154-NTC GREAT LAKES
SOIL DATA
ALS
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5104	NTC17BBSD5301		
SAMPLE DATE:	09/06/01	09/06/01	/ /	/ /
LABORATORY ID:	464697	464698		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	70.0 %	83.0 %	100.0 %	100.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE(MG/KG)	25.2			30.8								
CADMIUM(MG/KG)	1.8			0.39								
COPPER(MG/KG)	210			71.7								
LEAD(MG/KG)	194			40.4								
MERCURY(MG/KG)	0.04			0.05								
NICKEL(MG/KG)	17			6.2								
ZINC(MG/KG)	725			334								

CTO154-NTC GREAT LAKES
SOIL DATA
GEOTECHNICS
SDG: GL002

SAMPLE NUMBER:	NTC17BBSD5303		
SAMPLE DATE:	09/06/01	/ /	/ /	/ /
LABORATORY ID:	2001-270-01-01			
QC_TYPE:	NORMAL			
% SOLIDS:	69.0 %	100.0 %	100.0 %	100.0 %
UNITS:	%			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
NO. 10 SIEVE	93.89											
NO. 140 SIEVE	54.32											
NO. 20 SIEVE	90.53											
NO. 200 SIEVE	49.45											
NO. 4 SIEVE	96.55											
NO. 40 SIEVE	84.63											
NO. 60 SIEVE	71.56											
SIEVE 1"	100											
SIEVE 1-1/2"	100											
SIEVE 1/2"	98.07											
SIEVE 12"	100											
SIEVE 2"	100											
SIEVE 3"	100											
SIEVE 3/4"	100											
SIEVE 3/8"	97.88											
SIEVE 6"	100											

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **MR. B. DAVIS** **DATE:** **NOVEMBER 21, 2001**

FROM: **ANGELA SCHEETZ** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- VOA/SVOC/PEST/PCB**
CTO 154, NTC GREAT LAKES
SDG GL003

SAMPLES: 1/Surface Water

NTC17BBSW0501

OVERVIEW

The sample set for CTO 154 NTC Great Lakes, SDG GL003 consists of one (1) surface water environmental sample. The sample was analyzed for target compound list (TCL) volatile organic compounds, ethanol, and ethyl acetate, semivolatile organic compounds, organochlorine pesticides, and polychlorinated biphenyls (PCBs).

The sample was collected by TetraTech NUS on September 7, 2001 and analyzed by Severn Trent Laboratory-Pittsburgh. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Methods 8260, 8015, 8270C, 8081A, and 8082 analysis and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
* • Holding times
* • GC/MS Tuning and System Performance
• Initial/continuing calibrations
• Laboratory method blank results
* • Surrogate Recoveries
• Blank Spike/Blank Spike Duplicate Results
* • Matrix Spike/Matrix Spike Duplicate Results
* • Compound Quantitation
* • Compound Identification
* • Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A.

Volatiles

Initial calibration percent relative standard deviations (%RSDs) exceeded the 30% quality control limit on 09/07/01 at 08:27 for dichlorodifluoromethane, trichlorofluoromethane, 2-butanone, 2-hexanone, 4-methyl-2-pentanone, cyclohexane, and methylcyclohexane. Nondetected results were qualified as estimated, UJ in the sample.

The blank spike percent recovery for chloroethane exceeded the quality control limits. The blank spike was reanalyzed and found to have chloroethane and bromomethane exceeding the quality control limits. No qualifications were made on this basis.

Ethanol and Ethyl Acetate

Accept data as reported.

Semivolatiles

The following compound was detected in the method blank:

Compound	Maximum Concentration	Blank Action Level
Acetophenone	1.8 µg/L	9.0 µg/L

- Value < Contract Required Quantitation Limit (CRQL); report CRQL followed by a U.
- Value > CRQL and < Action level; report value followed by a U.
- Value > CRQL and > Action level; report value followed by a J.

Sample aliquot and dilution factors were taken into consideration when applying the blank action levels. No qualifications were made on this basis.

Initial calibration percent relative standard deviations (%RSDs) exceeded the 30% quality control limit for 2,4-dinitrophenol. The nondetected result for 2,4-dinitrophenol was qualified as estimated, UJ in the sample.

Continuing calibration percent differences (%Ds) exceeded the 25% quality control limit on 09/24/01 at 18:29 for 2,4-dinitrophenol, 2,4-dinitrotoluene, 4,6-dinitro-2-methylphenol, and atrazine. Nondetected results were qualified as estimated, UJ in the sample.

Pesticides / PCBs

The percent difference between columns exceeded 100% for the following compounds. The positive results were rejected, R.

Sample	Compound	%D
NTC17BBSW0501	Dieldrin	426.1%
	4,4'-DDE	117.7%

The percent difference between columns exceeded 25% for the following compounds. The positive results were reported as estimated, J for these compounds.

Sample	Compound	%D
NTC17BBSW0501	Endosulfan I	34.7%

Continuing calibration %Ds exceeded the 15% quality control limit on 09/20/01 at 1:18 for 4,4-DDT and methoxychlor on column RTX-50. No qualifications were made on this basis since the exceedance was only on one column.

Continuing calibration %Ds exceeded the 15% quality control limit on 09/20/01 at 1:45 for Endosulfan II and Endrin Aldehyde on column RTX-50. No qualifications were made on this basis since the exceedance was only on one column.

Additional Comments:

Positive results below the reporting limit (RL) were qualified as estimated, J, due to uncertainty near the detection limit.

It should be noted that the laboratory reported the lower concentration of the two columns.

As per project directive, only 10% of the analytical results were validated.

EXECUTIVE SUMMARY

Laboratory Performance Issues: Several initial and continuing calibration noncompliances were noted. Several %Ds exceeded the quality control limit between columns for positive results.

Other factors affecting data quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99), EPA Region V (08/93), and the NFESC guidelines IRCDQM (Sept., 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS

Angela Scheetz
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

CTO154-NTC GREAT LAKES
WATER DATA
STL
SDG: GL003

SAMPLE NUMBER:	NTC17BBSW0501			NTC17BBSW0601			NTCTB09050101			NTCTB09070101		
SAMPLE DATE:	09/07/01			09/05/01			09/05/01			09/07/01		
LABORATORY ID:	C1I080130001			C1I070109001			C1I070109002			C1I080130002		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	10	U		10	U		10	U		10	U	
1,1-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHENE	1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	U		1	U		1	U		1	U	
1,2-DIBROMOETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE	1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-BUTANONE	5	UJ	C	5	U		5	U		5	U	
2-HEXANONE	5	UJ	C	5	U		5	U		5	U	
4-METHYL-2-PENTANONE	5	UJ	C	5	U		5	U		5	U	
ACETONE	8.2	J	P	5.4	J	P	5.4	J	P	4.4	J	P
BENZENE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	2	U		2	U		2	U		2	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	2	U		2	U		2	U		2	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	

CTO154-NTC GREAT LAKES
WATER DATA
STL
SDG: GL003

SAMPLE NUMBER:	NTC17BBSW0501			NTC17BBSW0601			NTCTB09050101			NTCTB09070101		
SAMPLE DATE:	09/07/01			09/05/01			09/05/01			09/07/01		
LABORATORY ID:	C1I080130001			C1I070109001			C1I070109002			C1I080130002		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
CYCLOHEXANE	10	UJ	C	10	U		10	U		10	U	
DICHLORODIFLUOROMETHANE	2	UJ	C	2	U		2	U		2	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
ISOPROPYLBENZENE	1	U		1	U		1	U		1	U	
METHYL ACETATE	10	U		10	U		10	U		10	U	
METHYL CYCLOHEXANE	10	UJ	C	10	U		10	U		10	U	
METHYL TERT-BUTYL ETHER	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TOTAL XYLENES	3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	1	U		1	U		1	U		1	U	
TRICHLOROFLUOROMETHANE	2	UJ	C	2	U		2	U		2	U	
VINYL CHLORIDE	2	U		2	U		2	U		2	U	

CTO154-NTC GREAT LAKES
WATER DATA
STL
SDG: GL003

SAMPLE NUMBER:	NTC17BBSW0501	NTC17BBSW0601		
SAMPLE DATE:	09/07/01	09/05/01	/ /	/ /
LABORATORY ID:	C1I080130001	C1I070109001		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,1-BIPHENYL	10	U		10	U							
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U		10	U							
2,4,5-TRICHLOROPHENOL	10	U		10	U							
2,4,6-TRICHLOROPHENOL	10	U		10	U							
2,4-DICHLOROPHENOL	10	U		10	U							
2,4-DIMETHYLPHENOL	10	U		10	U							
2,4-DINITROPHENOL	50	UJ	C	50	U							
2,4-DINITROTOLUENE	10	UJ	C	10	U							
2,6-DINITROTOLUENE	10	U		10	U							
2-CHLORONAPHTHALENE	10	U		10	U							
2-CHLOROPHENOL	10	U		10	U							
2-METHYLNAPHTHALENE	10	U		10	U							
2-METHYLPHENOL	10	U		10	U							
2-NITROANILINE	50	U		50	U							
2-NITROPHENOL	10	U		10	U							
3,3'-DICHLOROBENZIDINE	50	U		50	U							
3-NITROANILINE	50	U		50	U							
4,6-DINITRO-2-METHYLPHENOL	50	UJ	C	50	U							
4-BROMOPHENYL PHENYL ETHER	10	U		10	U							
4-CHLORO-3-METHYLPHENOL	10	U		10	U							
4-CHLOROANILINE	10	U		10	U							
4-CHLOROPHENYL PHENYL ETHER	10	U		10	U							
4-METHYLPHENOL	10	U		10	U							
4-NITROANILINE	50	U		50	U							
4-NITROPHENOL	50	U		50	U							
ACENAPHTHENE	10	U		10	U							
ACENAPHTHYLENE	10	U		10	U							
ACETOPHENONE	10	U		10	U							
ANTHRACENE	10	U		10	U							
ATRAZINE	10	UJ	C	10	U							
BENZALDEHYDE	10	U		10	U							

CTO154-NTC GREAT LAKES
WATER DATA
STL
SDG: GL003

SAMPLE NUMBER:	NTC17BBSW0501	NTC17BBSW0601		
SAMPLE DATE:	09/07/01	09/05/01	/ /	/ /
LABORATORY ID:	C1I080130001	C1I070109001		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
BENZO(A)ANTHRACENE	10	U		10	U							
BENZO(A)PYRENE	10	U		10	U							
BENZO(B)FLUORANTHENE	10	U		10	U							
BENZO(G,H,I)PERYLENE	10	U		10	U							
BENZO(K)FLUORANTHENE	10	U		10	U							
BIS(2-CHLOROETHOXY)METHANE	10	U		10	U							
BIS(2-CHLOROETHYL)ETHER	10	U		10	U							
BIS(2-ETHYLHEXYL)PHTHALATE	10	U		10	U							
BUTYL BENZYL PHTHALATE	10	U		10	U							
CAPROLACTAM	10	U		10	U							
CARBAZOLE	10	U		10	U							
CHRYSENE	10	U		10	U							
DI-N-BUTYL PHTHALATE	10	U		10	U							
DI-N-OCTYL PHTHALATE	10	U		10	U							
DIBENZO(A,H)ANTHRACENE	10	U		10	U							
DIBENZOFURAN	10	U		10	U							
DIETHYL PHTHALATE	10	U		10	U							
DIMETHYL PHTHALATE	10	U		10	U							
FLUORANTHENE	10	U		10	U							
FLUORENE	10	U		10	U							
HEXACHLOROBENZENE	10	U		10	U							
HEXACHLOROBUTADIENE	10	U		10	U							
HEXACHLOROCYCLOPENTADIENE	50	U		50	U							
HEXACHLOROETHANE	10	U		10	U							
INDENO(1,2,3-CD)PYRENE	10	U		10	U							
ISOPHORONE	10	U		10	U							
N-NITROSO-DI-N-PROPYLAMINE	10	U		10	U							
N-NITROSODIPHENYLAMINE	10	U		10	U							
NAPHTHALENE	10	U		10	U							
NITROBENZENE	10	U		10	U							
PENTACHLOROPHENOL	50	U		50	U							

CTO154-NTC GREAT LAKES
WATER DATA
STL
SDG: GL003

SAMPLE NUMBER:	NTC17BBSW0501			NTC17BBSW0601								
SAMPLE DATE:	09/07/01			09/05/01			/ /			/ /		
LABORATORY ID:	C1I080130001			C1I070109001								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	0.0 %			0.0 %			100.0 %			100.0 %		
UNITS:	UG/L			UG/L								
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
PHENANTHRENE	10	U		10	U							
PHENOL	10	U		10	U							
PYRENE	10	U		10	U							

CTO154-NTC GREAT LAKES
WATER DATA
STL
SDG: GL003

SAMPLE NUMBER:	NTC17BBSW0501	NTC17BBSW0601		
SAMPLE DATE:	09/07/01	09/05/01	/ /	/ /
LABORATORY ID:	C1I080130001	C1I070109001		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	0.05	U		0.05	U							
4,4'-DDE	0.0046	R	U	0.05	U							
4,4'-DDT	0.05	U		0.05	U							
ALDRIN	0.05	U		0.05	U							
ALPHA-BHC	0.05	U		0.05	U							
ALPHA-CHLORDANE	0.05	U		0.05	U							
AROCLOR-1016	1	U		1	U							
AROCLOR-1221	1	U		1	U							
AROCLOR-1232	1	U		1	U							
AROCLOR-1242	1	U		1	U							
AROCLOR-1248	1	U		1	U							
AROCLOR-1254	1	U		1	U							
AROCLOR-1260	1	U		1	U							
BETA-BHC	0.05	U		0.05	U							
DELTA-BHC	0.05	U		0.05	U							
DIELDRIN	0.0035	R	U	0.05	U							
ENDOSULFAN I	0.01	J	PU	0.05	U							
ENDOSULFAN II	0.05	U		0.05	U							
ENDOSULFAN SULFATE	0.05	U		0.05	U							
ENDRIN	0.05	U		0.05	U							
ENDRIN ALDEHYDE	0.05	U		0.05	U							
ENDRIN KETONE	0.05	U		0.05	U							
GAMMA-BHC (LINDANE)	0.05	U		0.05	U							
GAMMA-CHLORDANE	0.05	U		0.05	U							
HEPTACHLOR	0.05	U		0.05	U							
HEPTACHLOR EPOXIDE	0.05	U		0.05	U							
METHOXYCHLOR	0.1	U		0.1	U							
TOXAPHENE	2	U		2	U							

CTO154-NTC GREAT LAKES
WATER DATA
ALSI
SDG: GL003

SAMPLE NUMBER:	NTC17BBSW0501			NTC17BBSW0601			/ /			/ /		
SAMPLE DATE:	09/07/01			09/05/01								
LABORATORY ID:	189676-1			189618-1								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	0.0 %			0.0 %			100.0 %			100.0 %		
UNITS:	MG/L			MG/L								
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
DISSOLVED GASES												
ETHANOL	1	U		1	U							
ETHYL ACETATE	1	U		1	U							

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**B. DAVIS**	**DATE:**	**NOVEMBER 21, 2001**
FROM:	**ANGELA SCHEETZ**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS**
CTO-154 NTC GREAT LAKES
SAMPLE DELIVERY GROUP (SDG) – GL003

SAMPLES: 1/Surface Water/

NTC17BBSW0501

Overview

The sample set for CTO 154, NTC Great Lakes, SDG GL003, consists of one (1) surface water environmental sample.

The sample was analyzed for target analyte list (TAL) metals. The sample designated –F was analyzed for dissolved metals. The samples were collected by TetraTech NUS on September 7, 2001 and analyzed by Severn Trent Laboratory - Pittsburgh under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses, with the exception of mercury were conducted using SW 846 method 6010B. Mercury analyses were conducted using SW 846 method 7471A.

Metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
* • Laboratory Control Sample Results
* • ICP Interference Check Sample Results
* • Matrix Spike Recoveries
* • ICP Serial Dilution Results
* • Laboratory Duplicate Results
* • Sample Quantitation
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses

The following contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Antimony	3.5 µg /L	17.5 µg /L
Barium	1.4 µg /L	7.0 µg /L
Beryllium	1.2 µg/L	6.0 µg /L
Calcium[(1)]	79.8 µg /L	390 µg /L
Chromium	1.8 µg /L	9.0 µg /L
Iron	14.1 µg /L	70.5 µg /L
Manganese	1.1 µg /L	5.5 µg /L
Sodium	56.6 µg /L	283 µg /L
Zinc[(1)]	9.6 µg/L	48.0 µg /L

[(1)]Maximum contamination present in a water preparation blank.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results below the action level for antimony, chromium, and zinc were qualified as nondetected, "U". Positive results greater than the action level were reported for several of the above analytes and were qualified as estimated, "J", per regional guidance.

Notes

As per project directive, only 10% of the analytical results were validated.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method/preparation blanks.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1994, EPA Region V, September 1993, and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS
Angela Scheetz
Environmental Scientist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED LABORATORY RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

CTO154-NTC GREAT LAKES
WATER DATA
STL
SDG: GL003

SAMPLE NUMBER:	NTC17BBSW0501			NTC17BBSW0501-F			NTC17BBSW0601			NTC17BBSW0601-F		
SAMPLE DATE:	09/07/01			09/07/01			09/05/01			09/05/01		
LABORATORY ID:	C1I080130001			C1I080130001			C1I070109001			C1I070109001		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	44.8			51.3			316			317		
ANTIMONY	3.9	U	A	3.2	U	A	3.0	U		3	U	
ARSENIC	3.8			4.3			3.7			3.6		
BARIUM	16.8	J	A	17.1	J	A	25			25.1		
BERYLLIUM	0.17	U		0.17	U		0.17	U		0.17	U	
CADMIUM	0.39	U		0.39	U		0.39	U		0.39	U	
CALCIUM	23200	J	A	23500	J	A	36800			36900		
CHROMIUM	2.9	U	A	2.5	U	A	1.8	U	A	2.7	U	A
COBALT	2.9	U		2.9	U		2.9	U		2.9	U	
COPPER	6.9			2.9			2.4	U		2.4	U	
IRON	84.4	J	A	78	J	A	417			429		
LEAD	3.0			1.8	U		1.8	U		3.3		
MAGNESIUM	7720			7840			12600			12800		
MANGANESE	14.6	J	A	14.6	J	A	18.2			18.8		
MERCURY	0.047	U		0.047	U		0.047	U		0.047	U	
NICKEL	10.4	U		10.4	U		10.4	U		10.4	U	
POTASSIUM	1980			2000			1270			1360		
SELENIUM	4.5	U		4.5	U		4.5	U		4.5	U	
SILVER	0.87	U		0.87	U		0.87	U		0.87	U	
SODIUM	40200	J	A	40500	J	A	13100			13400		
THALLIUM	7.9	U		7.9	U		7.9	U		7.9	U	
VANADIUM	2.5	U		2.5	U		2.5	U		2.5	U	
ZINC	32.7	U	A	29	U	A	13.5	U	A	11.9	U	A

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **MR. B. DAVIS** **DATE:** **NOVEMBER 21, 2001**

FROM: **ANGELA SCHEETZ** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- VOA/SVOC/PEST/PCB/PAH/HERB**
CTO 154, NTC GREAT LAKES
SDG GL004

SAMPLES: 1/Solid

NTC07SB160108

2/Sediment

NTC17BBSD4603 NTC17BBSD4901

OVERVIEW

The sample set for CTO 154 NTC Great Lakes, SDG GL004 consists of one (1) solid and two (sediment) environmental samples. The sample NTC07SB160108 was analyzed for target compound list (TCL) volatile organic compounds, ethanol, and ethyl acetate, toxicity characteristic leaching procedure (TCLP) VOCs, semivolatile organic compounds, TCLP SVOCs, TCLP organochlorine pesticides, and TCLP herbicides. The other samples were analyzed for polynuclear aromatic hydrocarbons (PAHs), pesticides, and polychlorinated biphenyls (PCBs).

The samples were collected by TetraTech NUS on September 6, 7, and 10, 2001 and analyzed by Severn Trent Laboratory-Pittsburgh. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Methods 8260, 8015, 8270C, 8081A, 8310, 8151A and 8082 analysis and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
* • Holding times
* • GC/MS Tuning and System Performance
• Initial/continuing calibrations
• Laboratory method blank results
* • Surrogate Recoveries
* • Blank Spike/Blank Spike Duplicate Results
* • Matrix Spike/Matrix Spike Duplicate Results
* • Compound Quantitation
* • Compound Identification
* • Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A.

Volatiles

The following compound was detected in the method blank:

Compound	Maximum Concentration	Blank Action Level
Acetone	9.88 µg/kg	98 µg/kg

- Value < Contract Required Quantitation Limit (CRQL); report CRQL followed by a U.
- Value > CRQL and < Action level; report value followed by a U.
- Value > CRQL and > Action level; report value followed by a J.

Sample aliquot, % solids, and dilution factors were taken into consideration when applying the blank action levels. The positive result for acetone below the blank action level were qualified as nondetected, U.

Initial calibration percent relative standard deviations (%RSDs) exceeded the 30% quality control limit on 08/24/01 at 10:42 for acetone. No qualifications were made on this basis since acetone was previously qualified due to method blank contamination.

Continuing calibration percent differences (%Ds) exceeded the 25% quality control limit on 09/11/01 at 09:12 for trichlorofluoromethane and acetone. No qualifications were made to acetone on this basis since acetone was previously qualified due to method blank contamination. Nondetected results for trichlorofluoromethane were qualified as estimated, "UJ".

Ethanol and Ethyl Acetate

Accept data as reported.

Semivolatiles

Initial calibration percent relative standard deviations (%RSDs) exceeded the 30% quality control limit for 2,4-dinitrophenol. The nondetected result for 2,4-dinitrophenol was qualified as estimated, UJ in the sample.

Continuing calibration percent differences (%Ds) exceeded the 25% quality control limit on 09/25/01 at 07:58 for 2,4-dinitrophenol, benzaldehyde, and atrazine. Nondetected results were qualified as estimated, UJ in the sample.

PAHs

The percent difference between columns exceeded 25% for the following compounds. The positive results were reported as estimated, J for these compounds.

Sample	Compound	%D
NTC17BBSD4603	Indeno(1,2,3-cd)pyrene	30.8%
	Benzo(g,h,I)perylene	137.2%
NTC17BBSD4901	Benzo(g,h,I)perylene	56.2%
	Indeno(1,2,3-cd)pyrene	35.4%

A continuing calibration %D exceeded the 15% quality control limit on 11/01/01 at 13:59 for fluorene on the FLO detector. No qualifications were made on this basis since the exceedance was only on one detector.

The surrogate percent recoveries were diluted out due to samples NTC17BBSD4603 and NTC17BBSD4901 having dilution factors of 10X and 20X. No qualifications were made on this basis.

Pesticides / PCBs

The percent difference between columns exceeded 100% for the following compounds. The positive results were rejected, R.

Sample	Compound	%D
NTC17BBSD4603	Endosulfan II	369.8%
	Gamma-chlordane	151.9%
NTC17BBSD4901	Endosulfan I	294.8%
	Endosulfan II	110.0%

The percent difference between columns exceeded 25% for the following compounds. The positive results were reported as estimated, J for these compounds.

Sample	Compound	%D
NTC17BBSD4603	Dieldrin	31.8%
	Endosulfan I	56.7%
	Endrin	37.6%
NTC17BBSD4901	alpha-chlordane	36.9%
	Gamma-chlordane	90.1%

The surrogate percent recoveries were diluted out due to samples NTC17BBSD4603 and NTC17BBSD4901 having dilution factors of 20X and 5X. No qualifications were made on this basis.

Herbicides

Accept data as reported.

Additional Comments:

Positive results below the reporting limit (RL) were qualified as estimated, J, due to uncertainty near the detection limit.

It should be noted that the laboratory reported the lower concentration of the two columns.

As per project directive, only 10% of the analytical results were validated.

EXECUTIVE SUMMARY

Laboratory Performance Issues: Several initial and continuing calibration noncompliances were noted. Several %Ds exceeded the quality control limit between columns for positive results. Acetone was qualified due to blank contamination.

Other factors affecting data quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99), EPA Region V (08/93), and the NFESC guidelines IRCDQM (Sept., 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Angela Scheetz
Tetra Tech NUS

Angela Scheetz
Chemist/Data Validator

Tetra Tech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTCRB09100101	NTCTB09100101		
SAMPLE DATE:	09/10/01	09/10/01	/ /	/ /
LABORATORY ID:	C1I110127006	C1I110127007		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U							
1,1,2,2-TETRACHLOROETHANE	1	U		1	U							
1,1,2-TRICHLOROETHANE	1	U		1	U							
1,1,2-TRICHLOROTRIFLUOROETHANE	10	U		10	U							
1,1-DICHLOROETHANE	1	U		1	U							
1,1-DICHLOROETHENE	1	U		1	U							
1,2,4-TRICHLOROBENZENE	1			1	U							
1,2-DIBROMO-3-CHLOROPROPANE	1	U		1	U							
1,2-DIBROMOETHANE	1	U		1	U							
1,2-DICHLOROBENZENE	1	U		1	U							
1,2-DICHLOROETHANE	1	U		1	U							
1,2-DICHLOROPROPANE	1	U		1	U							
1,3-DICHLOROBENZENE	1	U		1	U							
1,4-DICHLOROBENZENE	1	U		1	U							
2-BUTANONE	13			5	U							
2-HEXANONE	5	U		5	U							
4-METHYL-2-PENTANONE	5	U		5	U							
ACETONE	19			5.3	J	P						
BENZENE	1	U		1	U							
BROMODICHLOROMETHANE	1	U		1	U							
BROMOFORM	1	U		1	U							
BROMOMETHANE	1	U		1	U							
CARBON DISULFIDE	1	U		1	U							
CARBON TETRACHLORIDE	1	U		1	U							
CHLOROBENZENE	1	U		1	U							
CHLORODIBROMOMETHANE	1	U		1	U							
CHLOROETHANE	2	U		2	U							
CHLOROFORM	1	U		1	U							
CHLOROMETHANE	2	U		2	U							
CIS-1,2-DICHLOROETHENE	1	U		1	U							
CIS-1,3-DICHLOROPROPENE	1	U		1	U							

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTCRB09100101	NTCTB09100101	/ /	/ /
SAMPLE DATE:	09/10/01	09/10/01		
LABORATORY ID:	C1I110127006	C1I110127007		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
CYCLOHEXANE	10	U		10	U							
DICHLORODIFLUOROMETHANE	2	U		2	U							
ETHYLBENZENE	1	U		1	U							
ISOPROPYLBENZENE	1	U		1	U							
METHYL ACETATE	10	U		10	U							
METHYL CYCLOHEXANE	10	U		10	U							
METHYL TERT-BUTYL ETHER	1	U		1	U							
METHYLENE CHLORIDE	2	U		2	U							
STYRENE	1	U		1	U							
TETRACHLOROETHENE	1	U		1	U							
TOLUENE	1	U		1	U							
TOTAL XYLENES	3	U		3	U							
TRANS-1,2-DICHLOROETHENE	1	U		1	U							
TRANS-1,3-DICHLOROPROPENE	1	U		1	U							
TRICHLOROETHENE	1	U		1	U							
TRICHLOROFLUOROMETHANE	2	U		2	U							
VINYL CHLORIDE	2	U		2	U							

CTO154-NTC GREAT LAKES
WATER DATA
ALSI
SDG: GL004

SAMPLE NUMBER:	NTCRB0906100101			
SAMPLE DATE:	09/10/01	/ /	/ /	/ /
LABORATORY ID:	190164-1			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
ETHANOL	1	U										
ETHYL ACETATE	1	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SB010110			NTC07SB160108			NTC07SS010001			NTC07SS130001		
SAMPLE DATE:	09/10/01			09/10/01			09/10/01			09/10/01		
LABORATORY ID:	C1I110127004			C1I110127002			C1I110127003			C1I110127005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	87.0 %			84.0 %			85.0 %			84.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
1,1,1-TRICHLOROETHANE	4.5	U		4.7	U		4.9	U		4.9	U	
1,1,2,2-TETRACHLOROETHANE	4.5	U		4.7	U		4.9	U		4.9	U	
1,1,2-TRICHLOROETHANE	4.5	U		4.7	U		4.9	U		4.9	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	4.5	U		4.7	U		4.9	U		4.9	U	
1,1-DICHLOROETHANE	4.5	U		4.7	U		4.9	U		4.9	U	
1,1-DICHLOROETHENE	4.5	U		4.7	U		4.9	U		4.9	U	
1,2,4-TRICHLOROBENZENE	4.5	U		4.7	U		4.9	U		4.9	U	
1,2-DIBROMO-3-CHLOROPROPANE	9	U		9.4	U		9.8	U		9.7	U	
1,2-DIBROMOETHANE	4.5	U		4.7	U		4.9	U		4.9	U	
1,2-DICHLOROBENZENE	4.5	U		4.7	U		4.9	U		4.9	U	
1,2-DICHLOROETHANE	4.5	U		4.7	U		4.9	U		4.9	U	
1,2-DICHLOROPROPANE	4.5	U		4.7	U		4.9	U		4.9	U	
1,3-DICHLOROBENZENE	4.5	U		4.7	U		4.9	U		4.9	U	
1,4-DICHLOROBENZENE	4.5	U		4.7	U		4.9	U		4.9	U	
2-BUTANONE	18	U		19	U		20	U		19	U	
2-HEXANONE	18	U		19	U		20	U		19	U	
4-METHYL-2-PENTANONE	18	U		19	U		20	U		19	U	
ACETONE	9	J	P	23	BU	A	14	J	P	9.9	J	P
BENZENE	4.5	U		4.7	U		4.9	U		4.9	U	
BROMODICHLOROMETHANE	4.5	U		4.7	U		4.9	U		4.9	U	
BROMOFORM	4.5	U		4.7	U		4.9	U		4.9	U	
BROMOMETHANE	9	U		9.4	U		9.8	U		9.7	U	
CARBON DISULFIDE	4.5	U		4.7	U		4.9	U		4.9	U	
CARBON TETRACHLORIDE	4.5	U		4.7	U		4.9	U		4.9	U	
CHLOROBENZENE	4.5	U		4.7	U		4.9	U		4.9	U	
CHLORODIBROMOMETHANE	4.5	U		4.7	U		4.9	U		4.9	U	
CHLOROETHANE	9	U		9.4	U		9.8	U		9.7	U	
CHLOROFORM	4.5	U		4.7	U		4.9	U		4.9	U	
CHLOROMETHANE	9	U		9.4	U		9.8	U		9.7	U	
CIS-1,2-DICHLOROETHENE	4.5	U		4.7	U		4.9	U		4.9	U	
CIS-1,3-DICHLOROPROPENE	4.5	U		4.7	U		4.9	U		4.9	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SB010110			NTC07SB160108			NTC07SS010001			NTC07SS130001		
SAMPLE DATE:	09/10/01			09/10/01			09/10/01			09/10/01		
LABORATORY ID:	C1I110127004			C1I110127002			C1I110127003			C1I110127005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	87.0 %			84.0 %			85.0 %			84.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
CYCLOHEXANE	4.5	U		4.7	U		4.9	U		4.9	U	
DICHLORODIFLUOROMETHANE	9	U		9.4	U		9.8	U		9.7	U	
ETHYLBENZENE	4.5	U		4.7	U		4.9	U		4.9	U	
ISOPROPYLBENZENE	4.5	U		4.7	U		4.9	U		4.9	U	
METHYL ACETATE	4.5	U		4.7	U		4.9	U		4.9	U	
METHYL CYCLOHEXANE	4.5	U		4.7	U		4.9	U		4.9	U	
METHYL TERT-BUTYL ETHER	4.5	U		4.7	U		4.9	U		4.9	U	
METHYLENE CHLORIDE	4.5	U		4.7	U		4.9	U		4.9	U	
STYRENE	4.5	U		4.7	U		4.9	U		4.9	U	
TETRACHLOROETHENE	4.5	U		4.7	U		4.9	U		4.9	U	
TOLUENE	4.5	U		4.7	U		4.9	U		4.9	U	
TOTAL XYLENES	13	U		14	U		15	U		15	U	
TRANS-1,2-DICHLOROETHENE	4.5	U		4.7	U		4.9	U		4.9	U	
TRANS-1,3-DICHLOROPROPENE	4.5	U		4.7	U		4.9	U		4.9	U	
TRICHLOROETHENE	4.5	U		4.7	U		4.9	U		1.1	J	P
TRICHLOROFLUOROMETHANE	9	U		9.4	UJ	C	9.8	U		9.7	U	
VINYL CHLORIDE	9	U		9.4	U		9.8	U		9.7	U	

SAMPLE NUMBER:	NTC07SS160001			
SAMPLE DATE:	09/10/01	/ /	/ /	/ /
LABORATORY ID:	C1I110127001			
QC_TYPE:	NORMAL			
% SOLIDS:	89.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	4.4	U										
1,1,2,2-TETRACHLOROETHANE	4.4	U										
1,1,2-TRICHLOROETHANE	4.4	U										
1,1,2-TRICHLOROTRIFLUOROETHANE	4.4	U										
1,1-DICHLOROETHANE	4.4	U										
1,1-DICHLOROETHENE	4.4	U										
1,2,4-TRICHLOROBENZENE	4.4	U										
1,2-DIBROMO-3-CHLOROPROPANE	8.8	U										
1,2-DIBROMOETHANE	4.4	U										
1,2-DICHLOROBENZENE	4.4	U										
1,2-DICHLOROETHANE	4.4	U										
1,2-DICHLOROPROPANE	4.4	U										
1,3-DICHLOROBENZENE	4.4	U										
1,4-DICHLOROBENZENE	4.4	U										
2-BUTANONE	18	U										
2-HEXANONE	18	U										
4-METHYL-2-PENTANONE	18	U										
ACETONE	16	J	P									
BENZENE	4.4	U										
BROMODICHLOROMETHANE	4.4	U										
BROMOFORM	4.4	U										
BROMOMETHANE	8.8	U										
CARBON DISULFIDE	4.4	U										
CARBON TETRACHLORIDE	4.4	U										
CHLOROBENZENE	4.4	U										
CHLORODIBROMOMETHANE	4.4	U										
CHLOROETHANE	8.8	U										
CHLOROFORM	4.4	U										
CHLOROMETHANE	8.8	U										
CIS-1,2-DICHLOROETHENE	4.4	U										
CIS-1,3-DICHLOROPROPENE	4.4	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SS160001		
SAMPLE DATE:	09/10/01	/ /	/ /	/ /
LABORATORY ID:	C1I110127001			
QC_TYPE:	NORMAL			
% SOLIDS:	89.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
CYCLOHEXANE	1.3	J	P									
DICHLORODIFLUOROMETHANE	8.8	U										
ETHYLBENZENE	4.4	U										
ISOPROPYLBENZENE	4.4	U										
METHYL ACETATE	4.4	U										
METHYL CYCLOHEXANE	4.4	U										
METHYL TERT-BUTYL ETHER	4.4	U										
METHYLENE CHLORIDE	4.4	U										
STYRENE	4.4	U										
TETRACHLOROETHENE	4.4	U										
TOLUENE	4.4	U										
TOTAL XYLENES	13	U										
TRANS-1,2-DICHLOROETHENE	4.4	U										
TRANS-1,3-DICHLOROPROPENE	4.4	U										
TRICHLOROETHENE	4.4	U										
TRICHLOROFLUOROMETHANE	8.8	U										
VINYL CHLORIDE	8.8	U										

CTO154-NTC GREAT LAKES
SOIL DATA
ALSI
SDG: GL004

SAMPLE NUMBER:	NTC07SB010110			NTC07SB160108			NTC07SS010001			NTC07SS130001		
SAMPLE DATE:	09/10/01			09/10/01			09/10/01			09/10/01		
LABORATORY ID:	190166-4			190166-2			190166-3			190166-5		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	100.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
ETHANOL	1.1	U		1.1	U		1.1	U		1.2	U	
ETHYL ACETATE	1.1	U		1.1	U		1.1	U		1.2	U	

CTO154-NTC GREAT LAKES
SOIL DATA
ALSI
SDG: GL004

SAMPLE NUMBER:	NTC07SS160001			
SAMPLE DATE:	09/10/01	/ /	/ /	/ /
LABORATORY ID:	190166-1			
QC_TYPE:	NORMAL			
% SOLIDS:	100.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
ETHANOL	5.4	U										
ETHYL ACETATE	5.4	U										

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SB010110			NTC07SB160108			NTC07SS010001			NTC07SS130001		
SAMPLE DATE:	09/10/01			09/10/01			09/10/01			09/10/01		
LABORATORY ID:	C1I110127004			C1I110127002			C1I110127003			C1I110127005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	MG/L			MG/L			MG/L			MG/L		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1-DICHLOROETHENE	0.05	U		0.05	U		0.05	U		0.05	U	
1,2-DICHLOROETHANE	0.05	U		0.05	U		0.05	U		0.05	U	
2-BUTANONE	0.05	U		0.05	U		0.05	U		0.05	U	
BENZENE	0.05	U		0.05	U		0.05	U		0.05	U	
CARBON TETRACHLORIDE	0.05	U		0.05	U		0.05	U		0.05	U	
CHLOROBENZENE	0.05	U		0.05	U		0.05	U		0.05	U	
CHLOROFORM	0.05	U		0.05	U		0.05	U		0.05	U	
TETRACHLOROETHENE	0.05	U		0.05	U		0.05	U		0.05	U	
TRICHLOROETHENE	0.05	U		0.05	U		0.05	U		0.05	U	
VINYL CHLORIDE	0.05	U		0.05	U		0.05	U		0.05	U	

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SS160001			
SAMPLE DATE:	09/10/01	/ /	/ /	/ /
LABORATORY ID:	C1I110127001			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1-DICHLOROETHENE	0.05	U										
1,2-DICHLOROETHANE	0.05	U										
2-BUTANONE	0.05	U										
BENZENE	0.05	U										
CARBON TETRACHLORIDE	0.05	U										
CHLOROBENZENE	0.05	U										
CHLOROFORM	0.05	U										
TETRACHLOROETHENE	0.05	U										
TRICHLOROETHENE	0.05	U										
VINYL CHLORIDE	0.05	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SB010110			NTC07SB160108			NTC07SS010001			NTC07SS130001		
SAMPLE DATE:	09/10/01			09/10/01			09/10/01			09/10/01		
LABORATORY ID:	C1I110127004			C1I110127002			C1I110127003			C1I110127005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	87.0 %			84.0 %			85.0 %			84.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
1,1-BIPHENYL	380	U		390	U		780	U		390	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	380	U		390	U		780	U		390	U	
2,4,5-TRICHLOROPHENOL	380	U		390	U		780	U		390	U	
2,4,6-TRICHLOROPHENOL	380	U		390	U		780	U		390	U	
2,4-DICHLOROPHENOL	380	U		390	U		780	U		390	U	
2,4-DIMETHYLPHENOL	380	U		390	U		780	U		390	U	
2,4-DINITROPHENOL	1800	U		1900	UJ	C	3800	U		1900	U	
2,4-DINITROTOLUENE	380	U		390	U		780	U		390	U	
2,6-DINITROTOLUENE	380	U		390	U		780	U		390	U	
2-CHLORONAPHTHALENE	380	U		390	U		780	U		390	U	
2-CHLOROPHENOL	380	U		390	U		780	U		390	U	
2-METHYLNAPHTHALENE	380	U		390	U		780	U		390	U	
2-METHYLPHENOL	380	U		390	U		780	U		390	U	
2-NITROANILINE	1800	U		1900	U		3800	U		1900	U	
2-NITROPHENOL	380	U		390	U		780	U		390	U	
3,3'-DICHLOROBENZIDINE	1800	U		1900	U		3800	U		1900	U	
3-NITROANILINE	1800	U		1900	U		3800	U		1900	U	
4,6-DINITRO-2-METHYLPHENOL	1800	U		1900	U		3800	U		1900	U	
4-BROMOPHENYL PHENYL ETHER	380	U		390	U		780	U		390	U	
4-CHLORO-3-METHYLPHENOL	380	U		390	U		780	U		390	U	
4-CHLOROANILINE	380	U		390	U		780	U		390	U	
4-CHLOROPHENYL PHENYL ETHER	380	U		390	U		780	U		390	U	
4-METHYLPHENOL	380	U		390	U		780	U		390	U	
4-NITROANILINE	1800	U		1900	U		3800	U		1900	U	
4-NITROPHENOL	1800	U		1900	U		3800	U		1900	U	
ACENAPHTHENE	380	U		390	U		780	U		390	U	
ACENAPHTHYLENE	380	U		390	U		780	U		390	U	
ACETOPHENONE	380	U		390	U		780	U		390	U	
ANTHRACENE	76	J	P	390	U		780	U		390	U	
ATRAZINE	380	U		390	UJ	C	780	U		390	U	
BENZALDEHYDE	380	U		390	UJ	C	780	U		87	J	P

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SB010110	NTC07SB160108	NTC07SS010001	NTC07SS130001
SAMPLE DATE:	09/10/01	09/10/01	09/10/01	09/10/01
LABORATORY ID:	C1I110127004	C1I110127002	C1I110127003	C1I110127005
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	87.0 %	84.0 %	85.0 %	84.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
BENZO(A)ANTHRACENE	320	J	P	390	U		780	U		910		
BENZO(A)PYRENE	250	J	P	390	U		780	U		680		
BENZO(B)FLUORANTHENE	270	J	P	390	U		76	J	P	930		
BENZO(G,H,I)PERYLENE	94	J	P	390	U		780	U		210	J	P
BENZO(K)FLUORANTHENE	260	J	P	390	U		780	U		730		
BIS(2-CHLOROETHOXY)METHANE	380	U		390	U		780	U		390	U	
BIS(2-CHLOROETHYL)ETHER	380	U		390	U		780	U		390	U	
BIS(2-ETHYLHEXYL)PHTHALATE	380	U		390	U		780	U		40	J	P
BUTYL BENZYL PHTHALATE	380	U		390	U		780	U		390	U	
CAPROLACTAM	380	U		390	U		780	U		390	U	
CARBAZOLE	380	U		390	U		780	U		390	U	
CHRYSENE	320	J	P	390	U		88	J	P	1000		
DI-N-BUTYL PHTHALATE	380	U		390	U		780	U		390	U	
DI-N-OCTYL PHTHALATE	380	U		390	U		780	U		390	U	
DIBENZO(A,H)ANTHRACENE	380	U		390	U		780	U		77	J	P
DIBENZOFURAN	380	U		390	U		780	U		390	U	
DIETHYL PHTHALATE	380	U		390	U		780	U		390	U	
DIMETHYL PHTHALATE	380	U		390	U		780	U		390	U	
FLUORANTHENE	700			390	U		94	J	P	1400		
FLUORENE	380	U		390	U		780	U		390	U	
HEXACHLOROBENZENE	380	U		390	U		780	U		390	U	
HEXACHLOROBUTADIENE	380	U		390	U		780	U		390	U	
HEXACHLOROCYCLOPENTADIENE	1800	U		1900	U		3800	U		1900	U	
HEXACHLOROETHANE	380	U		390	U		780	U		390	U	
INDENO(1,2,3-CD)PYRENE	97	J	P	390	U		780	U		230	J	P
ISOPHORONE	380	U		390	U		780	U		390	U	
N-NITROSO-DI-N-PROPYLAMINE	380	U		390	U		780	U		390	U	
N-NITROSODIPHENYLAMINE	380	U		390	U		780	U		390	U	
NAPHTHALENE	380	U		390	U		780	U		390	U	
NITROBENZENE	380	U		390	U		780	U		390	U	
PENTACHLOROPHENOL	1800	U		1900	U		3800	U		1900	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SB010110	NTC07SB160108	NTC07SS010001	NTC07SS130001
SAMPLE DATE:	09/10/01	09/10/01	09/10/01	09/10/01
LABORATORY ID:	C1I110127004	C1I110127002	C1I110127003	C1I110127005
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	87.0 %	84.0 %	85.0 %	84.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
PHENANTHRENE	390			390	U		780	U		270	J	P
PHENOL	380	U		390	U		780	U		390	U	
PYRENE	470			390	U		79	J	P	970		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SS160001		
SAMPLE DATE:	09/10/01	/ /	/ /	/ /
LABORATORY ID:	C1I110127001		
QC_TYPE:	NORMAL		
% SOLIDS:	89.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,1-BIPHENYL	370	U										
2,2'-OXYBIS(1-CHLOROPROPANE)	370	U										
2,4,5-TRICHLOROPHENOL	370	U										
2,4,6-TRICHLOROPHENOL	370	U										
2,4-DICHLOROPHENOL	370	U										
2,4-DIMETHYLPHENOL	370	U										
2,4-DINITROPHENOL	1800	U										
2,4-DINITROTOLUENE	370	U										
2,6-DINITROTOLUENE	370	U										
2-CHLORONAPHTHALENE	370	U										
2-CHLOROPHENOL	370	U										
2-METHYLNAPHTHALENE	370	U										
2-METHYLPHENOL	370	U										
2-NITROANILINE	1800	U										
2-NITROPHENOL	370	U										
3,3'-DICHLOROBENZIDINE	1800	U										
3-NITROANILINE	1800	U										
4,6-DINITRO-2-METHYLPHENOL	1800	U										
4-BROMOPHENYL PHENYL ETHER	370	U										
4-CHLORO-3-METHYLPHENOL	370	U										
4-CHLOROANILINE	370	U										
4-CHLOROPHENYL PHENYL ETHER	370	U										
4-METHYLPHENOL	370	U										
4-NITROANILINE	1800	U										
4-NITROPHENOL	1800	U										
ACENAPHTHENE	140	J	P									
ACENAPHTHYLENE	370	U										
ACETOPHENONE	370	U										
ANTHRACENE	190	J	P									
ATRAZINE	370	U										
BENZALDEHYDE	370	U										

SAMPLE NUMBER:	NTC07SS160001											
SAMPLE DATE:	09/10/01			/ /			/ /			/ /		
LABORATORY ID:	C1I110127001											
QC_TYPE:	NORMAL											
% SOLIDS:	89.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	UG/KG											
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
BENZO(A)ANTHRACENE	530											
BENZO(A)PYRENE	460											
BENZO(B)FLUORANTHENE	390											
BENZO(G,H,I)PERYLENE	200	J	P									
BENZO(K)FLUORANTHENE	450											
BIS(2-CHLOROETHOXY)METHANE	370	U										
BIS(2-CHLOROETHYL)ETHER	370	U										
BIS(2-ETHYLHEXYL)PHTHALATE	370	U										
BUTYL BENZYL PHTHALATE	370	U										
CAPROLACTAM	370	U										
CARBAZOLE	150	J	P									
CHRYSENE	550											
DI-N-BUTYL PHTHALATE	370	U										
DI-N-OCTYL PHTHALATE	370	U										
DIBENZO(A,H)ANTHRACENE	95	J	P									
DIBENZOFURAN	81	J	P									
DIETHYL PHTHALATE	370	U										
DIMETHYL PHTHALATE	370	U										
FLUORANTHENE	1100											
FLUORENE	130	J	P									
HEXACHLOROBENZENE	370	U										
HEXACHLOROBUTADIENE	370	U										
HEXACHLOROCYCLOPENTADIENE	1800	U										
HEXACHLOROETHANE	370	U										
INDENO(1,2,3-CD)PYRENE	220	J	P									
ISOPHORONE	370	U										
N-NITROSO-DI-N-PROPYLAMINE	370	U										
N-NITROSODIPHENYLAMINE	370	U										
NAPHTHALENE	57	J	P									
NITROBENZENE	370	U										
PENTACHLOROPHENOL	1800	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SS160001			
SAMPLE DATE:	09/10/01	/ /	/ /	/ /
LABORATORY ID:	C1I110127001			
QC_TYPE:	NORMAL			
% SOLIDS:	89.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
PHENANTHRENE	1000											
PHENOL	370	U										
PYRENE	880											

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SB010110			NTC07SB160108			NTC07SS010001			NTC07SS130001		
SAMPLE DATE:	09/10/01			09/10/01			09/10/01			09/10/01		
LABORATORY ID:	C1I110127004			C1I110127002			C1I110127003			C1I110127005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	MG/L			MG/L			MG/L			MG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
1,4-DICHLOROBENZENE	0.05	U		0.05	U		0.05	U		0.05	U	
2,4,5-TRICHLOROPHENOL	0.05	U		0.05	U		0.05	U		0.05	U	
2,4,6-TRICHLOROPHENOL	0.05	U		0.05	U		0.05	U		0.05	U	
2,4-DINITROTOLUENE	0.05	U		0.05	U		0.05	U		0.05	U	
HEXACHLOROBENZENE	0.05	U		0.05	U		0.05	U		0.05	U	
HEXACHLOROBUTADIENE	0.05	U		0.05	U		0.05	U		0.05	U	
HEXACHLOROETHANE	0.05	U		0.05	U		0.05	U		0.05	U	
NITROBENZENE	0.05	U		0.05	U		0.05	U		0.05	U	
PENTACHLOROPHENOL	0.25	U		0.25	U		0.25	U		0.25	U	
PYRIDINE	0.1	U		0.1	U		0.1	U		0.1	U	
TOTAL METHYLPHENOL	0.05	U		0.05	U		0.05	U		0.05	U	

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SS160001			
SAMPLE DATE:	09/10/01	/ /	/ /	/ /
LABORATORY ID:	C1I110127001			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,4-DICHLOROBENZENE	0.05	U										
2,4,5-TRICHLOROPHENOL	0.05	U										
2,4,6-TRICHLOROPHENOL	0.05	U										
2,4-DINITROTOLUENE	0.05	U										
HEXACHLOROBENZENE	0.05	U										
HEXACHLOROBUTADIENE	0.05	U										
HEXACHLOROETHANE	0.05	U										
NITROBENZENE	0.05	U										
PENTACHLOROPHENOL	0.25	U										
PYRIDINE	0.1	U										
TOTAL METHYLPHENOL	0.05	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC17BBSD4501			NTC17BBSD4503			NTC17BBSD4504			NTC17BBSD4505		
SAMPLE DATE:	09/07/01			09/07/01			09/07/01			09/07/01		
LABORATORY ID:	C1I080123001			C1I080123002			C1I080123003			C1I080123004		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	78.0 %			67.0 %			64.0 %			65.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	89			490			3600			3800		
4,4'-DDE	85			170			410	J	P	540	J	P
4,4'-DDT	87			130			220	J	P	660	U	
ALDRIN	11	U		51	U		660	U		660	U	
ALPHA-BHC	11	U		51	U		660	U		660	U	
ALPHA-CHLORDANE	2.6	J	P	22	J	P	95	J	P	660	U	
AROCLOR-1016	42	U		50	U		260	U		260	U	
AROCLOR-1221	42	U		50	U		260	U		260	U	
AROCLOR-1232	42	U		50	U		260	U		260	U	
AROCLOR-1242	42	U		50	U		260	U		260	U	
AROCLOR-1248	42	U		460			260	U		260	U	
AROCLOR-1254	42	U		840			4600			6100		
AROCLOR-1260	49			50	U		760			260	U	
BETA-BHC	11	U		51	U		660	U		660	U	
DELTA-BHC	11	U		51	U		660	U		660	U	
DIELDRIN	3.1	J	P	22	J	P	51	J	P	77	J	P
ENDOSULFAN I	0.68	J	P	6.2	J	P	660	U		660	U	
ENDOSULFAN II	3.6	J	P	6.5	J	P	660	U		660	U	
ENDOSULFAN SULFATE	11	U		51	U		660	U		660	U	
ENDRIN	11	U		51	U		660	U		660	U	
ENDRIN ALDEHYDE	11	U		51	U		660	U		660	U	
ENDRIN KETONE	4.7	J	P	7.1	J	P	660	U		660	U	
GAMMA-BHC (LINDANE)	11	U		51	U		660	U		660	U	
GAMMA-CHLORDANE	2.4	J	P	12	J	P	660	U		660	U	
HEPTACHLOR	11	U		51	U		660	U		660	U	
HEPTACHLOR EPOXIDE	11	U		51	U		660	U		660	U	
METHOXYCHLOR	110	U		510	U		6600	U		6600	U	
TOXAPHENE	430	U		2000	U		26000	U		26000	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC17BBSD4601			NTC17BBSD4603			NTC17BBSD4604			NTC17BBSD4605		
SAMPLE DATE:	09/06/01			09/06/01			09/06/01			09/06/01		
LABORATORY ID:	C1I070321002			C1I070321003			C1I070321004			C1I070321005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	84.0 %			72.0 %			60.0 %			77.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	82			460			4100			1500		
4,4'-DDE	60			160			400	J	P	150		
4,4'-DDT	42			300			400	J	P	27	J	P
ALDRIN	10	U		47	U		710	U		88	U	
ALPHA-BHC	10	U		47	U		710	U		88	U	
ALPHA-CHLORDANE	1.2	J	P	21	J	P	710	U		34	J	P
AROCLOR-1016	39	U		46	U		110	U		85	U	
AROCLOR-1221	39	U		46	U		110	U		85	U	
AROCLOR-1232	39	U		46	U		110	U		85	U	
AROCLOR-1242	39	U		46	U		110	U		85	U	
AROCLOR-1248	39	U		360			110	U		85	U	
AROCLOR-1254	39	U		830			4200			2200		
AROCLOR-1260	39	U		210			110	U		85	U	
BETA-BHC	10	U		47	U		710	U		88	U	
DELTA-BHC	10	U		47	U		710	U		88	U	
DIELDRIN	1.5	J	P	18	J	PU	710	U		23	J	P
ENDOSULFAN I	1.1	J	P	7.5	J	PU	710	U		88	U	
ENDOSULFAN II	2.8	J	P	7.6	R	PU	710	U		20	J	P
ENDOSULFAN SULFATE	10	U		47	U		710	U		88	U	
ENDRIN	1.3	J	P	17	J	PU	710	U		88	U	
ENDRIN ALDEHYDE	10	U		47	U		710	U		88	U	
ENDRIN KETONE	10	U		47	U		710	U		88	U	
GAMMA-BHC (LINDANE)	10	U		47	U		710	U		88	U	
GAMMA-CHLORDANE	1.8	J	P	12	R	PU	710	U		18	J	P
HEPTACHLOR	10	U		47	U		710	U		88	U	
HEPTACHLOR EPOXIDE	10	U		47	U		710	U		88	U	
METHOXYCHLOR	100	U		470	U		7100	U		880	U	
TOXAPHENE	400	U		1900	U		28000	U		3500	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC17BBSD4901			NTC17BBSD4903			NTC17BBSD4904			NTC17BBSD4905		
SAMPLE DATE:	09/07/01			09/07/01			09/07/01			09/07/01		
LABORATORY ID:	C1I080123005			C1I080123006			C1I080123007			C1I080123008		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	80.0 %			79.0 %			81.0 %			80.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	76			270			400			640		
4,4'-DDE	55			100			130			150		
4,4'-DDT	43			56			61			60	J	P
ALDRIN	11	U		43	U		42	U		64	U	
ALPHA-BHC	11	U		43	U		42	U		64	U	
ALPHA-CHLORDANE	2.3	J	PU	7.4	J	P	16	J	P	17	J	P
AROCLOR-1016	41	U		42	U		41	U		41	U	
AROCLOR-1221	41	U		42	U		41	U		41	U	
AROCLOR-1232	41	U		42	U		41	U		41	U	
AROCLOR-1242	41	U		42	U		41	U		41	U	
AROCLOR-1248	41	U		42	U		41	U		41	U	
AROCLOR-1254	88			490			740			1100		
AROCLOR-1260	41	U		98			150			250		
BETA-BHC	11	U		43	U		42	U		64	U	
DELTA-BHC	11	U		43	U		42	U		64	U	
DIELDRIN	11	U		8.5	J	P	15	J	P	17	J	P
ENDOSULFAN I	1.5	R	PU	6.4	J	P	7.2	J	P	15	J	P
ENDOSULFAN II	2.7	R	PU	4.6	J	P	9.1	J	P	10	J	P
ENDOSULFAN SULFATE	11	U		43	U		42	U		64	U	
ENDRIN	11	U		43	U		11	J	P	64	U	
ENDRIN ALDEHYDE	11	U		43	U		42	U		64	U	
ENDRIN KETONE	11	U		43	U		42	U		64	U	
GAMMA-BHC (LINDANE)	11	U		43	U		42	U		64	U	
GAMMA-CHLORDANE	1.8	J	PU	6.4	J	P	8.5	J	P	11	J	P
HEPTACHLOR	11	U		43	U		42	U		64	U	
HEPTACHLOR EPOXIDE	11	U		43	U		42	U		64	U	
METHOXYCHLOR	110	U		11	J	P	16	J	P	640	U	
TOXAPHENE	420	U		1700	U		1700	U		2500	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC17BBSD5005	NTCFD09060102		
SAMPLE DATE:	09/06/01	09/06/01	/ /	/ /
LABORATORY ID:	C1I070321001	C1I070321006		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	71.0 %	64.0 %	100.0 %	100.0 %
UNITS:	UG/KG	UG/KG		
FIELD DUPLICATE OF:		NTC17BBSD4604		

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	1000			1600								
4,4'-DDE	220			230								
4,4'-DDT	170			190								
ALDRIN	95	U		110	U							
ALPHA-BHC	95	U		110	U							
ALPHA-CHLORDANE	37	J	P	27	J	P						
AROCLOR-1016	93	U		52	U							
AROCLOR-1221	93	U		52	U							
AROCLOR-1232	93	U		52	U							
AROCLOR-1242	93	U		52	U							
AROCLOR-1248	93	U		52	U							
AROCLOR-1254	3100			1500								
AROCLOR-1260	760			750								
BETA-BHC	95	U		110	U							
DELTA-BHC	95	U		110	U							
DIELDRIN	39	J	P	17	J	P						
ENDOSULFAN I	20	J	P	110	U							
ENDOSULFAN II	38	J	P	41	J	P						
ENDOSULFAN SULFATE	95	U		110	U							
ENDRIN	41	J	P	34	J	P						
ENDRIN ALDEHYDE	95	U		110	U							
ENDRIN KETONE	95	U		110	U							
GAMMA-BHC (LINDANE)	95	U		110	U							
GAMMA-CHLORDANE	19	J	P	12	J	P						
HEPTACHLOR	95	U		110	U							
HEPTACHLOR EPOXIDE	95	U		110	U							
METHOXYCHLOR	950	U		1100	U							
TOXAPHENE	3800	U		4200	U							

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SB010110	NTC07SB160108	NTC07SS010001	NTC07SS130001
SAMPLE DATE:	09/10/01	09/10/01	09/10/01	09/10/01
LABORATORY ID:	C1I110127004	C1I110127002	C1I110127003	C1I110127005
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
UNITS:	MG/L	MG/L	MG/L	MG/L
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
CHLORDANE	*0.005*	*U*		*0.005*	*U*		*0.005*	*U*		*0.005*	*U*	
ENDRIN	0.0005	U		0.0005	U		0.0005	U		0.0005	U	
GAMMA-BHC (LINDANE)	0.0005	U		0.0005	U		0.0005	U		0.0005	U	
HEPTACHLOR	0.0005	U		0.0005	U		0.0005	U		0.0005	U	
HEPTACHLOR EPOXIDE	0.0005	U		0.0005	U		0.0005	U		0.0005	U	
METHOXYCHLOR	0.001	U		0.001	U		0.001	U		0.001	U	
TOXAPHENE	0.02	U		0.02	U		0.02	U		0.02	U	

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SS160001		
SAMPLE DATE:	09/10/01	/ /	/ /	/ /
LABORATORY ID:	C1I110127001		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
CHLORDANE	0.005	U										
ENDRIN	0.0005	U										
GAMMA-BHC (LINDANE)	0.0005	U										
HEPTACHLOR	0.0005	U										
HEPTACHLOR EPOXIDE	0.0005	U										
METHOXYCHLOR	0.001	U										
TOXAPHENE	0.02	U										

CTO 54-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SB010110			NTC07SB160108			NTC07SS010001			NTC07SS130001		
SAMPLE DATE:	09/10/01			09/10/01			09/10/01			09/10/01		
LABORATORY ID:	C1I110127004			C1I110127002			C1I110127003			C1I110127005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	MG/L			MG/L			MG/L			MG/L		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
HERBICIDES												
2,4,5-TP (SILVEX)	0.01	U		0.01	U		0.01	U		0.01	U	
2,4-D	0.04	U		0.04	U		0.04	U		0.04	U	

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SS160001			
SAMPLE DATE:	09/10/01	/ /	/ /	/ /
LABORATORY ID:	C1I110127001			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
HERBICIDES												
2,4,5-TP (SILVEX)	0.01	U										
2,4-D	0.04	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC17BBSD4501			NTC17BBSD4503			NTC17BBSD4504			NTC17BBSD4505		
SAMPLE DATE:	09/07/01			09/07/01			09/07/01			09/07/01		
LABORATORY ID:	C1I080123001			C1I080123002			C1I080123003			C1I080123004		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	78.0 %			67.0 %			64.0 %			65.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	4200	U		990	U		1000	U		1000	U	
ACENAPHTHYLENE	160	J	P	140	J	P	110	J	P	1000	U	
ANTHRACENE	1800			160	J	P	190	J	P	190	J	P
BENZO(A)ANTHRACENE	4900			550			630			600		
BENZO(A)PYRENE	4500			520			540			620		
BENZO(B)FLUORANTHENE	4500			560			600			560		
BENZO(G,H,I)PERYLENE	2800			190	J	P	290			310		
BENZO(K)FLUORANTHENE	2500			290			300			270		
CHRYSENE	4900			570			650			560		
DIBENZO(A,H)ANTHRACENE	860	U		200	U		210	U		210	U	
FLUORANTHENE	14000			1400			1700			1600		
FLUORENE	1300			180	J	P	210			190	J	P
INDENO(1,2,3-CD)PYRENE	2000			260			320			220		
NAPHTHALENE	4200	U		990	U		1000	U		1000	U	
PHENANTHRENE	10000			1100			1500			1300		
PYRENE	11000			1200			1400			1300		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC17BBSD4601			NTC17BBSD4603			NTC17BBSD4604			NTC17BBSD4605		
SAMPLE DATE:	09/06/01			09/06/01			09/06/01			09/06/01		
LABORATORY ID:	C1I070321002			C1I070321003			C1I070321004			C1I070321005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	84.0 %			72.0 %			60.0 %			77.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	3900	U		920	U		1100	U		850	U	
ACENAPHTHYLENE	3900	U		81	J	P	89	J	P	76	J	P
ANTHRACENE	1900			260			77	J	P	120	J	P
BENZO(A)ANTHRACENE	3300			660			400			660		
BENZO(A)PYRENE	2700			720			270			520		
BENZO(B)FLUORANTHENE	2700			650			360			600		
BENZO(G,H,I)PERYLENE	1500			290	J	U	220			260		
BENZO(K)FLUORANTHENE	1500			330			170	J	P	320		
CHRYSENE	3100			650			390			640		
DIBENZO(A,H)ANTHRACENE	800	U		190	U		220	U		170	U	
FLUORANTHENE	10000			1900			990			1500		
FLUORENE	1300			170	J	P	120	J	P	160	J	P
INDENO(1,2,3-CD)PYRENE	950			280	J	U	200	J	P	320		
NAPHTHALENE	1200	J	P	920	U		1100	U		850	U	
PHENANTHRENE	9700			1300			810			1100		
PYRENE	7700			1500			890			1400		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC17BBSD4901	NTC17BBSD4903	NTC17BBSD4904	NTC17BBSD4905
SAMPLE DATE:	09/07/01	09/07/01	09/07/01	09/07/01
LABORATORY ID:	C1I080123005	C1I080123006	C1I080123007	C1I080123008
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	80.0 %	79.0 %	81.0 %	80.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	410	U		840	U		4100	U		1200	U	
ACENAPHTHYLENE	24	J	P	41	J	P	4100	U		1200	U	
ANTHRACENE	49	J	P	160	J	P	990			280		
BENZO(A)ANTHRACENE	250			580			2500			770		
BENZO(A)PYRENE	260			600			2300			710		
BENZO(B)FLUORANTHENE	280			610			2300			740		
BENZO(G,H,I)PERYLENE	200	J	U	410			1200			460		
BENZO(K)FLUORANTHENE	150			330			1300			390		
CHRYSENE	270			630			2600			830		
DIBENZO(A,H)ANTHRACENE	83	U		170	U		830	U		250	U	
FLUORANTHENE	730			1800			7700			2500		
FLUORENE	51	J	P	150	J	P	910			240	J	P
INDENO(1,2,3-CD)PYRENE	150	J	U	410			1200			380		
NAPHTHALENE	410	U		840	U		4100	U		290	J	P
PHENANTHRENE	380			1300			6800			2200		
PYRENE	560			1400			5900			2000		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC17BBSD5005	NTCFD09060102		
SAMPLE DATE:	09/06/01	09/06/01	/ /	/ /
LABORATORY ID:	C1I070321001	C1I070321006		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	71.0 %	64.0 %	100.0 %	100.0 %
UNITS:	UG/KG	UG/KG		
FIELD DUPLICATE OF:		NTC17BBSD4604		

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	460	U		1000	U							
ACENAPHTHYLENE	48	J	P	130	J	P						
ANTHRACENE	160			93	J	P						
BENZO(A)ANTHRACENE	450			590								
BENZO(A)PYRENE	410			560								
BENZO(B)FLUORANTHENE	430			590								
BENZO(G,H,I)PERYLENE	240			390								
BENZO(K)FLUORANTHENE	210			260								
CHRYSENE	450			610								
DIBENZO(A,H)ANTHRACENE	94	U		210	U							
FLUORANTHENE	1200			1600								
FLUORENE	140			190	J	P						
INDENO(1,2,3-CD)PYRENE	240			280								
NAPHTHALENE	460	U		1000	U							
PHENANTHRENE	920			1200								
PYRENE	960			1400								

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**B. DAVIS**	**DATE:**	**NOVEMBER 21, 2001**
FROM:	**ANGELA SCHEETZ**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS AND MISCELLANEOUS PARAMETERS**
CTO-154 NTC GREAT LAKES
SAMPLE DELIVERY GROUP (SDG) – GL004

SAMPLES: 1/Solid/

NTC07SB160108

2/Sediment/

NTC17BBSD4603 NTC17BBSD4901

Overview

The sample set for CTO 154, NTC Great Lakes, SDG GL004, consists of one (1) solid and two (2) sediment environmental samples.

The samples were analyzed for target analyte list (TAL) metals and toxicity characteristic leaching procedure (TCLP) metals, total organic carbon (TOC), and pH. Sample NTC07SB160108 was the only sample analyzed for TCLP metals and was not analyzed for pH. The samples were collected by TetraTech NUS on September 6, 7, and 10, 2001 and analyzed by Severn Trent Laboratory - Pittsburgh under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses, with the exception of mercury were conducted using SW 846 method 6010B. Mercury analyses were conducted using SW 846 method 7471A. TOC and pH were conducted using Walkley-Black and SW 846 9045C.

Metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

These data were evaluated based on the following parameters:

* • Data Completeness
• Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
* • Laboratory Control Sample Results
* • ICP Interference Check Sample Results
• Matrix Spike Recoveries
• ICP Serial Dilution Results
* • Laboratory Duplicate Results
* • Sample Quantitation
* • Detection Limits

* - All quality control criteria were met for this parameter.

Holding Times

The holding time for pH was exceeded by three days. Positive results were qualified as estimated, J in the samples.

Laboratory Blank Analyses

The following contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Aluminum	25.2 µg /L	12.6 mg/kg
Antimony	4.3 µg /L	2.15 mg/kg
Barium	2.0 µg /L	1.0 mg/kg
Beryllium	1.2 µg/L	0.6 mg/kg
Calcium	182 µg /L	91 mg/kg
Chromium[(1)]	0.2 mg/kg	1.0 mg/kg
Copper	10.1 µg/L	5.05 mg/kg
Iron	37.5 µg /L	18.75 mg/kg
Lead[(1)]	0.22 mg/kg	1.1 mg/kg
Manganese	1.7 µg /L	0.85 mg/kg
Sodium[(1)]	3.6 mg/kg	18.0 mg/kg
Vanadium	2.6 µg/L	1.3 mg/kg
Zinc	18.2 µg /L	9.1 mg/kg

[(1)]Maximum contamination present in a soil preparation blank.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot, dilution factors and percent solids, if applicable, were taken into consideration when evaluating for blank contamination. Positive results below the action level were qualified as nondetected, "U". Positive results greater than the action level were reported for several of the above analytes and were qualified as estimated, "J", per regional guidance.

The following contaminants were detected in the laboratory leachate method blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Arsenic[(2)]	0.21 mg /L	1.05 mg/L
Barium	2.2 µg /L	0.011 mg/L
Lead	40.7 µg /L	0.2035 mg/L
Mercury[(2)]	0.000091 mg /L	0.00046 mg/L
Selenium	77.1 µg /L	0.3855 mg/L

[(2)]Maximum contamination present in a leachate preparation blank.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot, dilution factors and percent solids, if applicable, were taken into consideration when evaluating for blank contamination. Positive results below the action level were qualified as nondetected, "U". Positive results greater than

the action level were reported for several of the above analytes and were qualified as estimated, "J", per regional guidance.

Matrix Spike Recoveries

The Matrix Spike (MS) / Matrix Spike duplicate (MSD) percent recoveries for antimony (<75%), magnesium (>75%), and cadmium (<75%) were outside the quality control limits affecting the sediment matrix. Nondetected and positive results were qualified as estimated, "UJ", "J", respectively.

The MS/MSD had a relative percent difference exceeding the quality control limits for silver. No qualifications were made on this basis since the recoveries were compliant.

Serial Dilutions

The serial dilution percent difference for cadmium exceeded the 10% quality control limit. The positive results were qualified as estimated, "J".

Notes

As per project directive, only 10% of the analytical results were validated.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method/preparation blanks. The holding time for pH was exceeded.

Other Factors Affecting Data Quality: Several analytes were qualified due to MS / MSD noncompliance. Cadmium was qualified due to serial dilution noncompliance.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1994, EPA Region V, September 1993, and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Angela Scheetz
Environmental Scientist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED LABORATORY RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

CTO[illegible]4-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTCRB09100101			
SAMPLE DATE:	09/10/01	/ /	/ /	/ /
LABORATORY ID:	C1I110127006			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	21.1	U										
ANTIMONY	3	U										
ARSENIC	2.6	U										
BARIUM	0.88											
BERYLLIUM	0.17	U										
CADMIUM	0.39	U										
CALCIUM	202											
CHROMIUM	1.4											
COBALT	2.9	U										
COPPER	5.2											
IRON	141											
LEAD	1.8	U										
MAGNESIUM	48.1											
MANGANESE	1.7											
MERCURY	0.047	U										
NICKEL	10.4	U										
POTASSIUM	438	U										
SELENIUM	4.5	U										
SILVER	0.87	U										
SODIUM	119											
THALLIUM	7.9	U										
VANADIUM	2.5	U										
ZINC	7.9											

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SB010110			NTC07SB160108			NTC07SS010001			NTC07SS130001		
SAMPLE DATE:	09/10/01			09/10/01			09/10/01			09/10/01		
LABORATORY ID:	C1I110127004			C1I110127002			C1I110127003			C1I110127005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	87.0 %			84.0 %			85.0 %			84.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	4880			7620			1820			5760		
ANTIMONY	0.43	U	A	0.40	U	A	0.69	U	A	3.1		
ARSENIC	6.4			4.2			2.8			10.9		
BARIUM	36			48.1	J	A	14.1			67.5		
BERYLLIUM	0.26	U	A	0.4	U	A	0.11	U	A	0.43	U	A
CADMIUM	0.12			0.047	UJ	I	0.19			1.4		
CALCIUM	54200			21300	J	A	186000			97100		
CHROMIUM	9.6			13.1	J	A	4.5			11.6		
COBALT	7.1			9.5			2			8.1		
COPPER	18.1			15.5	J	A	90.1			891		
IRON	14100			18900	J	A	5180			18500		
LEAD	15.7			12.4	J	A	47.8			392		
MAGNESIUM	28900			14000	J	A	105000			52600		
MANGANESE	485			264	J	A	195			465		
MERCURY	0.041			0.037			0.41			0.035		
NICKEL	14.5			15.9			5.3			19.9		
POTASSIUM	750			975			491			857		
SELENIUM	0.58			0.61			0.53	U		0.87		
SILVER	0.1	U		0.1	U		0.12			0.46		
SODIUM	168			238	J	A	215			206		
THALLIUM	0.91	U		0.94	U		0.93	U		0.94	U	
VANADIUM	13.5			18.4	J	A	7.1			16.5		
ZINC	57.3			58	J	A	160			1300		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SS160001			NTC17BBSD4501			NTC17BBSD4503			NTC17BBSD4504		
SAMPLE DATE:	09/10/01			09/07/01			09/07/01			09/07/01		
LABORATORY ID:	C1I110127001			C1I080123001			C1I080123002			C1I080123003		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			78.0 %			67.0 %			64.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	4060			2810			5130			8330		
ANTIMONY	0.34	U		0.47	U	A	0.90	U	A	1.2	U	A
ARSENIC	4.3			5.1			9.7			12.5		
BARIUM	26.5			30.2			56			101		
BERYLLIUM	0.23	U	A	0.32	U	A	0.56	U	A	0.74		
CADMIUM	0.098			0.52			2.6			17.3		
CALCIUM	132000			45100			63500			73500		
CHROMIUM	8.3			15.4			22.8			57.6		
COBALT	5.8			5.3			11.3			10.1		
COPPER	39.4			78.5			295			644		
IRON	12300			10700			15400			20600		
LEAD	34.5			81.6			244			503		
MAGNESIUM	74500			22500			32700			37000		
MANGANESE	475			292			566			633		
MERCURY	0.073			0.12			3.2			1.4		
NICKEL	9.8			11.1			97.4			309		
POTASSIUM	726			406			706			1070		
SELENIUM	0.53			0.58	U		2			3.3		
SILVER	0.11			0.67			14.4			70.8		
SODIUM	347			203			239			268		
THALLIUM	0.89	U		1	U		1.2	U		1.2	U	
VANADIUM	11.5			11.6			16.4			19.7		
ZINC	73.5			367			788			1060		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC17BBSD4505			NTC17BBSD4601			NTC17BBSD4603			NTC17BBSD4604		
SAMPLE DATE:	09/07/01			09/06/01			09/06/01			09/06/01		
LABORATORY ID:	C1I080123004			C1I070321002			C1I070321003			C1I070321004		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	65.0 %			84.0 %			72.0 %			60.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	6860			2050			4040			6030		
ANTIMONY	6.5			0.80	U	A	1.2	U	A	3.4		
ARSENIC	18.9			5.3			11.4			18.6		
BARIUM	130			21.4			51.1	J	A	117		
BERYLLIUM	1			0.47	U	A	0.44	U	A	0.71		
CADMIUM	3.7			0.48			3.2	J	DI	4.7		
CALCIUM	48200			56100			57600	J	A	64300		
CHROMIUM	50.2			9.5			23.8	J	A	59.5		
COBALT	11.9			4.8			9.5			12.7		
COPPER	256			79.6			313	J	A	183		
IRON	19100			12600			14200	J	A	18100		
LEAD	188			88.4			270	J	A	214		
MAGNESIUM	17300			27300			29800	J	AD	32700		
MANGANESE	974			337			539	J	A	702		
MERCURY	1.7			0.068			0.75			2.5		
NICKEL	113			14.7			78.2			136		
POTASSIUM	2040			295			465			812		
SELENIUM	5.2			0.66			1.8			4.9		
SILVER	22.8			0.34			20.6			40		
SODIUM	346			237			199	J	A	287		
THALLIUM	1.2	U		0.94	U		1.1	U		1.3	U	
VANADIUM	20.6			9.5			12.4	J	A	21.1		
ZINC	479			525			709	J	A	470		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC17BBSD4605			NTC17BBSD4901			NTC17BBSD4903			NTC17BBSD4904		
SAMPLE DATE:	09/06/01			09/07/01			09/07/01			09/07/01		
LABORATORY ID:	C1I070321005			C1I080123005			C1I080123006			C1I080123007		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	77.0 %			80.0 %			79.0 %			81.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	8270			2700			2450			2640		
ANTIMONY	4.6			0.71	U	A	0.72	U	A	0.87	U	A
ARSENIC	19.8			5.8			5.7			9.4		
BARIUM	114			33.9	J	A	29.1			35.2		
BERYLLIUM	0.96			6.7	J	A	4			0.65		
CADMIUM	4.7			0.73	J	DI	4.6			1.9		
CALCIUM	55700			86300	J	A	40100			35700		
CHROMIUM	45.2			10.5	J	A	12.7			16.2		
COBALT	12			6.1			5.7			6		
COPPER	482			232	J	A	358			245		
IRON	19400			14500	J	A	11100			11200		
LEAD	281			149	J	A	152			190		
MAGNESIUM	24100			46900	J	AD	20800			18000		
MANGANESE	778			731	J	A	326			322		
MERCURY	0.088			0.17			0.38			0.4		
NICKEL	96.7			21.6			43.7			55.7		
POTASSIUM	1620			365			352			348		
SELENIUM	5			0.72			1.1			0.91		
SILVER	17.4			2.3			33			3.6		
SODIUM	307			487	J	A	298			208		
THALLIUM	1	U		0.98	U		1	U		0.97	U	
VANADIUM	21.4			8.7	J	A	8.7			9.7		
ZINC	814			2070	J	A	1190			804		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC17BBSD4905			NTC17BBSD5005			NTCFD09060102					
SAMPLE DATE:	09/07/01			09/06/01			09/06/01			/ /		
LABORATORY ID:	C1I080123008			C1I070321001			C1I070321006					
QC_TYPE:	NORMAL			NORMAL			NORMAL					
% SOLIDS:	80.0 %			71.0 %			64.0 %			100.0 %		
UNITS:	MG/KG			MG/KG			MG/KG					
FIELD DUPLICATE OF:							NTC17BBSD4604					
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	6720			5110			6320					
ANTIMONY	1.4	U	A	3.9			6.3					
ARSENIC	12.8			16			20.9					
BARIUM	73			97.4			154					
BERYLLIUM	0.96			0.83			0.83					
CADMIUM	7.4			5			9.6					
CALCIUM	38800			43600			54100					
CHROMIUM	53.8			45.4			130					
COBALT	9.8			8.8			11.8					
COPPER	457			347			559					
IRON	16400			14000			18000					
LEAD	299			233			263					
MAGNESIUM	18600			21100			26600					
MANGANESE	450			535			558					
MERCURY	2			1.2			1.7					
NICKEL	133			95.1			172					
POTASSIUM	1240			789			876					
SELENIUM	3.4			5.8			6.2					
SILVER	44			31.8			135					
SODIUM	325			278			247					
THALLIUM	0.99	U		1.1	U		1.2	U				
VANADIUM	17.3			15.7			17.9					
ZINC	1040			637			862					

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SB010110	NTC07SB160108	NTC07SS010001	NTC07SS130001
SAMPLE DATE:	09/10/01	09/10/01	09/10/01	09/10/01
LABORATORY ID:	C1I110127004	C1I110127002	C1I110127003	C1I110127005
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
UNITS:	MG/L	MG/L	MG/L	MG/L
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ARSENIC	0.13	U	A	0.18	U	A	0.16	U	A	0.15	U	A
BARIUM	0.39			0.46	J	A	0.27			0.17		
CADMIUM	0.0031	U		0.0031	U		0.0031	U		0.031		
CHROMIUM	0.0026	U		0.0026	U		0.0026	U		0.0026	U	
LEAD	0.045	U	A	0.044	U	A	0.12	U	A	2.6		
MERCURY	0.000088	U	A	0.000055	U	A	0.000092	U	A	0.000085	U	A
SELENIUM	0.056	U		0.056	U		0.056	U		0.056	U	
SILVER	0.0031	U		0.0031	U		0.0031	U		0.0031	U	

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTC07SS160001		
SAMPLE DATE:	09/10/01	/ /	/ /	/ /
LABORATORY ID:	C1I110127001			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ARSENIC	0.24	U	A									
BARIUM	0.49											
CADMIUM	0.0031	U										
CHROMIUM	0.0026	U										
LEAD	0.065	U	A									
MERCURY	0.00007	U	A									
SELENIUM	0.091											
SILVER	0.0031	U										

CTO 154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL004

SAMPLE NUMBER:	NTCRB09100101		
SAMPLE DATE:	09/10/01	/ /	/ /	/ /
LABORATORY ID:	C1I110127006			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
TOTAL ORGANIC CARBON	1	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL004

SAMPLE NUMBER:	NTC07SB010110			NTC07SB160108			NTC07SS010001			NTC07SS130001		
SAMPLE DATE:	09/10/01			09/10/01			09/10/01			09/10/01		
LABORATORY ID:	C1I110127004			C1I110127002			C1I110127003			C1I110127005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	87.0 %			84.0 %			85.0 %			84.0 %		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
MISCELLANEOUS PARAMETERS												
TOTAL ORGANIC CARBON(MG/KG)	3680			10100			3750			7720		

SAMPLE NUMBER:	NTC07SS160001	NTC17BBSD4501	NTC17BBSD4503	NTC17BBSD4504
SAMPLE DATE:	09/10/01	09/07/01	09/07/01	09/07/01
LABORATORY ID:	C1I110127001	C1I080123001	C1I080123002	C1I080123003
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	89.0 %	78.0 %	67.0 %	64.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE(MG/KG)										10.6	U	
CADMIUM(MG/KG)										2.8		
COPPER(MG/KG)										251		
LEAD(MG/KG)										120		
MERCURY(MG/KG)										0.03		
NICKEL(MG/KG)										51.5		
PH()				7.4	J	H	7.8	J	H	7.5	J	H
TOTAL ORGANIC CARBON(MG/KG)	3300			7250			24400			23400		
ZINC(MG/KG)										628		

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL004

SAMPLE NUMBER:	NTC17BBSD4505			NTC17BBSD4601			NTC17BBSD4603			NTC17BBSD4604		
SAMPLE DATE:	09/07/01			09/06/01			09/06/01			09/06/01		
LABORATORY ID:	C1I080123004			C1I070321002			C1I070321003			C1I070321004		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	65.0 %			84.0 %			72.0 %			60.0 %		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
MISCELLANEOUS PARAMETERS												
PH()	7.5	J	H	7.3	J	H	7.2	J	H	7.4	J	H
TOTAL ORGANIC CARBON(MG/KG)	25700			2290			18100			30200		

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL004

SAMPLE NUMBER:	NTCFD09060102			NTC17BBSD4605			NTC17BBSD4901			NTC17BBSD4903		
SAMPLE DATE:	09/06/01			09/06/01			09/07/01			09/07/01		
LABORATORY ID:	C1I070321006			C1I070321005			C1I080123005			C1I080123006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	64.0 %			77.0 %			80.0 %			79.0 %		
FIELD DUPLICATE OF:	NTC17BBSD4604											
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
MISCELLANEOUS PARAMETERS												
PH()	7.4	J	H	7.5	J	H	7.6	J	H	7.8	J	H
TOTAL ORGANIC CARBON(MG/KG)	27500			9730			7760			5450		

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL004

SAMPLE NUMBER:	NTC17BBSD4904	NTC17BBSD4905	NTC17BBSD5005	
SAMPLE DATE:	09/07/01	09/07/01	09/06/01	/ /
LABORATORY ID:	C1I080123007	C1I080123008	C1I070321001	
QC_TYPE:	NORMAL	NORMAL	NORMAL	
% SOLIDS:	81.0 %	80.0 %	71.0 %	100.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
PH()	7.8	J	H	7.5	J	H	7.3	J	H			
TOTAL ORGANIC CARBON(MG/KG)	4430			8470			20700					

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **MR. B. DAVIS** **DATE:** **NOVEMBER 30, 2001**

FROM: **ANGELA SCHEETZ** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- VOA/SVOC/PEST/PCB/**
CTO 154, NTC GREAT LAKES
SDG GL007

SAMPLES: 1/Groundwater

NTC07GW0201

1/Surface Water

NTC17PCSW0201

OVERVIEW

The sample set for CTO 154 NTC Great Lakes, SDG GL007 consists of one (1) groundwater and one (1) surface water environmental samples. The samples were analyzed for target compound list (TCL) volatile organic compounds, ethanol, and ethyl acetate, and semivolatile organic compounds. Sample NTC17PCSW0201 was also analyzed for organochlorine pesticides and polychlorinated biphenyls (PCBs).

The samples were collected by TetraTech NUS on September 21 and 22, 2001 and analyzed by Severn Trent Laboratory-Pittsburgh. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Methods 8260, 8015, 8270C, 8081A, and 8082 analysis and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
* • Holding times
* • GC/MS Tuning and System Performance
• Initial/continuing calibrations
• Laboratory method blank results
* • Surrogate Recoveries
* • Blank Spike/Blank Spike Duplicate Results
* • Matrix Spike/Matrix Spike Duplicate Results
* • Compound Quantitation
* • Compound Identification
* • Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A.

Volatiles

The following compound was detected in the method blank:

Compound	Maximum Concentration	Blank Action Level
Methylene Chloride	0.81 µg/L	8.1 µg/L

- Value < Contract Required Quantitation Limit (CRQL); report CRQL followed by a U.
- Value > CRQL and < Action level; report value followed by a U.
- Value > CRQL and > Action level; report value followed by a J.

Sample aliquot and dilution factors were taken into consideration when applying the blank action levels. No qualifications were made on this basis.

Initial calibration percent relative standard deviations (%RSDs) exceeded the 30% quality control limit on for acetone and 2-hexanone. The nondetected results were qualified as estimated, UJ in the samples.

Continuing calibration percent differences (%Ds) exceeded the 25% quality control limit on 09/27/01 at 08:39 for trichlorofluoromethane, 1,1-dichloroethane, and acetone. Nondetected results were qualified as estimated, UJ.

Continuing calibration percent differences (%Ds) exceeded the 25% quality control limit on 09/28/01 at 06:45 for acetone. Nondetected results were qualified as estimated, UJ.

Ethanol and Ethyl Acetate

Accept data as reported.

Semivolatiles

Initial calibration percent relative standard deviations (%RSDs) exceeded the 30% quality control limit for benzaldehyde. The nondetected result for benzaldehyde was qualified as estimated, UJ.

Continuing calibration percent differences (%Ds) exceeded the 25% quality control limit on 10/16/01 at 07:08 for 2,2-oxybis(1-chloropropane), benzaldehyde, and hexachlorocyclopentadiene. Nondetected results were qualified as estimated, UJ in sample NTC07GW0201.

Continuing calibration percent differences (%Ds) exceeded the 25% quality control limit on 10/16/01 at 19:26 for 2,2-oxybis(1-chloropropane), benzaldehyde, and hexachlorocyclopentadiene. Nondetected results were qualified as estimated, UJ in sample NTC17PCSW0201.

Pesticides / PCBs

Accept data as reported.

Additional Comments:

Positive results below the reporting limit (RL) were qualified as estimated, J, due to uncertainty near the detection limit.

As per project directive, only 10% of the analytical results were validated.

EXECUTIVE SUMMARY

Laboratory Performance Issues: Several initial and continuing calibration noncompliances were noted.

Other factors affecting data quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99), EPA Region V (08/93), and the NFESC guidelines IRCDQM (Sept., 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS

Angela Scheetz
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's r < 0.995
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning r < 0.995 (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

CTO154-NTC GREAT LAKES
WATER DATA
ALSI
SDG: GL007

SAMPLE NUMBER:	*NTC07GW0101*	*NTC07GW0201*	*NTC07GW0301*	*NTC07GW0501*
SAMPLE DATE:	09/21/01	09/21/01	09/21/01	09/22/01
LABORATORY ID:	190908- 1	190908- 2	190908- 3	191179- 1
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
UNITS:	MG/L	MG/L	MG/L	MG/L
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
DISSOLVED GASES												
ETHANOL	1	U		1	U		1	U		0	U	
ETHYL ACETATE	1	U		1	U		1	U		0	U	

SAMPLE NUMBER:	NTC07GW0601	NTC07GW0701	NTC07GW0801	NTC17PCSW0101
SAMPLE DATE:	09/22/01	09/22/01	09/21/01	09/24/01
LABORATORY ID:	191179- 2	191179- 3	190908- 4	191181- 2
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
UNITS:	MG/L	MG/L	MG/L	MG/L
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
DISSOLVED GASES												
ETHANOL	1	U		1	U		1	U		1	U	
ETHYL ACETATE	1	U		1	U		1	U		1	U	

CTO154-NTC GREAT LAKES
WATER DATA
ALSI
SDG: GL007

SAMPLE NUMBER:	NTC17PCSW0201	NTC17PCSW0301	NTC17PCSW0401	NTCF009210101
SAMPLE DATE:	09/22/01	09/23/01	09/24/01	09/21/01
LABORATORY ID:	191179- 4	191180- 1	191181- 1	190908- 6
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
UNITS:	MG/L	MG/L	MG/L	MG/L
FIELD DUPLICATE OF:				NTC07GW0301

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
DISSOLVED GASES												
ETHANOL	1	U		1	U		1	U		ø	U	
ETHYL ACETATE	1	U		1	U		1	U		ø	U	

SAMPLE NUMBER:	NTCFD09240102	NTCRB09210101		
SAMPLE DATE:	09/24/01	09/21/01	/ /	/ /
LABORATORY ID:	191181- 3	190908- 5		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	MG/L	MG/L		
FIELD DUPLICATE OF:	NTC17PCSW0401			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
DISSOLVED GASES												
ETHANOL	1	U		1	U							
ETHYL ACETATE	1	U		1	U							

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTC07GW0101	NTC07GW0201	NTC07GW0301	NTC07GW0501
SAMPLE DATE:	09/21/01	09/21/01	09/21/01	09/22/01
LABORATORY ID:	C1I220169001	C1I220169002	C1I220169003	C1I250277001
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
UNITS:	UG/L	UG/L	UG/L	UG/L
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,1-BIPHENYL	10	U		10	U		10	U		10	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U		10	UJ	C	10	U		10	U	
2,4,5-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4,6-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DIMETHYLPHENOL	10	U		10	U		10	U		10	U	
2,4-DINITROPHENOL	50	U		50	U		50	U		50	U	
2,4-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2,6-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2-CHLORONAPHTHALENE	10	U		10	U		10	U		10	U	
2-CHLOROPHENOL	10	U		10	U		10	U		10	U	
2-METHYLNAPHTHALENE	10	U		10	U		10	U		10	U	
2-METHYLPHENOL	10	U		10	U		10	U		10	U	
2-NITROANILINE	50	U		50	U		50	U		50	U	
2-NITROPHENOL	10	U		10	U		10	U		10	U	
3,3'-DICHLOROBENZIDINE	50	U		50	U		50	U		50	U	
3-NITROANILINE	50	U		50	U		50	U		50	U	
4,6-DINITRO-2-METHYLPHENOL	50	U		50	U		50	U		50	U	
4-BROMOPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-CHLORO-3-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-CHLOROANILINE	10	U		10	U		10	U		10	U	
4-CHLOROPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-NITROANILINE	50	U		50	U		50	U		50	U	
4-NITROPHENOL	50	U		50	U		50	U		50	U	
ACENAPHTHENE	10	U		10	U		10	U		10	U	
ACENAPHTHYLENE	10	U		10	U		10	U		10	U	
ACETOPHENONE	10	U		10	U		10	U		10	U	
ANTHRACENE	10	U		10	U		10	U		10	U	
ATRAZINE	10	U		10	U		10	U		10	U	
BENZALDEHYDE	10	U		10	UJ	C	10	U		10	U	

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTC07GW0101			NTC07GW0201			NTC07GW0301			NTC07GW0501		
SAMPLE DATE:	09/21/01			09/21/01			09/21/01			09/22/01		
LABORATORY ID:	C1I220169001			C1I220169002			C1I220169003			C1I250277001		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
BENZO(A)ANTHRACENE	10	U		10	U		10	U		10	U	
BENZO(A)PYRENE	10	U		10	U		10	U		10	U	
BENZO(B)FLUORANTHENE	10	U		10	U		10	U		10	U	
BENZO(G,H,I)PERYLENE	10	U		10	U		10	U		10	U	
BENZO(K)FLUORANTHENE	10	U		10	U		10	U		10	U	
BIS(2-CHLOROETHOXY)METHANE	10	U		10	U		10	U		10	U	
BIS(2-CHLOROETHYL)ETHER	10	U		10	U		10	U		10	U	
BIS(2-ETHYLHEXYL)PHTHALATE	10	U		10	U		10	U		10	U	
BUTYL BENZYL PHTHALATE	10	U		10	U		10	U		10	U	
CAPROLACTAM	10	U		10	U		10	U		10	U	
CARBAZOLE	10	U		10	U		10	U		10	U	
CHRYSENE	10	U		10	U		10	U		10	U	
DI-N-BUTYL PHTHALATE	10	U		10	U		10	U		10	U	
DI-N-OCTYL PHTHALATE	10	U		10	U		10	U		10	U	
DIBENZO(A,H)ANTHRACENE	10	U		10	U		10	U		10	U	
DIBENZOFURAN	10	U		10	U		10	U		10	U	
DIETHYL PHTHALATE	10	U		10	U		10	U		1.1	J	
DIMETHYL PHTHALATE	10	U		10	U		10	U		10	U	
FLUORANTHENE	10	U		10	U		10	U		10	U	
FLUORENE	10	U		10	U		10	U		10	U	
HEXACHLOROBENZENE	10	U		10	U		10	U		10	U	
HEXACHLOROBUTADIENE	10	U		10	U		10	U		10	U	
HEXACHLOROCYCLOPENTADIENE	50	U		50	UJ	C	50	U		50	U	
HEXACHLOROETHANE	10	U		10	U		10	U		10	U	
INDENO(1,2,3-CD)PYRENE	10	U		10	U		10	U		10	U	
ISOPHORONE	10	U		10	U		10	U		10	U	
N-NITROSO-DI-N-PROPYLAMINE	10	U		10	U		10	U		10	U	
N-NITROSODIPHENYLAMINE	10	U		10	U		10	U		10	U	
NAPHTHALENE	10	U		10	U		10	U		10	U	
NITROBENZENE	10	U		10	U		10	U		10	U	
PENTACHLOROPHENOL	50	U		50	U		50	U		50	U	

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
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SAMPLE NUMBER:	NTC07GW0101			NTC07GW0201			NTC07GW0301			NTC07GW0501		
SAMPLE DATE:	09/21/01			09/21/01			09/21/01			09/22/01		
LABORATORY ID:	C1I220169001			C1I220169002			C1I220169003			C1I250277001		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
PHENANTHRENE	10	U		10	U		10	U		10	U	
PHENOL	10	U		10	U		10	U		10	U	
PYRENE	10	U		10	U		10	U		10	U	

SAMPLE NUMBER:	NTC07GW0601	NTC07GW0701	NTC07GW0801	NTC17PCSW0101
SAMPLE DATE:	09/22/01	09/22/01	09/21/01	09/24/01
LABORATORY ID:	C1I250277002	C1I250277003	C1I220169004	C1I250277008
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
UNITS:	UG/L	UG/L	UG/L	UG/L
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,1-BIPHENYL	10	U		10	U		10	U		10	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U		10	U		10	U		10	U	
2,4,5-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4,6-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DIMETHYLPHENOL	10	U		10	U		10	U		10	U	
2,4-DINITROPHENOL	50	U		50	U		50	U		50	U	
2,4-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2,6-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2-CHLORONAPHTHALENE	10	U		10	U		10	U		10	U	
2-CHLOROPHENOL	10	U		10	U		10	U		10	U	
2-METHYLNAPHTHALENE	10	U		10	U		10	U		10	U	
2-METHYLPHENOL	10	U		10	U		10	U		10	U	
2-NITROANILINE	50	U		50	U		50	U		50	U	
2-NITROPHENOL	10	U		10	U		10	U		10	U	
3,3'-DICHLOROBENZIDINE	50	U		50	U		50	U		50	U	
3-NITROANILINE	50	U		50	U		50	U		50	U	
4,6-DINITRO-2-METHYLPHENOL	50	U		50	U		50	U		50	U	
4-BROMOPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-CHLORO-3-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-CHLOROANILINE	10	U		10	U		10	U		10	U	
4-CHLOROPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-NITROANILINE	50	U		50	U		50	U		50	U	
4-NITROPHENOL	50	U		50	U		50	U		50	U	
ACENAPHTHENE	10	U		10	U		10	U		10	U	
ACENAPHTHYLENE	10	U		10	U		10	U		10	U	
ACETOPHENONE	10	U		10	U		10	U		10	U	
ANTHRACENE	10	U		10	U		10	U		10	U	
ATRAZINE	10	U		10	U		10	U		10	U	
BENZALDEHYDE	10	U		10	U		10	U		10	U	

SAMPLE NUMBER:	NTC07GW0601			NTC07GW0701			NTC07GW0801			NTC17PCSW0101		
SAMPLE DATE:	09/22/01			09/22/01			09/21/01			09/24/01		
LABORATORY ID:	C1I250277002			C1I250277003			C1I220169004			C1I250277008		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
BENZO(A)ANTHRACENE	10	U		10	U		10	U		10	U	
BENZO(A)PYRENE	10	U		10	U		10	U		10	U	
BENZO(B)FLUORANTHENE	10	U		10	U		10	U		10	U	
BENZO(G,H,I)PERYLENE	10	U		10	U		10	U		10	U	
BENZO(K)FLUORANTHENE	10	U		10	U		10	U		10	U	
BIS(2-CHLOROETHOXY)METHANE	10	U		10	U		10	U		10	U	
BIS(2-CHLOROETHYL)ETHER	10	U		10	U		10	U		10	U	
BIS(2-ETHYLHEXYL)PHTHALATE	10	U		10	U		10	U		10	U	
BUTYL BENZYL PHTHALATE	10	U		10	U		10	U		10	U	
CAPROLACTAM	10	U		10	U		10	U		10	U	
CARBAZOLE	10	U		10	U		10	U		10	U	
CHRYSENE	10	U		10	U		10	U		10	U	
DI-N-BUTYL PHTHALATE	10	U		1.6	J		10	U		2.7	J	
DI-N-OCTYL PHTHALATE	10	U		10	U		10	U		10	U	
DIBENZO(A,H)ANTHRACENE	10	U		10	U		10	U		10	U	
DIBENZOFURAN	10	U		10	U		10	U		10	U	
DIETHYL PHTHALATE	10	U		10	U		10	U		10	U	
DIMETHYL PHTHALATE	10	U		10	U		10	U		10	U	
FLUORANTHENE	10	U		10	U		10	U		10	U	
FLUORENE	10	U		10	U		10	U		10	U	
HEXACHLOROBENZENE	10	U		10	U		10	U		10	U	
HEXACHLOROBUTADIENE	10	U		10	U		10	U		10	U	
HEXACHLOROCYCLOPENTADIENE	50	U		50	U		50	U		50	U	
HEXACHLOROETHANE	10	U		10	U		10	U		10	U	
INDENO(1,2,3-CD)PYRENE	10	U		10	U		10	U		10	U	
ISOPHORONE	10	U		10	U		10	U		10	U	
N-NITROSO-DI-N-PROPYLAMINE	10	U		10	U		10	U		10	U	
N-NITROSODIPHENYLAMINE	10	U		10	U		10	U		10	U	
NAPHTHALENE	10	U		10	U		10	U		10	U	
NITROBENZENE	10	U		10	U		10	U		10	U	
PENTACHLOROPHENOL	50	U		50	U		50	U		50	U	

SAMPLE NUMBER:	NTC07GW0601	NTC07GW0701	NTC07GW0801	NTC17PCSW0101
SAMPLE DATE:	09/22/01	09/22/01	09/21/01	09/24/01
LABORATORY ID:	C1I250277002	C1I250277003	C1I220169004	C1I250277008
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
UNITS:	UG/L	UG/L	UG/L	UG/L
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
PHENANTHRENE	10	U		10	U		10	U		10	U	
PHENOL	10	U		10	U		10	U		10	U	
PYRENE	10	U		10	U		10	U		10	U	

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SAMPLE NUMBER:	NTC17PCSW0201			NTC17PCSW0301			NTC17PCSW0401			NTCFD09210101		
SAMPLE DATE:	09/22/01			09/23/01			09/24/01			09/21/01		
LABORATORY ID:	C1I250277005			C1I250277006			C1I250277007			C1I220169006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:										NTC07GW0301		
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
1,1-BIPHENYL	10	U		10	U		10	U		10	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	10	UJ	C	10	U		10	U		10	U	
2,4,5-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4,6-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DIMETHYLPHENOL	10	U		10	U		10	U		10	U	
2,4-DINITROPHENOL	50	U		50	U		50	U		50	U	
2,4-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2,6-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2-CHLORONAPHTHALENE	10	U		10	U		10	U		10	U	
2-CHLOROPHENOL	10	U		10	U		10	U		10	U	
2-METHYLNAPHTHALENE	10	U		10	U		10	U		10	U	
2-METHYLPHENOL	10	U		10	U		10	U		10	U	
2-NITROANILINE	50	U		50	U		50	U		50	U	
2-NITROPHENOL	10	U		10	U		10	U		10	U	
3,3'-DICHLOROBENZIDINE	50	U		50	U		50	U		50	U	
3-NITROANILINE	50	U		50	U		50	U		50	U	
4,6-DINITRO-2-METHYLPHENOL	50	U		50	U		50	U		50	U	
4-BROMOPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-CHLORO-3-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-CHLOROANILINE	10	U		10	U		10	U		10	U	
4-CHLOROPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-NITROANILINE	50	U		50	U		50	U		50	U	
4-NITROPHENOL	50	U		50	U		50	U		50	U	
ACENAPHTHENE	10	U		10	U		10	U		10	U	
ACENAPHTHYLENE	10	U		10	U		10	U		10	U	
ACETOPHENONE	10	U		10	U		10	U		10	U	
ANTHRACENE	10	U		10	U		10	U		10	U	
ATRAZINE	10	U		10	U		10	U		10	U	
BENZALDEHYDE	10	UJ	C	10	U		10	U		10	U	

CTO154-NTC GREAT LAKES
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STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTC17PCSW0201			NTC17PCSW0301			NTC17PCSW0401			NTCFD09210101		
SAMPLE DATE:	09/22/01			09/23/01			09/24/01			09/21/01		
LABORATORY ID:	C1I250277005			C1I250277006			C1I250277007			C1I220169006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:										NTC07GW0301		
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
BENZO(A)ANTHRACENE	10	U		10	U		10	U		10	U	
BENZO(A)PYRENE	10	U		10	U		10	U		10	U	
BENZO(B)FLUORANTHENE	10	U		10	U		10	U		10	U	
BENZO(G,H,I)PERYLENE	10	U		10	U		10	U		10	U	
BENZO(K)FLUORANTHENE	10	U		10	U		10	U		10	U	
BIS(2-CHLOROETHOXY)METHANE	10	U		10	U		10	U		10	U	
BIS(2-CHLOROETHYL)ETHER	10	U		10	U		10	U		10	U	
BIS(2-ETHYLHEXYL)PHTHALATE	10	U		10	U		10	U		10	U	
BUTYL BENZYL PHTHALATE	10	U		10	U		10	U		10	U	
CAPROLACTAM	10	U		10	U		10	U		10	U	
CARBAZOLE	10	U		10	U		10	U		10	U	
CHRYSENE	10	U		10	U		10	U		10	U	
DI-N-BUTYL PHTHALATE	10	U		10	U		10	U		10	U	
DI-N-OCTYL PHTHALATE	10	U		10	U		10	U		10	U	
DIBENZO(A,H)ANTHRACENE	10	U		10	U		10	U		10	U	
DIBENZOFURAN	10	U		10	U		10	U		10	U	
DIETHYL PHTHALATE	10	U		10	U		10	U		10	U	
DIMETHYL PHTHALATE	10	U		10	U		10	U		10	U	
FLUORANTHENE	10	U		10	U		10	U		10	U	
FLUORENE	10	U		10	U		10	U		10	U	
HEXACHLOROBENZENE	10	U		10	U		10	U		10	U	
HEXACHLOROBUTADIENE	10	U		10	U		10	U		10	U	
HEXACHLOROCYCLOPENTADIENE	50	UJ	C	50	U		50	U		50	U	
HEXACHLOROETHANE	10	U		10	U		10	U		10	U	
INDENO(1,2,3-CD)PYRENE	10	U		10	U		10	U		10	U	
ISOPHORONE	10	U		10	U		10	U		10	U	
N-NITROSO-DI-N-PROPYLAMINE	10	U		10	U		10	U		10	U	
N-NITROSODIPHENYLAMINE	10	U		10	U		10	U		10	U	
NAPHTHALENE	10	U		10	U		10	U		10	U	
NITROBENZENE	10	U		10	U		10	U		10	U	
PENTACHLOROPHENOL	50	U		50	U		50	U		50	U	

SAMPLE NUMBER:	NTC17PCSW0201	NTC17PCSW0301	NTC17PCSW0401	NTCFD09210101
SAMPLE DATE:	09/22/01	09/23/01	09/24/01	09/21/01
LABORATORY ID:	C1I250277005	C1I250277006	C1I250277007	C1I220169006
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
UNITS:	UG/L	UG/L	UG/L	UG/L
FIELD DUPLICATE OF:				NTC07GW0301

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
PHENANTHRENE	10	U		10	U		10	U		10	U	
PHENOL	10	U		10	U		10	U		10	U	
PYRENE	10	U		10	U		10	U		10	U	

SAMPLE NUMBER:	NTCFD09240102	NTCRB09210101		
SAMPLE DATE:	09/24/01	09/21/01	/ /	/ /
LABORATORY ID:	C1I250277009	C1I220169005		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:	NTC17PCSW0401			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,1-BIPHENYL	10	U		10	U							
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U		10	U							
2,4,5-TRICHLOROPHENOL	10	U		10	U							
2,4,6-TRICHLOROPHENOL	10	U		10	U							
2,4-DICHLOROPHENOL	10	U		10	U							
2,4-DIMETHYLPHENOL	10	U		10	U							
2,4-DINITROPHENOL	50	U		50	U							
2,4-DINITROTOLUENE	10	U		10	U							
2,6-DINITROTOLUENE	10	U		10	U							
2-CHLORONAPHTHALENE	10	U		10	U							
2-CHLOROPHENOL	10	U		10	U							
2-METHYLNAPHTHALENE	10	U		10	U							
2-METHYLPHENOL	10	U		10	U							
2-NITROANILINE	50	U		50	U							
2-NITROPHENOL	10	U		10	U							
3,3'-DICHLOROBENZIDINE	50	U		50	U							
3-NITROANILINE	50	U		50	U							
4,6-DINITRO-2-METHYLPHENOL	50	U		50	U							
4-BROMOPHENYL PHENYL ETHER	10	U		10	U							
4-CHLORO-3-METHYLPHENOL	10	U		10	U							
4-CHLOROANILINE	10	U		10	U							
4-CHLOROPHENYL PHENYL ETHER	10	U		10	U							
4-METHYLPHENOL	10	U		10	U							
4-NITROANILINE	50	U		50	U							
4-NITROPHENOL	50	U		50	U							
ACENAPHTHENE	10	U		10	U							
ACENAPHTHYLENE	10	U		10	U							
ACETOPHENONE	10	U		10	U							
ANTHRACENE	10	U		10	U							
ATRAZINE	10	U		10	U							
BENZALDEHYDE	10	U		7.2	J							

SAMPLE NUMBER:	NTCFD09240102			NTCRB09210101			/ /			/ /		
SAMPLE DATE:	09/24/01			09/21/01								
LABORATORY ID:	C1I250277009			C1I220169005								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	0.0 %			0.0 %			100.0 %			100.0 %		
UNITS:	UG/L			UG/L								
FIELD DUPLICATE OF:	NTC17PCSW0401											
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
BENZO(A)ANTHRACENE	10	U		10	U							
BENZO(A)PYRENE	10	U		10	U							
BENZO(B)FLUORANTHENE	10	U		10	U							
BENZO(G,H,I)PERYLENE	10	U		10	U							
BENZO(K)FLUORANTHENE	10	U		10	U							
BIS(2-CHLOROETHOXY)METHANE	10	U		10	U							
BIS(2-CHLOROETHYL)ETHER	10	U		10	U							
BIS(2-ETHYLHEXYL)PHTHALATE	10	U		10	U							
BUTYL BENZYL PHTHALATE	10	U		10	U							
CAPROLACTAM	10	U		10	U							
CARBAZOLE	10	U		10	U							
CHRYSENE	10	U		10	U							
DI-N-BUTYL PHTHALATE	10	U		10	U							
DI-N-OCTYL PHTHALATE	10	U		10	U							
DIBENZO(A,H)ANTHRACENE	10	U		10	U							
DIBENZOFURAN	10	U		10	U							
DIETHYL PHTHALATE	10	U		10	U							
DIMETHYL PHTHALATE	10	U		10	U							
FLUORANTHENE	10	U		10	U							
FLUORENE	10	U		10	U							
HEXACHLOROBENZENE	10	U		10	U							
HEXACHLOROBUTADIENE	10	U		10	U							
HEXACHLOROCYCLOPENTADIENE	50	U		50	U							
HEXACHLOROETHANE	10	U		10	U							
INDENO(1,2,3-CD)PYRENE	10	U		10	U							
ISOPHORONE	10	U		10	U							
N-NITROSO-DI-N-PROPYLAMINE	10	U		10	U							
N-NITROSODIPHENYLAMINE	10	U		10	U							
NAPHTHALENE	10	U		10	U							
NITROBENZENE	10	U		10	U							
PENTACHLOROPHENOL	50	U		50	U							

SAMPLE NUMBER:	NTCFD09240102	NTCRB09210101	
SAMPLE DATE:	09/24/01	09/21/01	/ /
LABORATORY ID:	C1I250277009	C1I220169005	
QC_TYPE:	NORMAL	NORMAL	
% SOLIDS:	*0.0 %*	*0.0 %*	*100.0 %*
UNITS:	UG/L	UG/L	
FIELD DUPLICATE OF:	NTC17PCSW0401		

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
PHENANTHRENE	10	U		10	U							
PHENOL	10	U		10	U							
PYRENE	10	U		10	U							

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTC07GW0101	NTC07GW0201	NTC07GW0301	NTC07GW0501
SAMPLE DATE:	09/21/01	09/21/01	09/21/01	09/22/01
LABORATORY ID:	C1I220169001	C1I220169002	C1I220169003	C1I250277001
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
UNITS:	UG/L	UG/L	UG/L	UG/L
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	10	U		10	U		10	U		10	U	
1,1-DICHLOROETHANE	1	U		1	UJ	C	1	U		1	U	
1,1-DICHLOROETHENE	1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	U		1	U		1	U		1	U	
1,2-DIBROMOETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE	1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-BUTANONE	5	U		5	U		5	U		1.3	J	
2-HEXANONE	5	U		5	UJ	C	5	U		5	U	
4-METHYL-2-PENTANONE	5	U		5	U		5	U		5	U	
ACETONE	2.8	J		10	UJ	C	3.3	J		8	J	
BENZENE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	1	U		1	U		1	U		0.7	J	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	2	U		2	U		2	U		2	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	2	U		2	U		2	U		2	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTC07GW0101			NTC07GW0201			NTC07GW0301			NTC07GW0501		
SAMPLE DATE:	09/21/01			09/21/01			09/21/01			09/22/01		
LABORATORY ID:	C1I220169001			C1I220169002			C1I220169003			C1I250277001		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
CYCLOHEXANE	10	U		10	U		10	U		10	U	
DICHLORODIFLUOROMETHANE	2	U		2	U		2	U		2	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
ISOPROPYLBENZENE	1	U		1	U		1	U		1	U	
METHYL ACETATE	10	U		10	U		10	U		10	U	
METHYL CYCLOHEXANE	10	U		10	U		10	U		10	U	
METHYL TERT-BUTYL ETHER	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	0.53	J		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TOTAL XYLENES	3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	1	U		1	U		1	U		1	U	
TRICHLOROFLUOROMETHANE	2	U		2	UJ	C	2	U		2	U	
VINYL CHLORIDE	2	U		2	U		2	U		2	U	

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTC07GW0601			NTC07GW0701			NTC07GW0801			NTC17PCSW0101		
SAMPLE DATE:	09/22/01			09/22/01			09/21/01			09/24/01		
LABORATORY ID:	C1I250277002			C1I250277003			C1I220169004			C1I250277008		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	10	U		10	U		10	U		10	U	
1,1-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHENE	1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	U		1	U		1	U		1	U	
1,2-DIBROMOETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE	1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-BUTANONE	5	U		5	U		5	U		5.6		
2-HEXANONE	5	U		5	U		5	U		5	U	
4-METHYL-2-PENTANONE	5	U		5	U		5	U		5	U	
ACETONE	10	U		13			10	U		11		
BENZENE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		0.34	J	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	2	U		2	U		2	U		2	U	
CHLOROFORM	1	U		1	U		1	U		0.42	J	
CHLOROMETHANE	2	U		2	U		2	U		2	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		9.2		
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	

SAMPLE NUMBER:	NTC07GW0601			NTC07GW0701			NTC07GW0801			NTC17PCSW0101		
SAMPLE DATE:	09/22/01			09/22/01			09/21/01			09/24/01		
LABORATORY ID:	C1I250277002			C1I250277003			C1I220169004			C1I250277008		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
CYCLOHEXANE	10	U		10	U		10	U		10	U	
DICHLORODIFLUOROMETHANE	2	U		2	U		2	U		2	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
ISOPROPYLBENZENE	1	U		1	U		1	U		1	U	
METHYL ACETATE	10	U		10	U		10	U		10	U	
METHYL CYCLOHEXANE	10	U		10	U		10	U		10	U	
METHYL TERT-BUTYL ETHER	1	U		1	U		0.56	J		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1.4		
TOLUENE	1	U		1	U		1	U		0.7	J	
TOTAL XYLENES	3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	1	U		1	U		1	U		5.5		
TRICHLOROFLUOROMETHANE	2	U		2	U		2	U		2	U	
VINYL CHLORIDE	2	U		2	U		2	U		0.77	J	

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTC17PCSW0201			NTC17PCSW0301			NTC17PCSW0401			NTCFD09210101		
SAMPLE DATE:	09/22/01			09/23/01			09/24/01			09/21/01		
LABORATORY ID:	C1I250277005			C1I250277006			C1I250277007			C1I220169006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:										NTC07GW0301		
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	10	U		10	U		10	U		10	U	
1,1-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHENE	1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	U		1	U		1	U		1	U	
1,2-DIBROMOETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE	1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-BUTANONE	5	U		5	U		5	U		5	U	
2-HEXANONE	5	UJ	C	5	U		5	U		5	U	
4-METHYL-2-PENTANONE	5	U		5	U		5	U		5	U	
ACETONE	10	UJ	C	4.4	J		2.6	J		3.4	J	
BENZENE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	0.74	J		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	0.59	J		1	U		1	U		1	U	
CHLOROETHANE	2	U		2	U		2	U		2	U	
CHLOROFORM	1.2			1	U		1	U		1	U	
CHLOROMETHANE	2	U		2	U		2	U		2	U	
CIS-1,2-DICHLOROETHENE	1.1			1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	

SAMPLE NUMBER:	NTC17PCSW0201			NTC17PCSW0301			NTC17PCSW0401			NTCFD09210101		
SAMPLE DATE:	09/22/01			09/23/01			09/24/01			09/21/01		
LABORATORY ID:	C1I250277005			C1I250277006			C1I250277007			C1I220169006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:										NTC07GW0301		
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
CYCLOHEXANE	10	U		10	U		10	U		10	U	
DICHLORODIFLUOROMETHANE	2	U		2	U		2	U		2	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
ISOPROPYLBENZENE	1	U		1	U		1	U		1	U	
METHYL ACETATE	10	U		10	U		10	U		10	U	
METHYL CYCLOHEXANE	10	U		10	U		10	U		10	U	
METHYL TERT-BUTYL ETHER	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		0.58	J	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	0.41	J		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TOTAL XYLENES	3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	0.46	J		1	U		1	U		1	U	
TRICHLOROFLUOROMETHANE	2	U		2	U		2	U		2	U	
VINYL CHLORIDE	2	U		2	U		2	U		2	U	

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTCFD09240102			NTCRB09210101			NTCTB09210101			NTCTB09220101		
SAMPLE DATE:	09/24/01			09/21/01			09/21/01			09/22/01		
LABORATORY ID:	C1I250277009			C1I220169005			C1I220169007			C1I250277010		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:	NTC17PCSW0401											
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	10	U		10	U		10	U		10	U	
1,1-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHENE	1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	U		1	U		1	U		1	U	
1,2-DIBROMOETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE	1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	1	U		0.26	J		1	U		1	U	
2-BUTANONE	5	U		5.6			5	U		5	U	
2-HEXANONE	5	U		5	U		5	U		5	U	
4-METHYL-2-PENTANONE	5	U		5	U		5	U		5	U	
ACETONE	10	U		7.7	J		3.8	J		4.1	J	
BENZENE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	2	U		2	U		2	U		2	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	2	U		2	U		2	U		2	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTCFD09240102			NTCRB09210101			NTCTB09210101			NTCTB09220101		
SAMPLE DATE:	09/24/01			09/21/01			09/21/01			09/22/01		
LABORATORY ID:	C1I250277009			C1I220169005			C1I220169007			C1I250277010		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:	NTC17PCSW0401											
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
CYCLOHEXANE	10	U		10	U		10	U		10	U	
DICHLORODIFLUOROMETHANE	2	U		2	U		2	U		2	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
ISOPROPYLBENZENE	1	U		1	U		1	U		1	U	
METHYL ACETATE	10	U		10	U		10	U		10	U	
METHYL CYCLOHEXANE	10	U		10	U		10	U		10	U	
METHYL TERT-BUTYL ETHER	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		1.8	J		2	U		2	U	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TOTAL XYLENES	3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	1	U		1	U		1	U		1	U	
TRICHLOROFLUOROMETHANE	2	U		2	U		2	U		2	U	
VINYL CHLORIDE	2	U		2	U		2	U		2	U	

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTCIDWWATER		
SAMPLE DATE:	09/22/01	/ /	/ /
LABORATORY ID:	C1I250277004		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %
UNITS:	MG/L		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1-DICHLOROETHENE	0.05	U										
1,2-DICHLOROETHANE	0.05	U										
2-BUTANONE	0.05	U										
BENZENE	0.05	U										
CARBON TETRACHLORIDE	0.05	U										
CHLOROBENZENE	0.05	U										
CHLOROFORM	0.05	U										
TETRACHLOROETHENE	0.05	U										
TRICHLOROETHENE	0.05	U										
VINYL CHLORIDE	0.05	U										

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTCIDWWATER		
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250277004		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
HERBICIDES												
2,4,5-TP (SILVEX)	0.01	U										
2,4-D	0.04	U										

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**B. DAVIS**	**DATE:**	**NOVEMBER 30, 2001**
FROM:	**ANGELA SCHEETZ**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS, & TOC**
CTO-154 NTC GREAT LAKES
SAMPLE DELIVERY GROUP (SDG) – GL007

SAMPLES: 1/Groundwater/

NTC07GW0201

1/Surface Water/

NTC17PCSW0201

Overview

The sample set for CTO 154, NTC Great Lakes, SDG GL007, consists of one (1) surface water and one (1) groundwater environmental samples.

The samples were analyzed for target analyte list (TAL) metals, and total organic carbon (TOC) except for sample NTC17PCSW0201 which was not analyzed for TOC. The sample designated – F was analyzed for dissolved metals. The samples were collected by TetraTech NUS on September 21 and 22, 2001 and analyzed by Severn Trent Laboratory - Pittsburgh under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses, with the exception of mercury were conducted using SW 846 method 6010B. Mercury analyses were conducted using SW 846 method 7470A. TOC analyses were conducted using SW 846 method 9060.

Metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
* • Laboratory Control Sample Results
* • ICP Interference Check Sample Results
* • Matrix Spike Recoveries
• ICP Serial Dilution Results
* • Laboratory Duplicate Results
* • Sample Quantitation
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses

The following contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Calcium	354 µg /L	1770 µg/L
Chromium	1.8 µg/L	9.0 µg/L
Iron	6.9 µg /L	34.5 µg/L
Silver	1.3 µg /L	6.5 µg/L
Sodium	14.6 µg/L	73.0 µg/L
Zinc[1]	5.0 µg/L	25.0 µg/L

[1]Maximum contamination present in the aqueous preparation blank (batch 1285135).

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot, and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results below the action level were qualified as nondetected, "U". Positive results greater than the action level were reported for several of the above analytes and were qualified as estimated, "J", per regional guidance.

Serial Dilutions

The serial dilution percent difference for zinc exceeded the 10% quality control limit associated with batch 1285135. The positive result was qualified as estimated, "J".

Notes

As per project directive, only 10% of the analytical results were validated.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method/preparation blanks.

Other Factors Affecting Data Quality: Zinc was qualified due to serial dilution noncompliance.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1994, EPA Region V, September 1993, and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Angela Scheetz
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED LABORATORY RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTC07GW0101			NTC07GW0201			NTC07GW0301			NTC07GW0501		
SAMPLE DATE:	09/21/01			09/21/01			09/21/01			09/22/01		
LABORATORY ID:	C1I220169001			C1I220169002			C1I220169003			C1I250277001		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	21.1	U		104			131			15400		
ANTIMONY	2.4	U		2.4	U		2.4	U		2.4	U	
ARSENIC	3.2	U		3.2	U		3.7			5.1		
BARIUM	414			43.4			84.7			144		
BERYLLIUM	0.17	U		0.17	U		0.17	U		0.59		
CADMIUM	0.51	U		0.51	U		0.51	U		0.51	U	
CALCIUM	218000			84200	J	A	92900			288000		
CHROMIUM	1.5	U	A	1.2	U	A	1.2	U	A	27.0		
COBALT	2.9	U		2.9	U		2.9	U		12.7		
COPPER	3.1			2.6			8.0			17.3		
IRON	285			154	J	A	1240			17800		
LEAD	2.5	U		2.5	U		6.4			7.7		
MAGNESIUM	95100			23000			33100			145000		
MANGANESE	342			88.8			112			611		
MERCURY	0.05	U		0.05			0.05	U		0.05	U	
NICKEL	10.4	U		10.4	U		10.4	U		29.6		
POTASSIUM	5750			5760			62500			15200		
SELENIUM	3.3	U		3.3	U		3.3	U		4.1		
SILVER	0.80	U		0.80	U		0.97	U	A	0.80	U	
SODIUM	288000			156000	J	A	203000			486000		
THALLIUM	5.7	U		5.7	U		5.7	U		5.7	U	
VANADIUM	2.6			2.5	U		4.2			31.7		
ZINC	3.4	U	A	3.9	U	A	16.4	U	A	43.3		

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTC07GW0501-F			NTC07GW0601			NTC07GW0701			NTC07GW0801		
SAMPLE DATE:	09/22/01			09/22/01			09/22/01			09/21/01		
LABORATORY ID:	C1I250277001			C1I250277002			C1I250277003			C1I220169004		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	291			52.8			29.7			285		
ANTIMONY	2.4	U		2.4	U		2.4	U		2.4	U	
ARSENIC	3.2	U		3.2	U		9.3			4.3		
BARIUM	91.5			103			466			191		
BERYLLIUM	0.17	U		0.17	U		0.17	U		0.17	U	
CADMIUM	0.51	U		0.51	U		0.80			0.51	U	
CALCIUM	256000			89700			271000			180000		
CHROMIUM	1.9	U	A	1.1	U	A	1.6	U	A	1.7	U	A
COBALT	2.9	U		2.9	U		3.7			2.9	U	
COPPER	3.5			2.4	U		3.4			5.2		
IRON	320			313			5700			508		
LEAD	2.5	U		2.9			2.5	U		2.5	U	
MAGNESIUM	131000			33800			120000			53100		
MANGANESE	351			374			2360			152		
MERCURY	0.05	U		0.05			0.05	U		0.05	U	
NICKEL	13.9			10.4	U		10.4	U		10.4	U	
POTASSIUM	9080			9480			7170			7950		
SELENIUM	3.3	U		3.3	U		3.3	U		3.3	U	
SILVER	0.80	U		0.95	U	A	0.80	U		0.80	U	
SODIUM	464000			526000			1280000			121000		
THALLIUM	6.7			5.7	U		6.5			5.7	U	
VANADIUM	2.5	U		2.5	U		4.0			5.6		
ZINC	5.7			2.4	U		10.0	U	A	7.6	U	A

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTC17PCSW0101			NTC17PCSW0101-F			NTC17PCSW0201			NTC17PCSW0201-F		
SAMPLE DATE:	09/24/01			09/24/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250277008			C1I250277008			C1I250277005			C1I250277005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	450			21.1	U		675			35.0		
ANTIMONY	2.4	U		2.4	U		2.4	U		2.4	U	
ARSENIC	3.2	U		3.2	U		3.2	U		3.2	U	
BARIUM	58.7			53.3			49.8			44.2		
BERYLLIUM	0.17	U		0.17	U		0.17	U		0.17	U	
CADMIUM	0.51	U		0.58			0.51	U		0.51	U	
CALCIUM	91600			87500			76400	J	A	73800	J	A
CHROMIUM	2.2	U	A	1.7	U	A	5.4	U	A	3.3	U	A
COBALT	2.9	U		2.9	U		2.9	U		2.9	U	
COPPER	22.2			10.7			12.9			8.7		
IRON	818			30.3	U	A	843	J	A	344	J	A
LEAD	6.4			2.5	U		3.9			2.5	U	
MAGNESIUM	37400			35700			29500			28200		
MANGANESE	64.2			46.3			35.8			21.9		
MERCURY	0.06			0.05	U		0.05			0.05	U	
NICKEL	10.4	U		10.4	U		10.4	U		10.4	U	
POTASSIUM	5560			5150			3710			3540		
SELENIUM	3.3	U		4.4			3.3	U		3.3	U	
SILVER	0.87	U	A	0.97	U	A	1.5	U	A	0.80	U	
SODIUM	122000			115000			95400	J	A	92800	J	A
THALLIUM	5.7	U		5.7	U		5.7	U		5.7	U	
VANADIUM	2.5	U		2.5	U		2.9			2.8		
ZINC	150			111			58.3	J	AI	33.4		

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTC17PCSW0301			NTC17PCSW0301-F			NTC17PCSW0401			NTC17PCSW0401-F		
SAMPLE DATE:	09/23/01			09/23/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250277006			C1I250277006			C1I250277007			C1I250277007		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	9460			114			3360			25.5		
ANTIMONY	2.4	U		2.4	U		2.4	U		2.4	U	
ARSENIC	3.7			3.2	U		3.2	U		3.2	U	
BARIUM	61.8			16.8			48.1			30.0		
BERYLLIUM	0.26			0.17	U		0.17	U		0.17	U	
CADMIUM	0.51	U		0.51	U		0.51	U		0.51	U	
CALCIUM	44000			28300			60900			54300		
CHROMIUM	14.4			2.7	U	A	5.6	U	A	1.5	U	A
COBALT	4.6			2.9	U		2.9	U		2.9	U	
COPPER	18.9			10.7			11.8			5.8		
IRON	10900			141			3800			82.9		
LEAD	18.0			2.5	U		7.8			2.5	U	
MAGNESIUM	21100			11500			29500			25800		
MANGANESE	245			16.5			121			33.8		
MERCURY	0.07			0.05	U		0.10			0.08		
NICKEL	12.5			10.4	U		10.4	U		10.4	U	
POTASSIUM	6280			2730			5150			3790		
SELENIUM	3.3	U		3.3	U		3.3	U		3.3	U	
SILVER	0.80	U		0.80	U	A	0.80	U		1.0	U	A
SODIUM	32900			31500			55900			53000		
THALLIUM	5.7	U		5.7	U		5.7	U		5.7	U	
VANADIUM	15.6			2.5	U		6.7			2.5	U	
ZINC	77.5			5.6			28.0			8.3		

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTCFD09210101			NTCFD09240102			NTCFD09240102-F			NTCRB09210101		
SAMPLE DATE:	09/21/01			09/24/01			09/24/01			09/21/01		
LABORATORY ID:	C1I220169006			C1I250277009			C1I250277009			C1I220169005		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:	NTC07GW0301			NTC17PCSW0401			NTC17PCSW0401-F					
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	120			2890			21.1	U		21.1	U	
ANTIMONY	2.4	U		2.4	U		2.4	U		2.4	U	
ARSENIC	4.2			3.2	U		3.2	U		3.2	U	
BARIUM	81.5			44.1			30.3			0.37	U	
BERYLLIUM	0.17	U		0.17	U		0.17	U		0.17	U	
CADMIUM	0.51	U		0.51	U		0.51	U		0.51	U	
CALCIUM	89200			57700			54900			23.1		
CHROMIUM	1.0	U	A	4.9	U	A	0.94	U	A	1.1		
COBALT	2.9	U		2.9	U		2.9	U		2.9	U	
COPPER	7.3			9.2			4.4			2.4	U	
IRON	1150			3250			84.3			4.9	U	
LEAD	2.5	U		4.8			2.5	U		2.5	U	
MAGNESIUM	32000			27700			26100			21.4	U	
MANGANESE	107			101			34.1			0.89	U	
MERCURY	0.05	U		0.05	U		0.05	U		0.05		
NICKEL	10.4	U		10.4	U		10.4	U		10.4	U	
POTASSIUM	60900			4780			3590			438	U	
SELENIUM	3.3	U		3.3	U		3.3	U		3.3	U	
SILVER	0.80	U		1.2	U	A	0.80	U		0.80	U	
SODIUM	197000			53400			54000			11.9	U	
THALLIUM	5.7	U		5.7	U		5.7	U		5.7	U	
VANADIUM	4.1			6.6			2.5	U		2.5	U	
ZINC	10.1	U	A	23.8	U	A	21.0			2.4	U	

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTC07GW0101			NTC07GW0201			NTC07GW0301			NTC07GW0501		
SAMPLE DATE:	09/21/01			09/21/01			09/21/01			09/22/01		
LABORATORY ID:	C1I220169001			C1I220169002			C1I220169003			C1I250277001		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	MG/L			MG/L			MG/L			MG/L		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
TOTAL ORGANIC CARBON	1.6			0.88			4.8			3		

SAMPLE NUMBER:	NTC07GW0601			NTC07GW0701			NTC07GW0801			NTCFD09210101		
SAMPLE DATE:	09/22/01			09/22/01			09/21/01			09/21/01		
LABORATORY ID:	C1I250277002			C1I250277003			C1I220169004			C1I220169006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	MG/L			MG/L			MG/L			MG/L		
FIELD DUPLICATE OF:										NTC07GW0301		
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
TOTAL ORGANIC CARBON	3.7			11.3			6.7			4.6		

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL007

SAMPLE NUMBER:	NTCRB09210101			
SAMPLE DATE:	09/21/01	/ /	/ /	/ /
LABORATORY ID:	C1I220169005			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
TOTAL ORGANIC CARBON	1	U										

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**B. DAVIS**	**DATE:**	**DECEMBER 12, 2001**
FROM:	**ANGELA SCHEETZ**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS, pH, TOC, & AVS/SEM**
CTO-154 NTC GREAT LAKES
SAMPLE DELIVERY GROUP (SDG) – GL008

SAMPLES: 1/Sediment/

NTC17PCSD2701

Overview

The sample set for CTO 154, NTC Great Lakes, SDG GL008, consists of one (1) sediment environmental sample.

The sample was analyzed for target analyte list (TAL) metals, total organic carbon (TOC), pH, acid volatile sulfide (AVS) and simultaneously extracted metals (SEM). The sample was collected by TetraTech NUS on September 23, 2001 and analyzed by Severn Trent Laboratory - Pittsburgh under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses, with the exception of mercury were conducted using SW 846 method 6010B. Mercury analyses were conducted using SW 846 methods 7471A. TOC analyses were conducted using Walkley Black. PH analysis was conducted using SW 846 method 9045C. AVS/SEM analysis was conducted by EPA draft method for the Determination of Acid Volatile Sulfide and Simultaneously Extracted Metals in Sediment.

Metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
* • Laboratory Control Sample Results
• ICP Interference Check Sample Results
• Matrix Spike Recoveries
• ICP Serial Dilution Results
* • Laboratory Duplicate Results
* • Sample Quantitation
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses

The following contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Barium[1]	0.049 mg /kg	0.245 mg/kg
Calcium	354 µg /L	177 mg/kg
Chromium[1]	0.26 mg/kg	1.3 mg/kg
Iron	6.9 µg /L	3.45 mg/kg
Silver	1.3 µg /L	0.65 mg/kg

[1]Maximum contamination present in the soil preparation blank.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot, percent solids, and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results greater than the action level were reported for several of the above analytes and were qualified as estimated, "J", per regional guidance.

The following contaminants were detected in the SEM method/preparation blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Cadmium	0.2 µg/L	0.0125 mg/kg
Copper	1.8 µg/L	0.1125 mg/kg
Lead	1.5 µg/L	0.09375 mg/kg
Mercury[1]	0.003 mg/kg	0.015 mg/kg
Copper	1.0 µg/L	0.0625 mg/kg

[1]Maximum contamination present in the SEM preparation blank.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results greater than the action level were reported for several of the above analytes and were qualified as estimated, "J", per regional guidance.

ICP Interference Check Sample Results

The interfering analytes calcium, iron and magnesium were present in sample NTC17PCSD2701 at concentrations that were comparable to the levels of calcium, iron and magnesium in the Interference Check Sample (ICS) solution. Several analytes, namely, barium, cadmium, chromium, cobalt, manganese, selenium, and thallium were present in the ICS solution at a concentration that exceeded the absolute value of the Instrument Detection Limit (IDL). Interference affects exist for cadmium, cobalt and thallium in the affected sample. The positive results reported for cadmium, cobalt and thallium were qualified as estimated, "J".

Serial Dilutions

The serial dilution percent difference for iron exceeded the 10% quality control limit affecting the sediment matrix. The positive result was qualified as estimated, "J".

The serial dilution percent difference for cadmium, copper, lead, nickel, and zinc exceeded the 10% quality control limit affecting the SEM matrix. The positive results were qualified as estimated, "J".

Matrix Spike Results

The matrix spike percent recoveries exceeded the 125% quality control limit for antimony, barium, lead, nickel, and silver affecting the sediment matrix. The positive results were qualified as estimated, J.

Notes

The MSD percent recoveries were outside the quality control limits for beryllium affecting the sediment matrix. No qualifications were made for beryllium since the MS percent recovery was compliant.

The relative percent differences exceeded the quality control limits for antimony, barium, beryllium, lead, nickel, and silver affecting the sediment matrix. No qualifications were made on this basis since the percent recoveries were compliant or previously qualified.

As per project directive, only 10% of the analytical results were validated.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method/preparation blanks. Several analytes were present in the SEM method/preparation blanks.

Other Factors Affecting Data Quality: Iron was qualified due to serial dilution noncompliance affecting the sediment matrix. Barium, lead, and nickel were qualified due to matrix spike noncompliances. Cadmium, copper, lead, nickel, and zinc were qualified due to serial dilution noncompliance affecting the SEM matrix.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1994, EPA Region V, September 1993, and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Angela Scheetz
Environmental Scientist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD1101	NTC17PCSD1102	NTC17PCSD1201	NTC17PCSD1202
SAMPLE DATE:	09/23/01	09/23/01	09/23/01	09/23/01
LABORATORY ID:	C1I250270004	C1I250270005	C1I250270002	C1I250270003
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	89.0 %	83.0 %	93.6 %	93.1 %
UNITS:	MG/KG	MG/KG	MG/KG	MG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	2900			2340			1960			2500		
ANTIMONY	0.53			0.50			0.27			0.83		
ARSENIC	6.0			7.5			4.0			9.0		
BARIUM	26.3			22.3			23.1			19.9		
BERYLLIUM	0.39			0.82			0.77			1.2		
CADMIUM	0.47			0.27			0.57			0.38		
CALCIUM	45900			81600			91700			111000		
CHROMIUM	10.2			13.9			16.7			9.8		
COBALT	5.3			4.9			4.0			5.8		
COPPER	123			182			127			200		
IRON	10900			13600			9590			14400		
LEAD	120			154			142			161		
MAGNESIUM	24000			42000			51400			56800		
MANGANESE	337			321			370			490		
MERCURY	0.45			0.14			0.13			0.28		
NICKEL	11.9			15.7			18.3			14.9		
POTASSIUM	392			324			293			390		
SELENIUM	0.37	U		62.5			0.35	U		0.36	U	
SILVER	1.5			0.27	U	A	0.57	U	A	0.49	U	A
SODIUM	155			405			291			419		
THALLIUM	0.64	U		0.80			0.61	U		1.7		
VANADIUM	8.6			8.7			7.1			11.1		
ZINC	570			1260			1110			1520		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD1301	NTC17PCSD2501	NTC17PCSD2601	NTC17PCSD2701
SAMPLE DATE:	09/23/01	09/23/01	09/23/01	09/23/01
LABORATORY ID:	C1I250270001	C1I250270016	C1I250270015	C1I250270014
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	92.3 %	82.0 %	82.0 %	81.0 %
UNITS:	MG/KG	MG/KG	MG/KG	MG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	2500			2460			2710			2460		
ANTIMONY	0.41			0.29	U		0.29	U		0.30	U	
ARSENIC	9.1			3.9			4.7			5.2		
BARIUM	25.9			32.0			40.4			19.2	J	AD
BERYLLIUM	0.78			0.19			0.44			0.23		
CADMIUM	0.50			0.06	U		0.07			0.08	J	K
CALCIUM	57400			99100			50800			66300	J	A
CHROMIUM	29.6			9.1			14.7			10.0	J	A
COBALT	5.7			4.0			5.2			4.7	J	K
COPPER	197			22.3			46.2			27.3		
IRON	12500			9710			12400			13100	J	AI
LEAD	155			27.5			57.9			53.9	J	D
MAGNESIUM	30500			54500			27100			36400		
MANGANESE	396			504			350			381		
MERCURY	0.22			0.02			0.02			0.03		
NICKEL	23.0			8.1			11.3			8.1	J	D
POTASSIUM	312			387			400			375		
SELENIUM	0.36	U		0.40	U		0.40	U		0.41	U	
SILVER	0.98			0.14	U	A	0.10	U		0.10	U	
SODIUM	255			197			205			186		
THALLIUM	0.62	U		0.82			1.4			0.73	J	K
VANADIUM	8.3			8.2			10.7			8.7		
ZINC	856			102			253			206		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD2801			NTC17PCSD2901			NTC17PCSD2902			NTC17PCSD3001		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250270013			C1I250270011			C1I250270012			C1I250270010		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	81.0 %			83.0 %			75.0 %			73.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	1670			2310			3570			1970		
ANTIMONY	0.30	U		0.40			0.32	U		0.33	U	
ARSENIC	2.7			3.7			4.9			3.7		
BARIUM	22.3			19.4			30.2			17.9		
BERYLLIUM	0.13			0.20			0.25			0.17		
CADMIUM	0.08			0.06	U		0.27			0.11		
CALCIUM	31400			30400			41400			34800		
CHROMIUM	6.8			10.7			13.4			9.1		
COBALT	3.3			3.9			6.4			4.7		
COPPER	9.2			10.4			24.4			13.4		
IRON	6410			8020			11600			7470		
LEAD	18.2			32.1			46.1			28.6		
MAGNESIUM	16900			16100			22400			18200		
MANGANESE	213			233			433			267		
MERCURY	0.14			0.09			0.31			0.11		
NICKEL	7.0			7.3			13.5			8.9		
POTASSIUM	330			348			511			373		
SELENIUM	0.41	U		0.40	U		0.50			0.45	U	
SILVER	0.11	U	A	0.12	U	A	0.22	U	A	0.11	U	
SODIUM	78.3			81.7			96.4			92.5		
THALLIUM	0.71	U		0.69	U		0.97			0.78	U	
VANADIUM	7.9			8.9			12.3			6.8		
ZINC	55.0			57.8			117			74.9		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD3101			NTC17PCSD3201			NTC17PCSD3202			NTC17PCSD3301		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250270009			C1I250270007			C1I250270008			C1I250270006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	85.0 %			83.0 %			85.0 %			72.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	3660			1890			2030			3040		
ANTIMONY	0.28	U		0.29	U		0.28	U		0.33		
ARSENIC	5.3			5.3			2.8			4.3		
BARIUM	31.7			12.0			16.9			24.1		
BERYLLIUM	0.27			0.29			0.13			0.20		
CADMIUM	0.07			0.06	U		0.06	U		0.11		
CALCIUM	44800			63600			43800			43000		
CHROMIUM	10.5			7.9			7.7			12.2		
COBALT	7.6			4.8			4.0			5.6		
COPPER	21.5			25.6			9.2			18.5		
IRON	11800			11900			7900			9760		
LEAD	31.1			50.8			18.5			44.8		
MAGNESIUM	24100			34900			24000			22500		
MANGANESE	348			411			323			355		
MERCURY	0.18			0.05			0.15			0.17		
NICKEL	15.4			8.7			8.5			12.6		
POTASSIUM	596			331			290			499		
SELENIUM	0.39	U		0.40	U		0.39	U		0.46	U	
SILVER	0.10	U	A	0.10	U		0.09	U		0.19	U	A
SODIUM	147			133			79.1			99.1		
THALLIUM	0.95			1.4			0.67	U		0.79	U	
VANADIUM	12.5			7.7			6.6			10.6		
ZINC	74.3			245			280			108		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD3701			NTC17PCSD3801			NTCFD09230101			NTCFD09240101		
SAMPLE DATE:	09/24/01			09/24/01			09/23/01			09/24/01		
LABORATORY ID:	C1I250270019			C1I250270018			C1I250270017			C1I250270020		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	79.0 %			76.0 %			84.0 %			76.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:							NTC17PCSD1401			NTC17PCSD3801		
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	2200			1900			2780			1490		
ANTIMONY	0.47			0.49			0.29	U		0.32	U	
ARSENIC	3.3			2.6			6.3			2.6		
BARIUM	24.4			17.5			27.6			15.5		
BERYLLIUM	0.15			0.13			1.9			0.11		
CADMIUM	0.08			0.07	U		0.60			0.08		
CALCIUM	34700			31300			66200			33900		
CHROMIUM	11.3			7.6			11.4			5.9		
COBALT	4.7			3.7			6.5			3.1		
COPPER	18.3			8.2			191			8.0		
IRON	8190			6540			12500			6020		
LEAD	32.9			15.7			103			35.7		
MAGNESIUM	18700			17000			36700			18800		
MANGANESE	269			225			464			214		
MERCURY	0.18			0.12			0.18			0.07		
NICKEL	7.5			6.5			20.3			5.9		
POTASSIUM	347			371			380			244		
SELENIUM	0.42	U		0.43	U		0.39	U		0.43	U	
SILVER	0.50	U	A	0.19	U	A	1.8			0.12	U	A
SODIUM	84.8			104			428			93.4		
THALLIUM	0.72	U		0.75	U		1.4			0.75	U	
VANADIUM	7.8			8.7			9.0			6.7		
ZINC	85.0			51.1			1300			57.5		

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD1101			NTC17PCSD1102			NTC17PCSD1201			NTC17PCSD1202		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250270004			C1I250270005			C1I250270002			C1I250270003		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			83.0 %			93.6 %			93.1 %		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE(MG/KG)	8.7	U										
CADMIUM(MG/KG)	0.55											
COPPER(MG/KG)	128											
LEAD(MG/KG)	63.7											
MERCURY(MG/KG)	0.11											
NICKEL(MG/KG)	7.3											
PH()	8.3			8.3			8.4			8.6		
TOTAL ORGANIC CARBON(MG/KG)	4590			3630			2190			1640		
ZINC(MG/KG)	248											

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD1301	NTCFD09230101	NTC17PCSD2501	NTC17PCSD2601
SAMPLE DATE:	09/23/01	09/23/01	09/23/01	09/23/01
LABORATORY ID:	C1I250270001	C1I250270017	C1I250270016	C1I250270015
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	92.3 %	84.0 %	82.0 %	82.0 %
FIELD DUPLICATE OF:		NTC17PCSD1401		

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
PH()	8.4			8.5			8.5			8.3		
TOTAL ORGANIC CARBON(MG/KG)	3340			1890			2400			2570		

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD2701			NTC17PCSD2801			NTC17PCSD2901			NTC17PCSD2902		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250270014			C1I250270013			C1I250270011			C1I250270012		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	81.0 %			81.0 %			83.0 %			75.0 %		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE(MG/KG)	9.2	U										
CADMIUM(MG/KG)	0.28	J	AI									
COPPER(MG/KG)	29	J	AI									
LEAD(MG/KG)	30.2	J	AI									
MERCURY(MG/KG)	0.03	J	A									
NICKEL(MG/KG)	3.5	J	I									
PH()	8.3			8			8			8.1		
TOTAL ORGANIC CARBON(MG/KG)	2690			6110			5430			7180		
ZINC(MG/KG)	137	J	AI									

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD3001			NTC17PCSD3101			NTC17PCSD3201			NTC17PCSD3202		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250270010			C1I250270009			C1I250270007			C1I250270008		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	73.0 %			85.0 %			83.0 %			85.0 %		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
MISCELLANEOUS PARAMETERS												
PH()	8			7.9			8.3			7.8		
TOTAL ORGANIC CARBON(MG/KG)	5720			4600			2920			5180		

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD3301	NTC17PCSD3701	NTC17PCSD3801	NTCFD09240101
SAMPLE DATE:	09/23/01	09/24/01	09/24/01	09/24/01
LABORATORY ID:	C1I250270006	C1I250270019	C1I250270018	C1I250270020
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	72.0 %	79.0 %	76.0 %	76.0 %
FIELD DUPLICATE OF:				NTC17PCSD3801

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE(MG/KG)				11.5								
CADMIUM(MG/KG)				0.15								
COPPER(MG/KG)				9.1								
LEAD(MG/KG)				19.2								
MERCURY(MG/KG)				0.09								
NICKEL(MG/KG)				2.9								
NO. 10 SIEVE(%)							98.88					
NO. 140 SIEVE(%)							14.85					
NO. 20 SIEVE(%)							97.16					
NO. 200 SIEVE(%)							12					
NO. 4 SIEVE(%)							99.7					
NO. 40 SIEVE(%)							91.79					
NO. 60 SIEVE(%)							49.74					
PH()	8.2			8.1			8.2			8.2		
SIEVE 1"(%)							100					
SIEVE 1-1/2"(%)							100					
SIEVE 1/2"(%)							100					
SIEVE 12"(%)							100					
SIEVE 2"(%)							100					
SIEVE 3"(%)							100					
SIEVE 3/4"(%)							100					
SIEVE 3/8"(%)							100					
SIEVE 6"(%)							100					
TOTAL ORGANIC CARBON(MG/KG)	16400			5550			6320			4390		
ZINC(MG/KG)				41.8								

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **MR. B. DAVIS** **DATE:** **DECEMBER 4, 2001**

FROM: **ANGELA SCHEETZ** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- PEST/PCB/PAH**
CTO 154, NTC GREAT LAKES
SDG GL008

SAMPLES: 1/Sediment

NTC17PCSD2701

OVERVIEW

The sample set for CTO 154 NTC Great Lakes, SDG GL008 consists of one (1) sediment environmental sample. The sample was analyzed for target compound list (TCL) organochlorine pesticides, polychlorinated biphenyls (PCBs), and polynuclear aromatic hydrocarbons.

The samples were collected by TetraTech NUS on September 23, 2001 and analyzed by Severn Trent Laboratory-Pittsburgh. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Methods 8310, 8081A, and 8082 analysis and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
* • Holding times
* • GC/MS Tuning and System Performance
* • Initial/continuing calibrations
* • Laboratory method blank results
* • Surrogate Recoveries
* • Blank Spike/Blank Spike Duplicate Results
* • Matrix Spike/Matrix Spike Duplicate Results
* • Compound Quantitation
* • Compound Identification
* • Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A.

PAHs

The percent difference between columns exceeded 25% for the following compounds. The positive results were reported as estimated, J for these compounds.

Sample	Compound	%D
NTC17PCSD2701	Fluorene	50.1%
	Benzo(g,h,I)perylene	78.8%
	Benzo(a)pyrene	47.2%
	Indeno(1,2,3-cd)pyrene	37.8%

The surrogate percent recoveries were diluted out due to a dilution factor of 100X. No qualifications were made on this basis.

Pesticides / PCBs

The percent difference between columns exceeded 100% for the following compound. The positive result was rejected, R.

Sample	Compound	%D
NTC17PCSD2701	Dieldrin	251.8%

The percent difference between columns exceeded 25% for the following compound. The positive result was reported as estimated, J for this compound.

Sample	Compound	%D
NTC17PCSD2701	alpha-chlordane	40.5%

Additional Comments:

Positive results below the reporting limit (RL) were qualified as estimated, J, due to uncertainty near the detection limit.

It should be noted that the laboratory reported the lower concentration of the two columns.

As per project directive, only 10% of the analytical results were validated.

EXECUTIVE SUMMARY

Laboratory Performance Issues: Several %Ds exceeded the quality control limit between columns for positive results.

Other factors affecting data quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99), EPA Region V (08/93), and the NFESC guidelines IRCDQM (Sept., 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS

Angela Scheetz
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTCTB09230101		
SAMPLE DATE:	09/23/01	/ /	/ /	/ /
LABORATORY ID:	C1I250270021		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U										
1,1,2,2-TETRACHLOROETHANE	1	U										
1,1,2-TRICHLOROETHANE	1	U										
1,1-DICHLOROETHANE	1	U										
1,1-DICHLOROETHENE	1	U										
1,2,4-TRICHLOROBENZENE	1	U										
1,2-DIBROMO-3-CHLOROPROPANE	1	U										
1,2-DIBROMOETHANE	1	U										
1,2-DICHLOROBENZENE	1	U										
1,2-DICHLOROETHANE	1	U										
1,2-DICHLOROPROPANE	1	U										
1,3-DICHLOROBENZENE	1	U										
1,4-DICHLOROBENZENE	1	U										
2-BUTANONE	5	U										
2-HEXANONE	5	U										
4-METHYL-2-PENTANONE	5	U										
ACETONE	3.9	J										
BENZENE	1	U										
BROMODICHLOROMETHANE	1	U										
BROMOFORM	1	U										
BROMOMETHANE	1	U										
CARBON DISULFIDE	1	U										
CARBON TETRACHLORIDE	1	U										
CHLOROBENZENE	1	U										
CHLOROETHANE	2	U										
CHLOROFORM	1	U										
CHLOROMETHANE	2	U										
CIS-1,2-DICHLOROETHENE	1	U										
CIS-1,3-DICHLOROPROPENE	1	U										
CYCLOHEXANE	10	U										
DICHLORODIFLUOROMETHANE	2	U										

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTCTB09230101		
SAMPLE DATE:	09/23/01	/ /	/ /	/ /
LABORATORY ID:	C1I250270021		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
ETHYLBENZENE	1	U										
ISOPROPYLBENZENE	1	U										
METHYL ACETATE	10	U										
METHYLENE CHLORIDE	2	U										
STYRENE	1	U										
TETRACHLOROETHENE	1	U										
TOLUENE	1	U										
TRANS-1,2-DICHLOROETHENE	1	U										
TRANS-1,3-DICHLOROPROPENE	1	U										
TRICHLOROETHENE	1	U										
TRICHLOROFLUOROMETHANE	2	U										
VINYL CHLORIDE	2	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD2901		
SAMPLE DATE:	09/23/01	/ /	/ /	/ /
LABORATORY ID:	C1I250270011		
QC_TYPE:	NORMAL		
% SOLIDS:	83.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	6	U										
1,1,2,2-TETRACHLOROETHANE	6	U										
1,1,2-TRICHLOROETHANE	6	U										
1,1,2-TRICHLOROTRIFLUOROETHANE	6	U										
1,1-DICHLOROETHANE	6	U										
1,1-DICHLOROETHENE	6	U										
1,2,4-TRICHLOROBENZENE	6	U										
1,2-DIBROMO-3-CHLOROPROPANE	12	U										
1,2-DIBROMOETHANE	6	U										
1,2-DICHLOROBENZENE	6	U										
1,2-DICHLOROETHANE	6	U										
1,2-DICHLOROPROPANE	6	U										
1,3-DICHLOROBENZENE	6	U										
1,4-DICHLOROBENZENE	6	U										
2-BUTANONE	24	U										
2-HEXANONE	24	U										
4-METHYL-2-PENTANONE	24	U										
ACETONE	24	U										
BENZENE	6	U										
BROMODICHLOROMETHANE	6	U										
BROMOFORM	6	U										
BROMOMETHANE	12	U										
CARBON DISULFIDE	6	U										
CARBON TETRACHLORIDE	6	U										
CHLOROBENZENE	6	U										
CHLORODIBROMOMETHANE	6	U										
CHLOROETHANE	12	U										
CHLOROFORM	6	U										
CHLOROMETHANE	12	U										
CIS-1,2-DICHLOROETHENE	6	U										
CIS-1,3-DICHLOROPROPENE	6	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD2901		
SAMPLE DATE:	09/23/01	/ /	/ /	/ /
LABORATORY ID:	C1I250270011		
QC_TYPE:	NORMAL		
% SOLIDS:	83.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
CYCLOHEXANE	6	U										
DICHLORODIFLUOROMETHANE	12	U										
ETHYLBENZENE	6	U										
ISOPROPYLBENZENE	6	U										
METHYL ACETATE	6	U										
METHYL CYCLOHEXANE	6	U										
METHYL TERT-BUTYL ETHER	6	U										
METHYLENE CHLORIDE	8.9											
STYRENE	6	U										
TETRACHLOROETHENE	6	U										
TOLUENE	6	U										
TOTAL XYLENES	18	U										
TRANS-1,2-DICHLOROETHENE	6	U										
TRANS-1,3-DICHLOROPROPENE	6	U										
TRICHLOROETHENE	6	U										
TRICHLOROFLUOROMETHANE	12	U										
VINYL CHLORIDE	12	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD2901			
SAMPLE DATE:	09/23/01	/ /	/ /	/ /
LABORATORY ID:	C1I250270011			
QC_TYPE:	NORMAL			
% SOLIDS:	83.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,1-BIPHENYL	400	U										
2,2'-OXYBIS(1-CHLOROPROPANE)	400	U										
2,4,5-TRICHLOROPHENOL	400	U										
2,4,6-TRICHLOROPHENOL	400	U										
2,4-DICHLOROPHENOL	400	U										
2,4-DIMETHYLPHENOL	400	U										
2,4-DINITROPHENOL	1900	U										
2,4-DINITROTOLUENE	400	U										
2,6-DINITROTOLUENE	400	U										
2-CHLORONAPHTHALENE	400	U										
2-CHLOROPHENOL	400	U										
2-METHYLNAPHTHALENE	400	U										
2-METHYLPHENOL	400	U										
2-NITROANILINE	1900	U										
2-NITROPHENOL	400	U										
3,3'-DICHLOROBENZIDINE	1900	U										
3-NITROANILINE	1900	U										
4,6-DINITRO-2-METHYLPHENOL	1900	U										
4-BROMOPHENYL PHENYL ETHER	400	U										
4-CHLORO-3-METHYLPHENOL	400	U										
4-CHLOROANILINE	400	U										
4-CHLOROPHENYL PHENYL ETHER	400	U										
4-METHYLPHENOL	400	U										
4-NITROANILINE	1900	U										
4-NITROPHENOL	1900	U										
ACENAPHTHENE	400	U										
ACENAPHTHYLENE	400	U										
ACETOPHENONE	400	U										
ANTHRACENE	93	J	P									
ATRAZINE	400	U										
BENZALDEHYDE	400	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD2901		
SAMPLE DATE:	09/23/01	/ /	/ /	/ /
LABORATORY ID:	C1I250270011		
QC_TYPE:	NORMAL		
% SOLIDS:	83.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
BENZO(A)ANTHRACENE	200	J	P									
BENZO(A)PYRENE	180	J	P									
BENZO(B)FLUORANTHENE	190	J	P									
BENZO(G,H,I)PERYLENE	63	J	P									
BENZO(K)FLUORANTHENE	190	J	P									
BIS(2-CHLOROETHOXY)METHANE	400	U										
BIS(2-CHLOROETHYL)ETHER	400	U										
BIS(2-ETHYLHEXYL)PHTHALATE	130	J	P									
BUTYL BENZYL PHTHALATE	400	U										
CAPROLACTAM	400	U										
CARBAZOLE	400	U										
CHRYSENE	220	J	P									
DI-N-BUTYL PHTHALATE	400	U										
DI-N-OCTYL PHTHALATE	400	U										
DIBENZO(A,H)ANTHRACENE	400	U										
DIBENZOFURAN	400	U										
DIETHYL PHTHALATE	400	U										
DIMETHYL PHTHALATE	400	U										
FLUORANTHENE	600											
FLUORENE	39	J	P									
HEXACHLOROBENZENE	400	U										
HEXACHLOROBUTADIENE	400	U										
HEXACHLOROCYCLOPENTADIENE	1900	U										
HEXACHLOROETHANE	400	U										
INDENO(1,2,3-CD)PYRENE	67	J	P									
ISOPHORONE	400	U										
N-NITROSO-DI-N-PROPYLAMINE	400	U										
N-NITROSODIPHENYLAMINE	400	U										
NAPHTHALENE	400	U										
NITROBENZENE	400	U										
PENTACHLOROPHENOL	1900	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD2901			
SAMPLE DATE:	09/23/01	/ /	/ /	/ /
LABORATORY ID:	C1I250270011			
QC_TYPE:	NORMAL			
% SOLIDS:	83.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
PHENANTHRENE	350	J	P									
PHENOL	400	U										
PYRENE	320	J	P									

CTO154-NTC GREAT LAKES
SOIL DATA
ALSI
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD1401			NTC17PCSD1401			NTC17PCSD1801			NTC17PCSD1801		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	191177- 1			191177- 1			191177- 2			191177- 2		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	100.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
DISSOLVED GASES												
ETHANOL	1.2	U		1.2	U		1.2	U		1.2	U	
ETHYL ACETATE	1.2	U		1.2	U		1.2	U		1.2	U	

CTO154-NTC GREAT LAKES
SOIL DATA
ALSI
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD2901											
SAMPLE DATE:	09/23/01			/ /			/ /			/ /		
LABORATORY ID:	191177-3											
QC_TYPE:	NORMAL											
% SOLIDS:	100.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	MG/KG											
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
DISSOLVED GASES												
ETHANOL	1.1	U										
ETHYL ACETATE	1.1	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD1101			NTC17PCSD1102			NTC17PCSD1201			NTC17PCSD1202		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250270004			C1I250270005			C1I250270002			C1I250270003		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			83.0 %			94.0 %			93.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	58			76			73			48		
4,4'-DDE	110			160			53			51		
4,4'-DDT	170			190			160			55		
ALDRIN	19	U		41	U		18	U		7.3	U	
ALPHA-BHC	19	U		41	U		18	U		7.3	U	
ALPHA-CHLORDANE	19	U		13	J	P	18	U		3.8	J	P
AROCLOR-1016	37	U		40	U		35	U		35	U	
AROCLOR-1221	37	U		40	U		35	U		35	U	
AROCLOR-1232	37	U		40	U		35	U		35	U	
AROCLOR-1242	37	U		40	U		35	U		35	U	
AROCLOR-1248	37	U		40	U		35	U		380		
AROCLOR-1254	37	U		790			35	U		150		
AROCLOR-1260	46			40	U		35	U		47		
BETA-BHC	19	U		41	U		18	U		7.3	U	
DELTA-BHC	19	U		41	U		18	U		7.3	U	
DIELDRIN	19	U		41	U		18	U		7.3	U	
ENDOSULFAN I	19	U		41	U		1.1	J	P	7.3	U	
ENDOSULFAN II	19	U		41	U		18	U		1.9	J	P
ENDOSULFAN SULFATE	19	U		41	U		18	U		7.3	U	
ENDRIN	19	U		41	U		18	U		7.3	U	
ENDRIN ALDEHYDE	19	U		41	U		18	U		7.3	U	
ENDRIN KETONE	19	U		41	U		18	U		7.3	U	
GAMMA-BHC (LINDANE)	19	U		41	U		18	U		7.3	U	
GAMMA-CHLORDANE	19	U		3.5	J	P	18	U		1.3	J	P
HEPTACHLOR	19	U		41	U		18	U		7.3	U	
HEPTACHLOR EPOXIDE	19	U		41	U		18	U		7.3	U	
METHOXYCHLOR	190	U		410	U		180	U		73	U	
TOXAPHENE	750	U		1600	U		720	U		290	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD1301			NTC17PCSD2501			NTC17PCSD2601			NTC17PCSD2701		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250270001			C1I250270016			C1I250270015			C1I250270014		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	92.0 %			82.0 %			82.0 %			81.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	100			7.6			8.4			14		
4,4'-DDE	110			28			24			31		
4,4'-DDT	150			35			25			39		
ALDRIN	18	U		4.1	U		2.1	U		8.4	U	
ALPHA-BHC	18	U		4.1	U		2.1	U		8.4	U	
ALPHA-CHLORDANE	18	U		0.72	J	P	0.66	J	P	1.1	J	U
AROCLOR-1016	36	U		40	U		40	U		41	U	
AROCLOR-1221	36	U		40	U		40	U		41	U	
AROCLOR-1232	36	U		40	U		40	U		41	U	
AROCLOR-1242	36	U		40	U		40	U		41	U	
AROCLOR-1248	36	U		40	U		40	U		41	U	
AROCLOR-1254	140			40	U		40	U		41	U	
AROCLOR-1260	41			40	U		40	U		41	U	
BETA-BHC	18	U		4.1	U		2.1	U		8.4	U	
DELTA-BHC	18	U		4.1	U		2.1	U		8.4	U	
DIELDRIN	18	U		0.41	J	P	0.52	J	P	0.55	R	U
ENDOSULFAN I	18	U		4.1	U		2.1	U		8.4	U	
ENDOSULFAN II	18	U		0.32	J	P	0.30	J	P	8.4	U	
ENDOSULFAN SULFATE	18	U		4.1	U		2.1	U		8.4	U	
ENDRIN	18	U		4.1	U		2.1	U		8.4	U	
ENDRIN ALDEHYDE	18	U		4.1	U		2.1	U		8.4	U	
ENDRIN KETONE	18	U		4.1	U		2.1	U		8.4	U	
GAMMA-BHC (LINDANE)	18	U		4.1	U		2.1	U		8.4	U	
GAMMA-CHLORDANE	1.6	J	P	0.83	J	P	0.92	J	P	1.6	J	P
HEPTACHLOR	18	U		4.1	U		2.1	U		8.4	U	
HEPTACHLOR EPOXIDE	18	U		4.1	U		0.15	J	P	8.4	U	
METHOXYCHLOR	180	U		41	U		21	U		84	U	
TOXAPHENE	730	U		160	U		82	U		330	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD2801			NTC17PCSD2901			NTC17PCSD2902			NTC17PCSD3001		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250270013			C1I250270011			C1I250270012			C1I250270010		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	81.0 %			83.0 %			75.0 %			73.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	24			31			20			20		
4,4'-DDE	20			26			22			20		
4,4'-DDT	20			26			36			28		
ALDRIN	2.1	U		8.2	U		9.0	U		2.3	U	
ALPHA-BHC	2.1	U		8.2	U		9.0	U		2.3	U	
ALPHA-CHLORDANE	2.2			2.4	J	P	1.3	J	P	1.0	J	P
AROCLOR-1016	41	U		40	U		44	U		45	U	
AROCLOR-1221	41	U		40	U		44	U		45	U	
AROCLOR-1232	41	U		40	U		44	U		45	U	
AROCLOR-1242	41	U		40	U		44	U		45	U	
AROCLOR-1248	41	U		40	U		44	U		45	U	
AROCLOR-1254	110			140			44	U		45	U	
AROCLOR-1260	41	U		40	U		44	U		45	U	
BETA-BHC	2.1	U		8.2	U		9.0	U		2.3	U	
DELTA-BHC	2.1	U		8.2	U		9.0	U		2.3	U	
DIELDRIN	2.9			2.2	J	P	0.87	J	P	0.66	J	P
ENDOSULFAN I	2.1	U		8.2	U		9.0	U		2.3	U	
ENDOSULFAN II	1.3	J	P	8.2	U		0.92	J	P	0.75	J	P
ENDOSULFAN SULFATE	2.1	U		8.2	U		9.0	U		2.3	U	
ENDRIN	1.3	J	P	8.2	U		9.0	U		0.57	J	P
ENDRIN ALDEHYDE	2.1	U		8.2	U		9.0	U		2.3	U	
ENDRIN KETONE	2.1	U		8.2	U		9.0	U		2.3	U	
GAMMA-BHC (LINDANE)	2.1	U		8.2	U		9.0	U		2.3	U	
GAMMA-CHLORDANE	1.3	J	P	1.3	J	P	1.1	J	P	1.1	J	P
HEPTACHLOR	2.1	U		8.2	U		9.0	U		2.3	U	
HEPTACHLOR EPOXIDE	0.46	J	P	8.2	U		9.0	U		0.15	J	P
METHOXYCHLOR	21	U		82	U		90	U		23	U	
TOXAPHENE	83	U		320	U		360	U		91	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD3101			NTC17PCSD3201			NTC17PCSD3202			NTC17PCSD3301		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250270009			C1I250270007			C1I250270008			C1I250270006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	85.0 %			83.0 %			85.0 %			72.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	20			11			15			17		
4,4'-DDE	12	J	P	10			14			18		
4,4'-DDT	290			8.5			9.0			17		
ALDRIN	20	U		2.0	U		2.0	U		2.4	U	
ALPHA-BHC	20	U		2.0	U		2.0	U		2.4	U	
ALPHA-CHLORDANE	20	U		0.43	J	P	1.0	J	P	0.92	J	P
AROCLOR-1016	39	U		40	U		39	U		46	U	
AROCLOR-1221	39	U		40	U		39	U		46	U	
AROCLOR-1232	39	U		40	U		39	U		46	U	
AROCLOR-1242	39	U		40	U		39	U		46	U	
AROCLOR-1248	50			40	U		39	U		46	U	
AROCLOR-1254	84			40	U		39	U		46	U	
AROCLOR-1260	39	U		40	U		39	U		55		
BETA-BHC	20	U		2.0	U		2.0	U		2.4	U	
DELTA-BHC	20	U		2.0	U		2.0	U		2.4	U	
DIELDRIN	20	U		0.16	J	P	0.49	J	P	0.68	J	P
ENDOSULFAN I	20	U		2.0	U		2.0	U		2.4	U	
ENDOSULFAN II	20	U		2.0	U		0.44	J	P	1.9	J	P
ENDOSULFAN SULFATE	20	U		2.0	U		2.0	U		2.4	U	
ENDRIN	20	U		2.0	U		0.46	J	P	1.0	J	P
ENDRIN ALDEHYDE	20	U		2.0	U		2.0	U		2.4	U	
ENDRIN KETONE	20	U		2.0	U		2.0	U		2.4	U	
GAMMA-BHC (LINDANE)	20	U		2.0	U		2.0	U		2.4	U	
GAMMA-CHLORDANE	20	U		2.0	U		0.76	J	P	0.99	J	P
HEPTACHLOR	20	U		2.0	U		2.0	U		2.4	U	
HEPTACHLOR EPOXIDE	20	U		2.0	U		2.0	U		0.16	J	P
METHOXYCHLOR	200	U		20	U		20	U		24	U	
TOXAPHENE	780	U		81	U		79	U		93	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD3701	NTC17PCSD3801	NTCFD09230101	NTCFD09240101
SAMPLE DATE:	09/24/01	09/24/01	09/23/01	09/24/01
LABORATORY ID:	C1I250270019	C1I250270018	C1I250270017	C1I250270020
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	79.0 %	76.0 %	84.0 %	76.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:			NTC17PCSD1401	NTC17PCSD3801

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	16			8.9			83			15		
4,4'-DDE	21			12			120			21		
4,4'-DDT	29			14			140			20		
ALDRIN	4.3	U		2.2	U		20	U		4.5	U	
ALPHA-BHC	4.3	U		2.2	U		20	U		4.5	U	
ALPHA-CHLORDANE	0.85	J	P	0.35	J	P	1.8	J	P	1.1	J	P
AROCLOR-1016	42	U		43	U		39	U		43	U	
AROCLOR-1221	42	U		43	U		39	U		43	U	
AROCLOR-1232	42	U		43	U		39	U		43	U	
AROCLOR-1242	42	U		43	U		39	U		43	U	
AROCLOR-1248	42	U		43	U		39	U		43	U	
AROCLOR-1254	42	U		43	U		140			43	U	
AROCLOR-1260	42	U		43	U		51			43	U	
BETA-BHC	4.3	U		2.2	U		20	U		4.5	U	
DELTA-BHC	4.3	U		2.2	U		20	U		4.5	U	
DIELDRIN	0.61	J	P	0.16	J	P	20	U		0.99	J	P
ENDOSULFAN I	4.3	U		2.2	U		20	U		4.5	U	
ENDOSULFAN II	4.3	U		2.2	U		20	U		4.5	U	
ENDOSULFAN SULFATE	4.3	U		2.2	U		20	U		4.5	U	
ENDRIN	4.3	U		2.2	U		20	U		4.5	U	
ENDRIN ALDEHYDE	4.3	U		2.2	U		20	U		4.5	U	
ENDRIN KETONE	4.3	U		2.2	U		20	U		4.5	U	
GAMMA-BHC (LINDANE)	4.3	U		2.2	U		20	U		4.5	U	
GAMMA-CHLORDANE	0.82	J	P	0.31	J	P	1.8	J	P	0.92	J	P
HEPTACHLOR	4.3	U		2.2	U		20	U		4.5	U	
HEPTACHLOR EPOXIDE	4.3	U		2.2	U		20	U		4.5	U	
METHOXYCHLOR	43	U		22	U		27	J	P	45	U	
TOXAPHENE	170	U		88	U		790	U		180	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD1101			NTC17PCSD1102			NTC17PCSD1201			NTC17PCSD1202		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250270004			C1I250270005			C1I250270002			C1I250270003		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			83.0 %			94.0 %			93.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	3700	U		790	U		710	U		250	U	
ACENAPHTHYLENE	3700	U		790	U		710	U		250	U	
ANTHRACENE	1100			310			120	J	P	67		
BENZO(A)ANTHRACENE	2900			950			340			230		
BENZO(A)PYRENE	2700			1200			300			230		
BENZO(B)FLUORANTHENE	2800			1000			300			270		
BENZO(G,H,I)PERYLENE	1500			1100			200			170		
BENZO(K)FLUORANTHENE	1600			560			150			130		
CHRYSENE	2900			950			360			240		
DIBENZO(A,H)ANTHRACENE	750	U		160	U		140	U		50	U	
FLUORANTHENE	8400			2700			1000			600		
FLUORENE	850			160			110	J	P	47	J	P
INDENO(1,2,3-CD)PYRENE	1500			590			170			170		
NAPHTHALENE	3700	U		790	U		710	U		250	U	
PHENANTHRENE	6400			1800			820			360		
PYRENE	6600			2100			850			480		

SAMPLE NUMBER:	NTC17PCSD1301			NTC17PCSD2501			NTC17PCSD2601			NTC17PCSD2701		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250270001			C1I250270016			C1I250270015			C1I250270014		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	92.0 %			82.0 %			82.0 %			81.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	1400	U		400	U		200	U		4100	U	
ACENAPHTHYLENE	1400	U		400	U		200	U		4100	U	
ANTHRACENE	600			86			43			1100		
BENZO(A)ANTHRACENE	2000			260			150			2800		
BENZO(A)PYRENE	1900			300			150			2100	J	U
BENZO(B)FLUORANTHENE	1900			240			150			2200		
BENZO(G,H,I)PERYLENE	1300			110			81			990	J	U
BENZO(K)FLUORANTHENE	1100			130			76			1300		
CHRYSENE	1900			270			150			2900		
DIBENZO(A,H)ANTHRACENE	290	U		81	U		41	U		830	U	
FLUORANTHENE	5200			690			340			9000		
FLUORENE	280	J	P	35	J	P	26	J	P	410	J	U
INDENO(1,2,3-CD)PYRENE	920			140			91			880	J	U
NAPHTHALENE	1400	U		400	U		200	U		4100	U	
PHENANTHRENE	3100			440			180			6300		
PYRENE	4200			540			290			6400		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD2801	NTC17PCSD2901	NTC17PCSD2902	NTC17PCSD3001
SAMPLE DATE:	09/23/01	09/23/01	09/23/01	09/23/01
LABORATORY ID:	C1I250270013	C1I250270011	C1I250270012	C1I250270010
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	81.0 %	83.0 %	75.0 %	73.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	160	U		120	U		440	U		450	U	
ACENAPHTHYLENE	160	U		120	U		440	U		450	U	
ANTHRACENE	34			33			93			220		
BENZO(A)ANTHRACENE	130			140			310			500		
BENZO(A)PYRENE	160			170			340			530		
BENZO(B)FLUORANTHENE	150			150			310			480		
BENZO(G,H,I)PERYLENE	93			100			190			290		
BENZO(K)FLUORANTHENE	75			84			170			260		
CHRYSENE	140			140			290			460		
DIBENZO(A,H)ANTHRACENE	33	U		24	U		89	U		91	U	
FLUORANTHENE	330			290			700			1300		
FLUORENE	21	J	P	25			49	J	P	110		
INDENO(1,2,3-CD)PYRENE	95			90			180			240		
NAPHTHALENE	160	U		120	U		440	U		450	U	
PHENANTHRENE	160			150			360			840		
PYRENE	260			250			570			1000		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD3101			NTC17PCSD3201			NTC17PCSD3202			NTC17PCSD3301		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250270009			C1I250270007			C1I250270008			C1I250270006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	85.0 %			83.0 %			85.0 %			72.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	190	U		79	U		78	U		230	U	
ACENAPHTHYLENE	190	U		79	U		78	U		230	U	
ANTHRACENE	51			19			20			44	J	P
BENZO(A)ANTHRACENE	220			75			110			200		
BENZO(A)PYRENE	240			69			120			250		
BENZO(B)FLUORANTHENE	230			68			120			240		
BENZO(G,H,I)PERYLENE	140			35			98			160		
BENZO(K)FLUORANTHENE	130			35			62			130		
CHRYSENE	230			73			110			210		
DIBENZO(A,H)ANTHRACENE	39	U		16	U		16	U		46	U	
FLUORANTHENE	590			190			240			510		
FLUORENE	24	J	P	13	J	P	17			22	J	P
INDENO(1,2,3-CD)PYRENE	130			37			66			150		
NAPHTHALENE	190	U		79	U		78	U		230	U	
PHENANTHRENE	270			85			110			230		
PYRENE	470			150			200			400		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL008

SAMPLE NUMBER:	NTC17PCSD3701			NTC17PCSD3801			NTCFD09230101			NTCFD09240101		
SAMPLE DATE:	09/24/01			09/24/01			09/23/01			09/24/01		
LABORATORY ID:	C1I250270019			C1I250270018			C1I250270017			C1I250270020		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	79.0 %			76.0 %			84.0 %			76.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:							NTC17PCSD1401			NTC17PCSD3801		
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	210	U		220	U		3900	U		130	U	
ACENAPHTHYLENE	210	U		220	U		3900	U		130	U	
ANTHRACENE	64			29	J	P	800			48		
BENZO(A)ANTHRACENE	140			130			2100			180		
BENZO(A)PYRENE	140			140			2000			200		
BENZO(B)FLUORANTHENE	150			140			2100			190		
BENZO(G,H,I)PERYLENE	100			100			1300			140		
BENZO(K)FLUORANTHENE	84			71			1200			100		
CHRYSENE	160			140			2100			190		
DIBENZO(A,H)ANTHRACENE	42	U		44	U		790	U		26	U	
FLUORANTHENE	460			360			6100			480		
FLUORENE	36	J	P	17	J	P	380	J	P	23	J	P
INDENO(1,2,3-CD)PYRENE	81			89			1200			120		
NAPHTHALENE	210	U		220	U		3900	U		130	U	
PHENANTHRENE	260			160			4100			210		
PYRENE	330			280			4700			380		

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **MR. B. DAVIS** **DATE:** **DECEMBER 7, 2001**

FROM: **ANGELA SCHEETZ** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- PEST/PCB/PAH**
CTO 154, NTC GREAT LAKES
SDG GL009

SAMPLES: 3/Sediment

NTC17PCSD0101 NTC17PCSD1001 NTC17SD1002

OVERVIEW

The sample set for CTO 154 NTC Great Lakes, SDG GL009 consists of three (3) sediment environmental samples. The samples were analyzed for target compound list (TCL) organochlorine pesticides, polychlorinated biphenyls (PCBs), and polynuclear aromatic hydrocarbons.

The samples were collected by TetraTech NUS on September 24, 2001 and analyzed by Severn Trent Laboratory-Pittsburgh. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Methods 8310, 8081A, and 8082 analysis and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
* • Holding times
* • GC/MS Tuning and System Performance
* • Initial/continuing calibrations
* • Laboratory method blank results
  • Surrogate Recoveries
* • Blank Spike/Blank Spike Duplicate Results
* • Matrix Spike/Matrix Spike Duplicate Results
* • Compound Quantitation
* • Compound Identification
* • Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A.

PAHs

The percent difference between columns exceeded 25% for the following compounds. The positive results were reported as estimated, J for these compounds.

Sample	Compound	%D
NTC17PCSD0101	Fluorene	38.0%
	Benzo(g,h,I)perylene	56.8%
	Indeno(1,2,3-cd)pyrene	32.5%
NTC17PCSD1001	Anthracene	31.9%
	Benzo(a)pyrene	34.1%

	Benzo(g,h,I)perylene	43.0%
	Indeno(1,2,3-cd)pyrene	48.2%
NTC17PCSD1002	Anthracene	36.1%
	Benzo(a)pyrene	54.4%
	Benzo(g,h,I)perylene	63.4%

The surrogate percent recoveries in samples NTC17PCSD0101, NTC17PCSD1001, NTC17SD1002 were diluted out due to dilution factors of 400X, 50X, and 20X. No qualifications were made on this basis.

Pesticides / PCBs

The percent difference between columns exceeded 100% for the following compounds. The positive results were rejected, R.

Sample	Compound	%D
NTC17PCSD0101	dieldrin	142.1%
	Alpha-chlordane	451.7%
NTC17PCSD1001	dieldrin	668.8%
	Alpha-chlordane	200.1%
NTC17PCSD1002	aldrin	217.0%
	Dieldrin	285.2%
	Endrin aldehyde	129.9%
	Alpha-chlordane	208.6%

The percent difference between columns exceeded 25% for the following compounds. The positive results were reported as estimated, J for these compounds.

Sample	Compound	%D
NTC17PCSD0101	aldrin	48.3%
	4,4'-DDE	27.9%
	Endosulfan II	29.4%
	4,4'-DDD	30.8%
	4,4'-DDT	38.2%
NTC17PCSD1001	heptachlor epoxide	55.2%
	Endosulfan II	48.9%
NTC17PCSD1002	heptachlor epoxide	52.3%
	Endosulfan II	47.0%
	4,4'-DDT	32.1%

A continuing calibration %D exceeded the 15% quality control limit on 10/16/01 at 6:33 on column RTX-50 for heptachlor. No qualifications were made on this basis since the exceedance was only on one column.

Continuing calibration %Ds exceeded the 15% quality control limits on 10/17/01 at 15:17 on column RTX-1701 for alpha-BHC and gamma-BHC. No qualifications were made on this basis since the exceedances were only on one column.

Continuing calibration %Ds exceeded the 15% quality control limits on 10/18/01 at 01:50 on column RTX-1701 for alpha-BHC and gamma-BHC. No qualifications were made on this basis since the exceedances were only on one column.

The surrogate recovery of tetrachloro-m-xylene fell below the 10% quality control limit in sample NTC17PCSD0101. The positive result was qualified as estimated, J and the nondetected results were qualified as rejected, UR.

Additional Comments:

Positive results below the reporting limit (RL) were qualified as estimated, J, due to uncertainty near the detection limit.

It should be noted that the laboratory reported the lower concentration of the two columns.

As per project directive, only 10% of the analytical results were validated.

EXECUTIVE SUMMARY

Laboratory Performance Issues: Several %Ds exceeded the quality control limit between columns for positive results. The PCB surrogate recovery of tetrachloro-m-xylene fell below 10%.

Other factors affecting data quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99), EPA Region V (08/93), and the NFESC guidelines IRCDQM (Sept., 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS

Angela Scheetz
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTCTB09240101		
SAMPLE DATE:	09/24/01	/ /	/ /	/ /
LABORATORY ID:	C1I250290021		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U										
1,1,2,2-TETRACHLOROETHANE	1	U										
1,1,2-TRICHLOROETHANE	1	U										
1,1,2-TRICHLOROTRIFLUOROETHANE	10	U										
1,1-DICHLOROETHANE	1	U										
1,1-DICHLOROETHENE	1	U										
1,2,4-TRICHLOROBENZENE	1	U										
1,2-DIBROMO-3-CHLOROPROPANE	1	U										
1,2-DIBROMOETHANE	1	U										
1,2-DICHLOROBENZENE	1	U										
1,2-DICHLOROETHANE	1	U										
1,2-DICHLOROPROPANE	1	U										
1,3-DICHLOROBENZENE	1	U										
1,4-DICHLOROBENZENE	1	U										
2-BUTANONE	5	U										
2-HEXANONE	5	U										
4-METHYL-2-PENTANONE	5	U										
ACETONE	3.4	J	P									
BENZENE	1	U										
BROMODICHLOROMETHANE	1	U										
BROMOFORM	1	U										
BROMOMETHANE	1	U										
CARBON DISULFIDE	1	U										
CARBON TETRACHLORIDE	1	U										
CHLOROBENZENE	1	U										
CHLORODIBROMOMETHANE	1	U										
CHLOROETHANE	2	U										
CHLOROFORM	1	U										
CHLOROMETHANE	2	U										
CIS-1,2-DICHLOROETHENE	1	U										
CIS-1,3-DICHLOROPROPENE	1	U										

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTCTB09240101			
SAMPLE DATE:	09/24/01	/ /	/ /	/ /
LABORATORY ID:	C1I250290021			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
CYCLOHEXANE	10	U										
DICHLORODIFLUOROMETHANE	2	U										
ETHYLBENZENE	1	U										
ISOPROPYLBENZENE	1	U										
METHYL ACETATE	10	U										
METHYL CYCLOHEXANE	10	U										
METHYL TERT-BUTYL ETHER	1	U										
METHYLENE CHLORIDE	2	U										
STYRENE	1	U										
TETRACHLOROETHENE	1	U										
TOLUENE	1	U										
TOTAL XYLENES	3	U										
TRANS-1,2-DICHLOROETHENE	1	U										
TRANS-1,3-DICHLOROPROPENE	1	U										
TRICHLOROETHENE	1	U										
TRICHLOROFLUOROMETHANE	2	U										
VINYL CHLORIDE	2	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0401	NTC17PCSD3601		
SAMPLE DATE:	09/24/01	09/24/01	/ /	/ /
LABORATORY ID:	C1I250290006	C1I250290001		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	89.0 %	79.0 %	100.0 %	100.0 %
UNITS:	UG/KG	UG/KG		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	5.6	U		6.3	U							
1,1,2,2-TETRACHLOROETHANE	5.6	U		6.3	U							
1,1,2-TRICHLOROETHANE	5.6	U		6.3	U							
1,1,2-TRICHLOROTRIFLUOROETHANE	5.6	U		6.3	U							
1,1-DICHLOROETHANE	5.6	U		6.3	U							
1,1-DICHLOROETHENE	5.6	U		6.3	U							
1,2,4-TRICHLOROBENZENE	5.6	U		6.3	U							
1,2-DIBROMO-3-CHLOROPROPANE	11	U		13	U							
1,2-DIBROMOETHANE	5.6	U		6.3	U							
1,2-DICHLOROBENZENE	5.6	U		6.3	U							
1,2-DICHLOROETHANE	5.6	U		6.3	U							
1,2-DICHLOROPROPANE	5.6	U		6.3	U							
1,3-DICHLOROBENZENE	5.6	U		6.3	U							
1,4-DICHLOROBENZENE	5.6	U		6.3	U							
2-BUTANONE	23	U		25	U							
2-HEXANONE	23	U		25	U							
4-METHYL-2-PENTANONE	23	U		25	U							
ACETONE	23	U		25	U							
BENZENE	5.6	U		6.3	U							
BROMODICHLOROMETHANE	5.6	U		6.3	U							
BROMOFORM	5.6	U		6.3	U							
BROMOMETHANE	11	U		13	U							
CARBON DISULFIDE	5.6	U		6.3	U							
CARBON TETRACHLORIDE	5.6	U		6.3	U							
CHLOROBENZENE	5.6	U		6.3	U							
CHLORODIBROMOMETHANE	5.6	U		6.3	U							
CHLOROETHANE	11	U		13	U							
CHLOROFORM	5.6	U		6.3	U							
CHLOROMETHANE	11	U		13	U							
CIS-1,2-DICHLOROETHENE	5.6	U		6.3	U							
CIS-1,3-DICHLOROPROPENE	5.6	U		6.3	U							

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0401	NTC17PCSD3601		
SAMPLE DATE:	09/24/01	09/24/01	/ /	/ /
LABORATORY ID:	C1I250290006	C1I250290001		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	89.0 %	79.0 %	100.0 %	100.0 %
UNITS:	UG/KG	UG/KG		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
CYCLOHEXANE	5.6	U		6.3	U							
DICHLORODIFLUOROMETHANE	11	U		13	U							
ETHYLBENZENE	5.6	U		6.3	U							
ISOPROPYLBENZENE	5.6	U		6.3	U							
METHYL ACETATE	5.6	U		6.3	U							
METHYL CYCLOHEXANE	5.6	U		6.3	U							
METHYL TERT-BUTYL ETHER	5.6	U		6.3	U							
METHYLENE CHLORIDE	11			6.3	U							
STYRENE	5.6	U		6.3	U							
TETRACHLOROETHENE	5.6	U		6.3	U							
TOLUENE	5.6	U		6.3	U							
TOTAL XYLENES	17	U		19	U							
TRANS-1,2-DICHLOROETHENE	5.6	U		6.3	U							
TRANS-1,3-DICHLOROPROPENE	5.6	U		6.3	U							
TRICHLOROETHENE	5.6	U		6.3	U							
TRICHLOROFLUOROMETHANE	11	U		13	U							
VINYL CHLORIDE	11	U		13	U							

CTO154-NTC GREAT LAKES
SOIL DATA
ALSI
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0401			NTC17PCSD3601			/ /			/ /		
SAMPLE DATE:	09/24/01			09/24/01								
LABORATORY ID:	191178- 2			191178- 1								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	100.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	MG/KG			MG/KG								
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
DISSOLVED GASES												
ETHANOL	1.1	U		1.1	U							
ETHYL ACETATE	1.1	U		1.1	U							

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0401	NTC17PCSD3601		
SAMPLE DATE:	09/24/01	09/24/01	/ /	/ /
LABORATORY ID:	C1I250290006	C1I250290001		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	89.0 %	79.0 %	100.0 %	100.0 %
UNITS:	UG/KG	UG/KG		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,1-BIPHENYL	370	U		420	U							
2,2'-OXYBIS(1-CHLOROPROPANE)	370	U		420	U							
2,4,5-TRICHLOROPHENOL	370	U		420	U							
2,4,6-TRICHLOROPHENOL	370	U		420	U							
2,4-DICHLOROPHENOL	370	U		420	U							
2,4-DIMETHYLPHENOL	370	U		420	U							
2,4-DINITROPHENOL	1800	U		2000	U							
2,4-DINITROTOLUENE	370	U		420	U							
2,6-DINITROTOLUENE	370	U		420	U							
2-CHLORONAPHTHALENE	370	U		420	U							
2-CHLOROPHENOL	370	U		420	U							
2-METHYLNAPHTHALENE	370	U		420	U							
2-METHYLPHENOL	370	U		420	U							
2-NITROANILINE	1800	U		2000	U							
2-NITROPHENOL	370	U		420	U							
3,3'-DICHLOROBENZIDINE	1800	U		2000	U							
3-NITROANILINE	1800	U		2000	U							
4,6-DINITRO-2-METHYLPHENOL	1800	U		2000	U							
4-BROMOPHENYL PHENYL ETHER	370	U		420	U							
4-CHLORO-3-METHYLPHENOL	370	U		420	U							
4-CHLOROANILINE	370	U		420	U							
4-CHLOROPHENYL PHENYL ETHER	370	U		420	U							
4-METHYLPHENOL	370	U		420	U							
4-NITROANILINE	1800	U		2000	U							
4-NITROPHENOL	1800	U		2000	U							
ACENAPHTHENE	64	J	P	420	U							
ACENAPHTHYLENE	370	U		420	U							
ACETOPHENONE	370	U		420	U							
ANTHRACENE	250	J	P	420	U							
ATRAZINE	370	U		420	U							
BENZALDEHYDE	1500			420	U							

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0401	NTC17PCSD3601		
SAMPLE DATE:	09/24/01	09/24/01	/ /	/ /
LABORATORY ID:	C1I250290006	C1I250290001		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	89.0 %	79.0 %	100.0 %	100.0 %
UNITS:	UG/KG	UG/KG		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
BENZO(A)ANTHRACENE	890			63	J	P						
BENZO(A)PYRENE	930			55	J	P						
BENZO(B)FLUORANTHENE	1200			56	J	P						
BENZO(G,H,I)PERYLENE	320	J	P	420	U							
BENZO(K)FLUORANTHENE	740			68	J	P						
BIS(2-CHLOROETHOXY)METHANE	370	U		420	U							
BIS(2-CHLOROETHYL)ETHER	370	U		420	U							
BIS(2-ETHYLHEXYL)PHTHALATE	670			80	J	P						
BUTYL BENZYL PHTHALATE	370	U		420	U							
CAPROLACTAM	370	U		420	U							
CARBAZOLE	150	J	P	420	U							
CHRYSENE	990			83	J	P						
DI-N-BUTYL PHTHALATE	370	U		420	U							
DI-N-OCTYL PHTHALATE	370	U		420	U							
DIBENZO(A,H)ANTHRACENE	130	J	P	420	U							
DIBENZOFURAN	37	J	P	420	U							
DIETHYL PHTHALATE	370	U		420	U							
DIMETHYL PHTHALATE	370	U		420	U							
FLUORANTHENE	2500			190	J	P						
FLUORENE	79	J	P	420	U							
HEXACHLOROBENZENE	370	U		420	U							
HEXACHLOROBUTADIENE	370	U		420	U							
HEXACHLOROCYCLOPENTADIENE	1800	U		2000	U							
HEXACHLOROETHANE	370	U		420	U							
INDENO(1,2,3-CD)PYRENE	340	J	P	420	U							
ISOPHORONE	370	U		420	U							
N-NITROSO-DI-N-PROPYLAMINE	370	U		420	U							
N-NITROSODIPHENYLAMINE	370	U		420	U							
NAPHTHALENE	370	U		420	U							
NITROBENZENE	370	U		420	U							
PENTACHLOROPHENOL	1800	U		2000	U							

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0401			NTC17PCSD3601								
SAMPLE DATE:	09/24/01			09/24/01			/ /			/ /		
LABORATORY ID:	C1I250290006			C1I250290001								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	89.0 %			79.0 %			100.0 %			100.0 %		
UNITS:	UG/KG			UG/KG								
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
PHENANTHRENE	1100			110	J	P						
PHENOL	94	J	P	420	U							
PYRENE	1200			110	J	P						

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0101			NTC17PCSD0102			NTC17PCSD0201			NTC17PCSD0301		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290012			C1I250290013			C1I250290010			C1I250290008		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	85.0 %			92.0 %			94.0 %			82.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	25	J	U	3.8			7.2	J	P	63		
4,4'-DDE	36	J	U	8.5			66			110		
4,4'-DDT	32	J	U	9.5			51			190		
ALDRIN	6.4	J	U	0.97	J	P	18	U		21	U	
ALPHA-BHC	2.0	U		1.8	U		18	U		21	U	
ALPHA-CHLORDANE	8.4	R	U	2.4			2.5	J	P	3.7	J	P
AROCLOR-1016	39	UR	R	36	U		35	U		40	U	
AROCLOR-1221	39	UR	R	36	U		35	U		40	U	
AROCLOR-1232	39	UR	R	36	U		35	U		40	U	
AROCLOR-1242	39	UR	R	36	U		35	U		40	U	
AROCLOR-1248	39	UR	R	36	U		35	U		40	U	
AROCLOR-1254	300	J	R	92			110			200		
AROCLOR-1260	39	UR	R	36	U		49			150		
BETA-BHC	2.0	U		1.8	U		18	U		21	U	
DELTA-BHC	2.0	U		1.8	U		18	U		21	U	
DIELDRIN	12	R	U	1.8	U		18	U		21	U	
ENDOSULFAN I	2.0	U		1.8	U		18	U		21	U	
ENDOSULFAN II	12	J	U	2.8			18	U		4.1	J	P
ENDOSULFAN SULFATE	2.0	U		1.8	U		18	U		21	U	
ENDRIN	2.0	U		1.8	U		18	U		21	U	
ENDRIN ALDEHYDE	2.0	U		1.8	U		18	U		21	U	
ENDRIN KETONE	2.0	U		1.8	U		18	U		21	U	
GAMMA-BHC (LINDANE)	2.0	U		1.8	U		18	U		21	U	
GAMMA-CHLORDANE	2.0	U		1.8	U		18	U		2.1	J	P
HEPTACHLOR	2.0	U		1.8	U		18	U		21	U	
HEPTACHLOR EPOXIDE	2.0	U		1.8	U		18	U		21	U	
METHOXYCHLOR	20	U		18	U		180	U		210	U	
TOXAPHENE	79	U		73	U		710	U		820	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0401			NTC17PCSD0402			NTC17PCSD0501			NTC17PCSD0601		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290006			C1I250290007			C1I250290005			C1I250290020		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			78.0 %			82.0 %			88.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	120			180			150	J	P	3.7		
4,4'-DDE	130			240			200	J	P	5.1		
4,4'-DDT	240			580			1800			4.9		
ALDRIN	19	U		87	U		210	U		1.9	U	
ALPHA-BHC	19	U		87	U		210	U		1.9	U	
ALPHA-CHLORDANE	4.3	J	P	13	J	P	210	U		0.16	J	P
AROCLOR-1016	37	U		42	U		40	U		37	U	
AROCLOR-1221	37	U		42	U		40	U		37	U	
AROCLOR-1232	37	U		42	U		40	U		37	U	
AROCLOR-1242	37	U		42	U		40	U		37	U	
AROCLOR-1248	37	U		42	U		40	U		37	U	
AROCLOR-1254	290			380			160			37	U	
AROCLOR-1260	140			320			110			37	U	
BETA-BHC	19	U		87	U		210	U		1.9	U	
DELTA-BHC	19	U		87	U		210	U		1.9	U	
DIELDRIN	19	U		87	U		210	U		0.25	J	P
ENDOSULFAN I	19	U		87	U		210	U		1.9	U	
ENDOSULFAN II	7.4	J	P	87	U		210	U		0.52	J	P
ENDOSULFAN SULFATE	19	U		87	U		210	U		1.9	U	
ENDRIN	2.6	J	P	87	U		210	U		1.9	U	
ENDRIN ALDEHYDE	19	U		87	U		210	U		1.9	U	
ENDRIN KETONE	19	U		87	U		210	U		1.9	U	
GAMMA-BHC (LINDANE)	19	U		87	U		210	U		1.9	U	
GAMMA-CHLORDANE	2.9	J	P	87	U		210	U		1.9	U	
HEPTACHLOR	19	U		87	U		210	U		1.9	U	
HEPTACHLOR EPOXIDE	19	U		87	U		210	U		1.9	U	
METHOXYCHLOR	190	U		870	U		2100	U		19	U	
TOXAPHENE	750	U		3400	U		8200	U		76	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0701			NTC17PCSD0801			NTC17PCSD0802			NTC17PCSD0901		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290019			C1I250290017			C1I250290018			C1I250290016		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	88.0 %			83.0 %			74.0 %			82.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	2.3			4.7			14			4.4		
4,4'-DDE	4.3			11			22			20		
4,4'-DDT	5.6			7.5			15			17		
ALDRIN	1.9	U		2.0	U		1.1	J	P	4.1	U	
ALPHA-BHC	1.9	U		2.0	U		2.3	U		4.1	U	
ALPHA-CHLORDANE	1.9	U		0.81	J	P	1.2	J	P	0.44	J	P
AROCLOR-1016	37	U		40	U		45	U		40	U	
AROCLOR-1221	37	U		40	U		45	U		40	U	
AROCLOR-1232	37	U		40	U		45	U		40	U	
AROCLOR-1242	37	U		40	U		45	U		40	U	
AROCLOR-1248	37	U		40	U		45	U		40	U	
AROCLOR-1254	37	U		40	U		45	U		40	U	
AROCLOR-1260	37	U		40	U		45	U		40	U	
BETA-BHC	1.9	U		2.0	U		2.3	U		4.1	U	
DELTA-BHC	1.9	U		2.0	U		0.11	J	P	4.1	U	
DIELDRIN	0.46	J	P	0.55	J	P	0.57	J	P	0.23	J	P
ENDOSULFAN I	1.9	U		2.0	U		2.3	U		4.1	U	
ENDOSULFAN II	0.58	J	P	0.55	J	P	0.90	J	P	4.1	U	
ENDOSULFAN SULFATE	1.9	U		2.0	U		2.3	U		4.1	U	
ENDRIN	1.9	U		2.0	U		2.3	U		4.1	U	
ENDRIN ALDEHYDE	1.9	U		2.0	U		2.7			4.1	U	
ENDRIN KETONE	1.9	U		2.0	U		2.3	U		4.1	U	
GAMMA-BHC (LINDANE)	1.9	U		2.0	U		2.3	U		4.1	U	
GAMMA-CHLORDANE	1.9	U		2.0	U		0.63	J	P	4.1	U	
HEPTACHLOR	1.9	U		2.0	U		2.3	U		4.1	U	
HEPTACHLOR EPOXIDE	0.13	J	P	0.17	J	P	0.29	J	P	4.1	U	
METHOXYCHLOR	19	U		20	U		23	U		41	U	
TOXAPHENE	76	U		81	U		91	U		160	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD1001	NTC17PCSD1002	NTC17PCSD3401	NTC17PCSD3501
SAMPLE DATE:	09/24/01	09/24/01	09/24/01	09/24/01
LABORATORY ID:	C1I250290014	C1I250290015	C1I250290004	C1I250290003
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	76.0 %	77.0 %	73.0 %	76.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	7.5			15			17			32		
4,4'-DDE	20			15			23			17		
4,4'-DDT	18			11	J	U	29			12		
ALDRIN	2.2	U		0.34	R	U	2.3	U		8.9	U	
ALPHA-BHC	2.2	U		2.2	U		2.3	U		8.9	U	
ALPHA-CHLORDANE	0.48	R	U	0.85	R	U	0.79	J	P	1.8	J	P
AROCLOR-1016	43	U		43	U		45	U		43	U	
AROCLOR-1221	43	U		43	U		45	U		43	U	
AROCLOR-1232	43	U		43	U		45	U		43	U	
AROCLOR-1242	43	U		43	U		45	U		43	U	
AROCLOR-1248	43	U		43	U		45	U		43	U	
AROCLOR-1254	43	U		43	U		45	U		43	U	
AROCLOR-1260	43	U		70			45	U		43	U	
BETA-BHC	2.2	U		2.2	U		2.3	U		8.9	U	
DELTA-BHC	2.2	U		0.90	U		2.3	U		8.9	U	
DIELDRIN	0.49	R	U	0.88	R	U	0.95	J	P	1.4	J	P
ENDOSULFAN I	2.2	U		2.2	U		2.3	U		8.9	U	
ENDOSULFAN II	0.82	J	PU	2.6	J	U	1.1	J	P	8.9	U	
ENDOSULFAN SULFATE	2.2	U		2.2	U		2.3	U		8.9	U	
ENDRIN	2.2	U		1.3	J	P	0.42	J	P	8.9	U	
ENDRIN ALDEHYDE	3.3			3.9	R	U	4.0			8.9	U	
ENDRIN KETONE	2.2	U		2.2	U		2.3	U		8.9	U	
GAMMA-BHC (LINDANE)	2.2	U		2.2	U		2.3	U		8.9	U	
GAMMA-CHLORDANE	1.0	J	U	1.9	J	P	1.1	J	P	1.4	J	P
HEPTACHLOR	2.2	U		2.2	U		2.3	U		8.9	U	
HEPTACHLOR EPOXIDE	0.20	J	PU	0.41	J	U	2.3	U		8.9	U	
METHOXYCHLOR	22	U		22	U		23	U		89	U	
TOXAPHENE	88	U		87	U		91	U		350	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD3601			NTC17PCSD3602			NTCFD09240103			NTCFD09240104		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290001			C1I250290002			C1I250290009			C1I250290011		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	79.0 %			78.0 %			81.0 %			94.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:							NTC17PCSD0301			NTC17PCSD0201		
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	16			21			82			5.0	J	P
4,4'-DDE	16			26			180			46		
4,4'-DDT	12			16			320			38		
ALDRIN	2.1	U		2.2	U		21	U		9.0	U	
ALPHA-BHC	2.1	U		2.2	U		21	U		9.0	U	
ALPHA-CHLORDANE	0.92	J	P	1.5	J	P	4.3	J	P	1.9	J	P
AROCLOR-1016	42	U		42	U		41	U		35	U	
AROCLOR-1221	42	U		42	U		41	U		35	U	
AROCLOR-1232	42	U		42	U		41	U		35	U	
AROCLOR-1242	42	U		42	U		41	U		35	U	
AROCLOR-1248	42	U		42	U		41	U		35	U	
AROCLOR-1254	42	U		42	U		200			120		
AROCLOR-1260	42	U		42	U		110			61		
BETA-BHC	2.1	U		2.2	U		21	U		9.0	U	
DELTA-BHC	2.1	U		0.095	J	P	21	U		9.0	U	
DIELDRIN	0.73	J	P	1.2	J	P	3.8	J	P	9.0	U	
ENDOSULFAN I	2.1	U		2.2	U		21	U		9.0	U	
ENDOSULFAN II	0.61	J	P	0.88	J	P	6.0	J	P	1.9	J	P
ENDOSULFAN SULFATE	2.1	U		2.2	U		21	U		9.0	U	
ENDRIN	2.1	U		2.2	U		21	U		9.0	U	
ENDRIN ALDEHYDE	2.1	U		0.67	J	P	21	U		9.0	U	
ENDRIN KETONE	2.1	U		2.2	U		21	U		9.0	U	
GAMMA-BHC (LINDANE)	2.1	U		2.2	U		21	U		9.0	U	
GAMMA-CHLORDANE	0.86	J	P	1.2	J	P	21	U		9.0	U	
HEPTACHLOR	2.1	U		2.2	U		21	U		9.0	U	
HEPTACHLOR EPOXIDE	2.1	U		2.2	U		21	U		9.0	U	
METHOXYCHLOR	21	U		22	U		210	U		90	U	
TOXAPHENE	84	U		86	U		830	U		360	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0101			NTC17PCSD0102			NTC17PCSD0201			NTC17PCSD0301		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290012			C1I250290013			C1I250290010			C1I250290008		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	85.0 %			92.1 %			94.4 %			82.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	16000	U		3600	U		3500	U		2000	U	
ACENAPHTHYLENE	16000	U		130	J	P	3500	U		79	J	P
ANTHRACENE	4000			1600			930			410		
BENZO(A)ANTHRACENE	11000			4100			2400			1400		
BENZO(A)PYRENE	11000			4000			2300			1500		
BENZO(B)FLUORANTHENE	12000			4100			2400			1500		
BENZO(G,H,I)PERYLENE	7500	J	U	2600			1600			1200		
BENZO(K)FLUORANTHENE	6300			2300			1300			820		
CHRYSENE	12000			4200			2400			1500		
DIBENZO(A,H)ANTHRACENE	3200	U		730	U		710	U		410	U	
FLUORANTHENE	33000			13000			7400			4600		
FLUORENE	2400	J	U	840			570	J	P	320	J	P
INDENO(1,2,3-CD)PYRENE	5800	J	U	1600			940			680		
NAPHTHALENE	16000	U		3600	U		3500	U		2000	U	
PHENANTHRENE	24000			8500			4800			2600		
PYRENE	27000			9700			5500			3400		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0401			NTC17PCSD0402			NTC17PCSD0501			NTC17PCSD0601		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290006			C1I250290007			C1I250290005			C1I250290020		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			78.0 %			82.0 %			88.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	740	U		2100	U		2000	U		560	U	
ACENAPHTHYLENE	740	U		230	J	P	2000	U		560	U	
ANTHRACENE	120	J	P	910			320	J	P	58	J	P
BENZO(A)ANTHRACENE	560			2400			1000			440		
BENZO(A)PYRENE	570			2300			1100			460		
BENZO(B)FLUORANTHENE	650			2400			1200			490		
BENZO(G,H,I)PERYLENE	530			2100			930			230		
BENZO(K)FLUORANTHENE	350			1300			620			270		
CHRYSENE	600			2400			1000			480		
DIBENZO(A,H)ANTHRACENE	150	U		430	U		410	U		110	U	
FLUORANTHENE	1500			6700			3000			1000		
FLUORENE	62	J	P	340	J	P	190	J	P	40	J	P
INDENO(1,2,3-CD)PYRENE	430			1200			590			270		
NAPHTHALENE	740	U		2100	U		2000	U		560	U	
PHENANTHRENE	730			4300			1700			460		
PYRENE	1200			5100			2300			890		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0701			NTC17PCSD0801			NTC17PCSD0802			NTC17PCSD0901		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290019			C1I250290017			C1I250290018			C1I250290016		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	88.0 %			83.0 %			74.0 %			82.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	*560*	U		*600*	U		2200	U		400	U	
ACENAPHTHYLENE	560	U		600	U		220	J	P	400	U	
ANTHRACENE	75	J	P	73	J	P	800			61	J	P
BENZO(A)ANTHRACENE	470			430			2800			390		
BENZO(A)PYRENE	530			470			2900			470		
BENZO(B)FLUORANTHENE	580			510			3200			460		
BENZO(G,H,I)PERYLENE	430			420			2300			360		
BENZO(K)FLUORANTHENE	310			270			1800			260		
CHRYSENE	530			470			3000			410		
DIBENZO(A,H)ANTHRACENE	110	U		120	U		450	U		81	U	
FLUORANTHENE	1200			1100			8200			950		
FLUORENE	56	J	P	74	J	P	450			46	J	P
INDENO(1,2,3-CD)PYRENE	380			370			1600			270		
NAPHTHALENE	560	U		600	U		2200	U		400	U	
PHENANTHRENE	670			630			4600			490		
PYRENE	1000			940			6100			810		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD1001			NTC17PCSD1002			NTC17PCSD3401			NTC17PCSD3501		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290014			C1I250290015			C1I250290004			C1I250290003		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	76.0 %			77.0 %			73.0 %			76.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	2200	U		850	U		140	U		170	U	
ACENAPHTHYLENE	92	J	P	850	U		25	J	P	51	J	P
ANTHRACENE	820	J	U	160	J	U	24	J	P	28	J	P
BENZO(A)ANTHRACENE	2000			620			99			130		
BENZO(A)PYRENE	2100	J	U	630	J	U	110			150		
BENZO(B)FLUORANTHENE	2100			690			110			160		
BENZO(G,H,I)PERYLENE	1500	J	U	520	J	U	77			110		
BENZO(K)FLUORANTHENE	1200			350			60			82		
CHRYSENE	2100			670			110			140		
DIBENZO(A,H)ANTHRACENE	440	U		170	U		27	U		35	U	
FLUORANTHENE	5900			1700			280			350		
FLUORENE	440			120	J	P	14	J	P	17	J	P
INDENO(1,2,3-CD)PYRENE	990	J	U	430			69			110		
NAPHTHALENE	2200	U		850	U		140	U		170	U	
PHENANTHRENE	3900			1000			130			160		
PYRENE	4400			1400			210			260		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD3601			NTC17PCSD3602			NTCFD09240103			NTCFD09240104		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290001			C1I250290002			C1I250290009			C1I250290011		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	79.0 %			78.0 %			81.0 %			94.2 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:							NTC17PCSD0301			NTC17PCSD0201		
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	83	U		210	U		8200	U		1800	U	
ACENAPHTHYLENE	83	U		81	J	P	8200	U		65	J	P
ANTHRACENE	22			92			2300			810		
BENZO(A)ANTHRACENE	69			230			7200			2000		
BENZO(A)PYRENE	66			220			6900			1900		
BENZO(B)FLUORANTHENE	61			210			7200			2000		
BENZO(G,H,I)PERYLENE	34			110			4900			1300		
BENZO(K)FLUORANTHENE	34			110			4000			1100		
CHRYSENE	65			220			7400			2000		
DIBENZO(A,H)ANTHRACENE	17	U		43	U		1700	U		360	U	
FLUORANTHENE	160			580			22000			6300		
FLUORENE	17			59			1700			490		
INDENO(1,2,3-CD)PYRENE	40			130			4500			800		
NAPHTHALENE	83	U		210	U		8200	U		1800	U	
PHENANTHRENE	88			440			16000			4200		
PYRENE	130			440			17000			4700		

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**B. DAVIS**	**DATE:**	**DECEMBER 12, 2001**
FROM:	**ANGELA SCHEETZ**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS, pH, and TOC**
CTO-154 NTC GREAT LAKES
SAMPLE DELIVERY GROUP (SDG) – GL009

SAMPLES: 3/Sediment/

NTC17PCSD0101 NTC17PCSD1001
NTC17PCSD1002

Overview

The sample set for CTO 154, NTC Great Lakes, SDG GL009, consists of three (3) sediment environmental samples.

The samples were analyzed for target analyte list (TAL) metals, total organic carbon (TOC), and pH. The samples were collected by TetraTech NUS on September 24, 2001 and analyzed by Severn Trent Laboratory - Pittsburgh under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses, with the exception of mercury were conducted using SW 846 method 6010B. Mercury analyses were conducted using SW 846 methods 7471A. TOC analyses were conducted using Walkley Black. PH analysis was conducted using SW 846 method 9045C.

Metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
* • Laboratory Control Sample Results
• ICP Interference Check Sample Results
• Matrix Spike Recoveries
• ICP Serial Dilution Results
* • Laboratory Duplicate Results
* • Sample Quantitation
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses

The following contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Barium	0.7 µg /L	0.35 mg/kg
Beryllium	0.6 µg /L	0.3 mg/kg
Calcium[(1)]	26.7 mg/kg	133.5 mg/kg
Chromium	0.9 µg /L	0.45 mg/kg
Iron[(1)]	6.3 mg /kg	31.5 mg/kg
Silver	1.3 µg /L	0.65 mg/kg
Sodium[(1)]	2.5 mg /kg	12.5 mg/kg
Vanadium	2.7 µg /L	1.35 mg/kg
Zinc[(1)]	1.7 mg /kg	8.5 mg/kg

[(1)]Maximum contamination present in the sediment preparation blank.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot, percent solids, and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results below the action level were qualified as nondetected, "U". Positive results greater than the action level were reported for several of the above analytes and were qualified as estimated, "J", per regional guidance.

ICP Interference Check Sample Results

The interfering analytes calcium and iron were present in sample NTC17PCSD0101 at concentrations that were comparable to the levels of calcium and iron in the Interference Check Sample (ICS) solution. Several analytes, namely, barium, cadmium, chromium, cobalt, copper manganese, selenium, and thallium were present in the ICS solution at a concentration that exceeded the absolute value of the Instrument Detection Limit (IDL). Interference affects exist for selenium and thallium in the affected sample. The positive results reported for selenium and thallium were qualified as estimated, "J".

The interfering analytes calcium and iron were present in sample NTC17PCSD1001 at concentrations that were comparable to the levels of calcium and iron in the Interference Check Sample (ICS) solution. Several analytes, namely, barium, cadmium, chromium, cobalt, copper, manganese, selenium, and thallium were present in the ICS solution at a concentration that exceeded the absolute value of the Instrument Detection Limit (IDL). Interference affects exist for cadmium and thallium in the affected sample. The positive results reported for cadmium and thallium were qualified as estimated, "J".

The interfering analytes calcium and iron were present in sample NTC17PCSD1002 at concentrations that were comparable to the levels of calcium and iron in the Interference Check Sample (ICS) solution. Several analytes, namely, barium, cadmium, chromium, cobalt, copper, manganese, selenium, and thallium were present in the ICS solution at a concentration that exceeded the absolute value of the Instrument Detection Limit (IDL). Interference affects exist for cadmium, cobalt, and thallium in the affected sample. The positive results reported for cadmium, cobalt, and thallium were qualified as estimated, "J".

Matrix Spike Results

The matrix spike percent recoveries exceeded the 125% quality control limit for chromium, beryllium, lead, and mercury. The positive results were qualified as estimated, J.

ICP Serial Dilution Results

The ICP serial dilution percent difference for iron exceeded the 10% quality control limit. Positive results reported for iron were qualified as estimated, "J". A direction of bias could not be determined.

Notes

The relative percent differences exceeded the quality control limits for copper, mercury, and zinc. No qualifications were made on this basis since the percent recoveries were compliant or previously qualified.

The post digestion spike (PDS) percent recovery for lead fell below the quality control limits. No validation action was taken based on the PDS recovery.

As per project directive, only 10% of the analytical results were validated.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method/preparation blanks.

Other Factors Affecting Data Quality: Chromium, beryllium, lead, and mercury were qualified due to matrix spike noncompliances. Several analytes were qualified due to ICP interference. Iron was qualified due to ICP serial dilution noncompliance.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1994, EPA Region V, September 1993, and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Angela Scheetz
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0101			NTC17PCSD0102			NTC17PCSD0201			NTC17PCSD0301		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290012			C1I250290013			C1I250290010			C1I250290008		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	85.0 %			92.1 %			94.4 %			82.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	4270			3960			2820			2830		
ANTIMONY	1.5			0.45			0.45			1.0		
ARSENIC	10.4			4.7			5.2			8.5		
BARIUM	54.2	J	A	45.3			29.3			40.5		
BERYLLIUM	0.73	J	AD	1.8			0.84			0.58		
CADMIUM	3.7			0.44			0.58			1.4		
CALCIUM	50400	J	A	95600			56500			43600		
CHROMIUM	55.8	J	AD	16.0			13.7			17.4		
COBALT	10.1			5.4			6.9			6.7		
COPPER	368			370			477			222		
IRON	14900	J	AI	21800			12600			14100		
LEAD	322	J	D	187			144			213		
MAGNESIUM	23600			48700			29400			21500		
MANGANESE	436			1600			339			295		
MERCURY	0.94	J	D	0.31			0.17			0.25		
NICKEL	20.9			18.4			18.3			16.6		
POTASSIUM	657			402			383			428		
SELENIUM	0.60	J	K	0.72	U		0.35	U		0.40	U	
SILVER	0.95	J	A	0.65	U	A	0.56	U	A	2.3		
SODIUM	287	J	A	583			281			186		
THALLIUM	1.7	J	K	1.2	U		1.4			0.69	U	
VANADIUM	14.0	J	A	15.6			10.2			10.0		
ZINC	1140	J	A	2620			1390			774		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0401			NTC17PCSD0402			NTC17PCSD0501			NTC17PCSD0601		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290006			C1I250290007			C1I250290005			C1I250290020		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			78.0 %			82.0 %			88.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	2130			4630			2260			2480		
ANTIMONY	0.74			2.7			0.29	U		0.51		
ARSENIC	6.2			34.2			5.4			5.2		
BARIUM	20.4			53.4			21.2			122		
BERYLLIUM	0.65			0.81			0.88			0.44		
CADMIUM	0.96			5.7			0.61			0.06	U	
CALCIUM	45500			37300			67000			110000		
CHROMIUM	22.4			31.0			10.8			13.1		
COBALT	7.8			10.7			4.2			7.9		
COPPER	181			577			225			129		
IRON	10300			16900			10600			13000		
LEAD	181			435			117			123		
MAGNESIUM	24400			19700			36200			51200		
MANGANESE	256			308			271			662		
MERCURY	0.32			0.87			0.17			0.09		
NICKEL	14.7			44.0			12.0			9.9		
POTASSIUM	316			661			292			376		
SELENIUM	0.52			1.8			0.46			0.37	U	
SILVER	3.2			5.5			0.48	U	A	0.09	U	A
SODIUM	142			157			319			260		
THALLIUM	1.4			1.4			0.70	U		0.74		
VANADIUM	10.9			16.3			7.7			12.1		
ZINC	836			2410			1030			899		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0701			NTC17PCSD0801			NTC17PCSD0802			NTC17PCSD0901		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290019			C1I250290017			C1I250290018			C1I250290016		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	88.0 %			83.0 %			74.0 %			82.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	2420			2950			4800			3300		
ANTIMONY	0.48			0.31			0.33	U		0.62		
ARSENIC	4.4			5.3			6.2			4.8		
BARIUM	42.6			32.0			61.9			27.9		
BERYLLIUM	0.27	U	A	0.34	U	A	0.33	U	A	0.26	U	A
CADMIUM	0.06	U		0.06	U		0.59			0.11		
CALCIUM	62900			45300			62200			49200		
CHROMIUM	11.8			16.5			30.8			12.1		
COBALT	4.9			5.6			7.7			5.6		
COPPER	72.5			43.1			55.8			42.6		
IRON	12200			11400			14200			12400		
LEAD	76.7			73.0			71.9			30.8		
MAGNESIUM	32800			23100			30800			26500		
MANGANESE	333			341			522			358		
MERCURY	0.04			0.05			0.12			0.31		
NICKEL	9.8			10.2			15.5			14.2		
POTASSIUM	397			492			783			692		
SELENIUM	0.37	U		0.40	U		0.46			0.40	U	
SILVER	0.15	U	A	0.10	U		0.18	U	A	0.11	U	A
SODIUM	152			128			188			138		
THALLIUM	0.85			0.69	U		2.0			1.4		
VANADIUM	9.8			11.0			14.5			17.9		
ZINC	538			192			171			126		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD1001	NTC17PCSD1002	NTC17PCSD3401	NTC17PCSD3501
SAMPLE DATE:	09/24/01	09/24/01	09/24/01	09/24/01
LABORATORY ID:	C1I250290014	C1I250290015	C1I250290004	C1I250290003
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	76.0 %	77.0 %	73.0 %	76.0 %
UNITS:	MG/KG	MG/KG	MG/KG	MG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	4810			5150			3760			2720		
ANTIMONY	0.32	U		0.89			0.33	U		0.32	U	
ARSENIC	7.2			7.4			5.4			3.7		
BARIUM	54.7	J	A	44.9	J	A	25.5			19.4		
BERYLLIUM	0.44	J	AD	0.41	J	AD	0.30	U	A	0.20	U	A
CADMIUM	0.23	J	K	0.24	J	K	0.19			0.14		
CALCIUM	42900	J	A	49600	J	A	44300			32200		
CHROMIUM	15.8	J	AD	16.1	J	AD	8.1			7.2		
COBALT	8.6			8.0	J	K	5.8			4.8		
COPPER	40.0			39.4			13.9			11.6		
IRON	14200	J	AI	13600	J	AI	11400			8420		
LEAD	68.3	J	D	139	J	D	30.5			20.7		
MAGNESIUM	21700			25300			24300			17500		
MANGANESE	407			394			406			297		
MERCURY	0.07	J	D	0.07	J	D	0.23			0.17		
NICKEL	15.9			15.3			11.6			7.8		
POTASSIUM	798			1100			602			453		
SELENIUM	0.43	U		0.43	U		0.45	U		0.43	U	
SILVER	0.13	U	A	0.47	U	A	0.15	U	A	0.11	U	A
SODIUM	140	J	A	180	J	A	138			106		
THALLIUM	2.1	J	K	1.8	J	K	1.5			0.82		
VANADIUM	14.7	J	A	15.2	J	A	13.2			9.9		
ZINC	183	J	A	178	J	A	180			70.1		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD3601			NTC17PCSD3602			NTCFD09240103			NTCFD09240104		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290001			C1I250290002			C1I250290009			C1I250290011		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	79.0 %			78.0 %			81.0 %			94.2 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:							NTC17PCSD0301			NTC17PCSD0201		
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	1480			2690			2920			3700		
ANTIMONY	0.30	U		0.51			0.74			0.86		
ARSENIC	1.5			4.1			6.7			6.9		
BARIUM	6.9			15.2			22.8			31.3		
BERYLLIUM	0.10	U	A	0.46			0.59			1.8		
CADMIUM	0.06	U		0.07	U		1.1			0.74		
CALCIUM	25700			38200			46700			54400		
CHROMIUM	5.5			7.5			18.8			18.3		
COBALT	2.4			4.9			5.8			5.8		
COPPER	3.4			91.1			230			428		
IRON	4900			9950			11900			15100		
LEAD	8.3			47.2			152			240		
MAGNESIUM	14100			19500			23500			28100		
MANGANESE	177			314			291			430		
MERCURY	0.05			0.07			0.25			0.39		
NICKEL	3.6			10.6			14.6			23.9		
POTASSIUM	306			361			475			427		
SELENIUM	0.42	U		0.42	U		0.41	U		0.51		
SILVER	0.10	U		0.10	U		3.2			0.61	U	A
SODIUM	91.5			255			212			971		
THALLIUM	0.72	U		1.0			1.3			1.4		
VANADIUM	7.0			11.1			12.7			15.3		
ZINC	31.0			665			934			2830		

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0101	NTC17PCSD0102	NTC17PCSD0201	NTCFD09240104
SAMPLE DATE:	09/24/01	09/24/01	09/24/01	09/24/01
LABORATORY ID:	C1I250290012	C1I250290013	C1I250290010	C1I250290011
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	85.0 %	92.0 %	94.4 %	94.0 %
FIELD DUPLICATE OF:				NTC17PCSD0201

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
NO. 10 SIEVE(%)				56.58								
NO. 140 SIEVE(%)				0.79								
NO. 20 SIEVE(%)				22.82								
NO. 200 SIEVE(%)				0.65								
NO. 4 SIEVE(%)				86.51								
NO. 40 SIEVE(%)				10.65								
NO. 60 SIEVE(%)				4.42								
PH()	8.1			8.4			8.3			8.3		
SIEVE 1"(%)				100								
SIEVE 1-1/2"(%)				100								
SIEVE 1/2"(%)				97.88								
SIEVE 12"(%)				100								
SIEVE 2"(%)				100								
SIEVE 3"(%)				100								
SIEVE 3/4"(%)				98.42								
SIEVE 3/8"(%)				94.71								
SIEVE 6"(%)				100								
TOTAL ORGANIC CARBON(MG/KG)	9240			3920			3260			3680		

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0301	NTCFD09240103	NTC17PCSD0401	NTC17PCSD0402
SAMPLE DATE:	09/24/01	09/24/01	09/24/01	09/24/01
LABORATORY ID:	C1I250290008	C1I250290009	C1I250290006	C1I250290007
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	82.0 %	81.0 %	89.0 %	78.0 %
FIELD DUPLICATE OF:		NTC17PCSD0301		

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
NO. 10 SIEVE(%)	99.58											
NO. 140 SIEVE(%)	14.37											
NO. 20 SIEVE(%)	98.61											
NO. 200 SIEVE(%)	11.4											
NO. 4 SIEVE(%)	99.73											
NO. 40 SIEVE(%)	86.64											
NO. 60 SIEVE(%)	47.6											
PH()	7.9			8			8.3			8		
SIEVE 1"(%)	100											
SIEVE 1-1/2"(%)	100											
SIEVE 1/2"(%)	100											
SIEVE 12"(%)	100											
SIEVE 2"(%)	100											
SIEVE 3"(%)	100											
SIEVE 3/4"(%)	100											
SIEVE 3/8"(%)	100											
SIEVE 6"(%)	100											
TOTAL ORGANIC CARBON(MG/KG)	4560			6660			4360			18600		

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0501	NTC17PCSD0601	NTC17PCSD0701	NTC17PCSD0801
SAMPLE DATE:	09/24/01	09/24/01	09/24/01	09/24/01
LABORATORY ID:	C1I250290005	C1I250290020	C1I250290019	C1I250290017
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	82.0 %	88.0 %	88.0 %	83.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
PH()	8			8.4			8.2			8.1		
TOTAL ORGANIC CARBON(MG/KG)	3110			3400			7240			4090		

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD0802			NTC17PCSD0901			NTC17PCSD1001			NTC17PCSD1002		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	C1I250290018			C1I250290016			C1I250290014			C1I250290015		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	74.0 %			82.0 %			76.0 %			77.0 %		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
MISCELLANEOUS PARAMETERS												
PH()	7.3			7.9			8			7.8		
TOTAL ORGANIC CARBON(MG/KG)	14600			4630			7670			10100		

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL009

SAMPLE NUMBER:	NTC17PCSD3401	NTC17PCSD3501	NTC17PCSD3601	NTC17PCSD3602
SAMPLE DATE:	09/24/01	09/24/01	09/24/01	09/24/01
LABORATORY ID:	C1I250290004	C1I250290003	C1I250290001	C1I250290002
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	73.0 %	76.0 %	79.0 %	78.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE(MG/KG)							10.3	U				
CADMIUM(MG/KG)							0.12					
COPPER(MG/KG)							5.2					
LEAD(MG/KG)							11.3					
MERCURY(MG/KG)							0.06					
NICKEL(MG/KG)							1.7					
PH()	7.9			8			8.2			8		
TOTAL ORGANIC CARBON(MG/KG)	6130			5760			1400			3080		
ZINC(MG/KG)							26.4					

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **MR. B. DAVIS** **DATE:** **DECEMBER 10, 2001**

FROM: **ANGELA SCHEETZ** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- PEST/PCB/PAH**
CTO 154, NTC GREAT LAKES
SDG GL010

SAMPLES: 2/Sediment

NTC17PCSD1901 NTC17PCSD2401

OVERVIEW

The sample set for CTO 154 NTC Great Lakes, SDG GL010 consists of two (2) sediment environmental samples. The samples were analyzed for target compound list (TCL) organochlorine pesticides, polychlorinated biphenyls (PCBs), and polynuclear aromatic hydrocarbons.

The samples were collected by TetraTech NUS on September 22, 2001 and analyzed by Severn Trent Laboratory-Pittsburgh. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Methods 8310, 8081A, and 8082 analysis and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
* • Holding times
* • GC/MS Tuning and System Performance
* • Initial/continuing calibrations
* • Laboratory method blank results
* • Surrogate Recoveries
* • Blank Spike/Blank Spike Duplicate Results
* • Matrix Spike/Matrix Spike Duplicate Results
* • Compound Quantitation
* • Compound Identification
* • Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A.

PAHs

A continuing calibration %D exceeded the 15% quality control limits on 10/01/01 at 13:59 for fluorene on one detector. No qualifications were made on this basis since the exceedance is only on one detector.

The percent difference between columns exceeded 25% for the following compounds. The positive results were reported as estimated, J for these compounds.

Sample	Compound	%D
NTC17PCSD1901	Fluorene	47.5%
	Fluoranthene	25.7%

	Benzo(g,h,I)perylene	37.3%
	Indeno(1,2,3-cd)pyrene	64.9%
NTC17PCSD2401	Fluorene	49.2%
	Benzo(g,h,I)perylene	39.4%
	Indeno(1,2,3-cd)pyrene	54.4%

The surrogate percent recoveries in samples NTC17PCSD1901 and NTC17PCSD2401 were diluted out due to dilution factors of 20X and 40X. No qualifications were made on this basis.

Pesticides / PCBs

The surrogate percent recoveries in samples NTC17PCSD1901 and NTC17PCSD2401 were diluted out due to dilution factors of 10X and 20X. No qualifications were made on this basis.

The laboratory matrix spike / matrix spike duplicate fell below the quality control limits for endrin aldehyde. No qualifications were made on this basis since the blank spike recoveries were compliant.

Additional Comments:

Positive results below the reporting limit (RL) were qualified as estimated, J, due to uncertainty near the detection limit.

It should be noted that the laboratory reported the lower concentration of the two columns.

As per project directive, only 10% of the analytical results were validated.

EXECUTIVE SUMMARY

Laboratory Performance Issues: Several %Ds exceeded the quality control limit between columns for positive results.

Other factors affecting data quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99), EPA Region V (08/93), and the NFESC guidelines IRCDQM (Sept., 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS

Angela Scheetz
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

CTO 154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCRB09220101	NTCTB09220102		
SAMPLE DATE:	09/22/01	09/22/01	/ /	/ /
LABORATORY ID:	C1I250224020	C1I250224021		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U							
1,1,2,2-TETRACHLOROETHANE	1	U		1	U							
1,1,2-TRICHLOROETHANE	1	U		1	U							
1,1,2-TRICHLOROTRIFLUOROETHANE	10	U		10	U							
1,1-DICHLOROETHANE	1	U		1	U							
1,1-DICHLOROETHENE	1	U		1	U							
1,2,4-TRICHLOROBENZENE	1	U		1	U							
1,2-DIBROMO-3-CHLOROPROPANE	1	U		1	U							
1,2-DIBROMOETHANE	1	U		1	U							
1,2-DICHLOROBENZENE	1	U		1	U							
1,2-DICHLOROETHANE	1	U		1	U							
1,2-DICHLOROPROPANE	1	U		1	U							
1,3-DICHLOROBENZENE	1	U		1	U							
1,4-DICHLOROBENZENE	1	U		1	U							
2-BUTANONE	5	U		5	U							
2-HEXANONE	5	U		5	U							
4-METHYL-2-PENTANONE	5	U		5	U							
ACETONE	3.3	J	P	8.7	J	P						
BENZENE	1	U		1	U							
BROMODICHLOROMETHANE	1	U		1	U							
BROMOFORM	1	U		1	U							
BROMOMETHANE	1	U		1	U							
CARBON DISULFIDE	1	U		1	U							
CARBON TETRACHLORIDE	1	U		1	U							
CHLOROBENZENE	1	U		1	U							
CHLORODIBROMOMETHANE	1	U		1	U							
CHLOROETHANE	2	U		2	U							
CHLOROFORM	1	U		1	U							
CHLOROMETHANE	2	U		2	U							
CIS-1,2-DICHLOROETHENE	1	U		1	U							
CIS-1,3-DICHLOROPROPENE	1	U		1	U							

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCRB09220101	NTCTB09220102	/ /	/ /
SAMPLE DATE:	09/22/01	09/22/01		
LABORATORY ID:	C1I250224020	C1I250224021		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
CYCLOHEXANE	10	U		10	U							
DICHLORODIFLUOROMETHANE	2	U		2	U							
ETHYLBENZENE	1	U		1	U							
ISOPROPYLBENZENE	1	U		1	U							
METHYL ACETATE	10	U		10	U							
METHYL CYCLOHEXANE	10	U		10	U							
METHYL TERT-BUTYL ETHER	1	U		1	U							
METHYLENE CHLORIDE	2	U		2	U							
STYRENE	1	U		1	U							
TETRACHLOROETHENE	1	U		1	U							
TOLUENE	1	U		1	U							
TOTAL XYLENES	3	U		3	U							
TRANS-1,2-DICHLOROETHENE	1	U		1	U							
TRANS-1,3-DICHLOROPROPENE	1	U		1	U							
TRICHLOROETHENE	1	U		1	U							
TRICHLOROFLUOROMETHANE	2	U		2	U							
VINYL CHLORIDE	2	U		2	U							

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1401			NTC17PCSD1601			NTC17PCSD1801			NTC17PCSD2101		
SAMPLE DATE:	09/23/01			09/23/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250224018			C1I250224016			C1I250224010			C1I250224006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			80.0 %			94.6 %			92.7 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
1,1,1-TRICHLOROETHANE	5.6	U		6.3	U		5.3	U		5.4	U	
1,1,2,2-TETRACHLOROETHANE	5.6	U		6.3	U		5.3	U		5.4	U	
1,1,2-TRICHLOROETHANE	5.6	U		6.3	U		5.3	U		5.4	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	5.6	U		6.3	U		5.3	U		5.4	U	
1,1-DICHLOROETHANE	5.6	U		6.3	U		5.3	U		5.4	U	
1,1-DICHLOROETHENE	5.6	U		6.3	U		5.3	U		5.4	U	
1,2,4-TRICHLOROBENZENE	5.6	U		6.3	U		5.3	U		5.4	U	
1,2-DIBROMO-3-CHLOROPROPANE	11	U		13	U		11	U		11	U	
1,2-DIBROMOETHANE	5.6	U		6.3	U		5.3	U		5.4	U	
1,2-DICHLOROBENZENE	5.6	U		6.3	U		5.3	U		5.4	U	
1,2-DICHLOROETHANE	5.6	U		6.3	U		5.3	U		5.4	U	
1,2-DICHLOROPROPANE	5.6	U		6.3	U		5.3	U		5.4	U	
1,3-DICHLOROBENZENE	5.6	U		6.3	U		5.3	U		5.4	U	
1,4-DICHLOROBENZENE	5.6	U		6.3	U		5.3	U		5.4	U	
2-BUTANONE	22	U		25	U		21	U		22	U	
2-HEXANONE	22	U		25	U		21	U		22	U	
4-METHYL-2-PENTANONE	22	U		25	U		21	U		22	U	
ACETONE	22	U		25	U		21	U		22	U	
BENZENE	5.6	U		6.3	U		5.3	U		5.4	U	
BROMODICHLOROMETHANE	5.6	U		6.3	U		5.3	U		5.4	U	
BROMOFORM	5.6	U		6.3	U		5.3	U		5.4	U	
BROMOMETHANE	11	U		13	U		11	U		11	U	
CARBON DISULFIDE	5.6	U		6.3	U		5.3	U		5.4	U	
CARBON TETRACHLORIDE	5.6	U		6.3	U		5.3	U		5.4	U	
CHLOROBENZENE	5.6	U		6.3	U		5.3	U		5.4	U	
CHLORODIBROMOMETHANE	5.6	U		6.3	U		5.3	U		5.4	U	
CHLOROETHANE	11	U		13	U		11	U		11	U	
CHLOROFORM	5.6	U		6.3	U		5.3	U		5.4	U	
CHLOROMETHANE	11	U		13	U		11	U		11	U	
CIS-1,2-DICHLOROETHENE	5.6	U		6.3	U		5.3	U		5.4	U	
CIS-1,3-DICHLOROPROPENE	5.6	U		6.3	U		5.3	U		5.4	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1401			NTC17PCSD1601			NTC17PCSD1801			NTC17PCSD2101		
SAMPLE DATE:	09/23/01			09/23/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250224018			C1I250224016			C1I250224010			C1I250224006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			80.0 %			94.6 %			92.7 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
CYCLOHEXANE	5.6	U		6.3	U		5.3	U		5.4	U	
DICHLORODIFLUOROMETHANE	11	U		13	U		11	U		11	U	
ETHYLBENZENE	5.6	U		6.3	U		5.3	U		5.4	U	
ISOPROPYLBENZENE	5.6	U		6.3	U		5.3	U		5.4	U	
METHYL ACETATE	5.6	U		6.3	U		5.3	U		5.4	U	
METHYL CYCLOHEXANE	5.6	U		6.3	U		5.3	U		5.4	U	
METHYL TERT-BUTYL ETHER	5.6	U		6.3	U		5.3	U		5.4	U	
METHYLENE CHLORIDE	5.6	U		6.3	U		5.3	U		5.4	U	
STYRENE	5.6	U		6.3	U		5.3	U		5.4	U	
TETRACHLOROETHENE	5.6	U		6.3	U		5.3	U		5.4	U	
TOLUENE	5.6	U		6.3	U		5.3	U		5.4	U	
TOTAL XYLENES	17	U		19	U		16	U		16	U	
TRANS-1,2-DICHLOROETHENE	5.6	U		6.3	U		5.3	U		5.4	U	
TRANS-1,3-DICHLOROPROPENE	5.6	U		6.3	U		5.3	U		5.4	U	
TRICHLOROETHENE	5.6	U		6.3	U		5.3	U		5.4	U	
TRICHLOROFLUOROMETHANE	11	U		13	U		11	U		11	U	
VINYL CHLORIDE	11	U		13	U		11	U		11	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD2301			
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224003			
QC_TYPE:	NORMAL			
% SOLIDS:	79.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	6.4	U										
1,1,2,2-TETRACHLOROETHANE	6.4	U										
1,1,2-TRICHLOROETHANE	6.4	U										
1,1,2-TRICHLOROTRIFLUOROETHANE	6.4	U										
1,1-DICHLOROETHANE	6.4	U										
1,1-DICHLOROETHENE	6.4	U										
1,2,4-TRICHLOROBENZENE	6.4	U										
1,2-DIBROMO-3-CHLOROPROPANE	13	U										
1,2-DIBROMOETHANE	6.4	U										
1,2-DICHLOROBENZENE	6.4	U										
1,2-DICHLOROETHANE	6.4	U										
1,2-DICHLOROPROPANE	6.4	U										
1,3-DICHLOROBENZENE	6.4	U										
1,4-DICHLOROBENZENE	6.4	U										
2-BUTANONE	25	U										
2-HEXANONE	25	U										
4-METHYL-2-PENTANONE	25	U										
ACETONE	25	U										
BENZENE	6.4	U										
BROMODICHLOROMETHANE	6.4	U										
BROMOFORM	6.4	U										
BROMOMETHANE	13	U										
CARBON DISULFIDE	6.4	U										
CARBON TETRACHLORIDE	6.4	U										
CHLOROBENZENE	6.4	U										
CHLORODIBROMOMETHANE	6.4	U										
CHLOROETHANE	13	U										
CHLOROFORM	6.4	U										
CHLOROMETHANE	13	U										
CIS-1,2-DICHLOROETHENE	6.4	U										
CIS-1,3-DICHLOROPROPENE	6.4	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD2301		
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224003		
QC_TYPE:	NORMAL		
% SOLIDS:	79.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
CYCLOHEXANE	6.4	U										
DICHLORODIFLUOROMETHANE	13	U										
ETHYLBENZENE	6.4	U										
ISOPROPYLBENZENE	6.4	U										
METHYL ACETATE	6.4	U										
METHYL CYCLOHEXANE	6.4	U										
METHYL TERT-BUTYL ETHER	6.4	U										
METHYLENE CHLORIDE	6.4	U										
STYRENE	6.4	U										
TETRACHLOROETHENE	6.4	U										
TOLUENE	6.4	U										
TOTAL XYLENES	19	U										
TRANS-1,2-DICHLOROETHENE	6.4	U										
TRANS-1,3-DICHLOROPROPENE	6.4	U										
TRICHLOROETHENE	6.4	U										
TRICHLOROFLUOROMETHANE	13	U										
VINYL CHLORIDE	13	U										

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCIDWSOIL			
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224001			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1-DICHLOROETHENE	0.05	U										
1,2-DICHLOROETHANE	0.05	U										
2-BUTANONE	0.05	U										
BENZENE	0.05	U										
CARBON TETRACHLORIDE	0.05	U										
CHLOROBENZENE	0.05	U										
CHLOROFORM	0.05	U										
TETRACHLOROETHENE	0.05	U										
TRICHLOROETHENE	0.05	U										
VINYL CHLORIDE	0.05	U										

CTO154-NTC GREAT LAKES
WATER DATA
ALSI
SDG: GL010

SAMPLE NUMBER:	NTCRB09220101			
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:				
QC_TYPE:	RB			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
DISSOLVED GASES												
ETHANOL	1	U										
ETHYL ACETATE	1	U										

CTO154-NTC GREAT LAKES
SOIL DATA
ALSI
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1401			NTC17PCSD1601			NTC17PCSD1801			NTC17PCSD2101		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/22/01		
LABORATORY ID:	191177- 1			191370- 1			191177- 2			191316- 2		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	100.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
DISSOLVED GASES												
ETHANOL	1.2	U		1.2	U		1.2	U		1	U	
ETHYL ACETATE	1.2	U		1.2	U		1.2	U		1	U	

CTO154-NTC GREAT LAKES
SOIL DATA
ALSI
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD2301		
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	191316- 1			
QC_TYPE:	NORMAL			
% SOLIDS:	100.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
DISSOLVED GASES												
ETHANOL	1.1	U										
ETHYL ACETATE	1.1	U										

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCRB09220101			
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224020			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,1-BIPHENYL	10	U										
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U										
2,4,5-TRICHLOROPHENOL	10	U										
2,4,6-TRICHLOROPHENOL	10	U										
2,4-DICHLOROPHENOL	10	U										
2,4-DIMETHYLPHENOL	10	U										
2,4-DINITROPHENOL	50	U										
2,4-DINITROTOLUENE	10	U										
2,6-DINITROTOLUENE	10	U										
2-CHLORONAPHTHALENE	10	U										
2-CHLOROPHENOL	10	U										
2-METHYLNAPHTHALENE	10	U										
2-METHYLPHENOL	10	U										
2-NITROANILINE	50	U										
2-NITROPHENOL	10	U										
3,3'-DICHLOROBENZIDINE	50	U										
3-NITROANILINE	50	U										
4,6-DINITRO-2-METHYLPHENOL	50	U										
4-BROMOPHENYL PHENYL ETHER	10	U										
4-CHLORO-3-METHYLPHENOL	10	U										
4-CHLOROANILINE	10	U										
4-CHLOROPHENYL PHENYL ETHER	10	U										
4-METHYLPHENOL	10	U										
4-NITROANILINE	50	U										
4-NITROPHENOL	50	U										
ACENAPHTHENE	10	U										
ACENAPHTHYLENE	10	U										
ACETOPHENONE	10	U										
ANTHRACENE	10	U										
ATRAZINE	10	U										
BENZALDEHYDE	7.1	J	P									

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCRB09220101			
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224020			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
BENZO(A)ANTHRACENE	10	U										
BENZO(A)PYRENE	10	U										
BENZO(B)FLUORANTHENE	10	U										
BENZO(G,H,I)PERYLENE	10	U										
BENZO(K)FLUORANTHENE	10	U										
BIS(2-CHLOROETHOXY)METHANE	10	U										
BIS(2-CHLOROETHYL)ETHER	10	U										
BIS(2-ETHYLHEXYL)PHTHALATE	10	U										
BUTYL BENZYL PHTHALATE	10	U										
CAPROLACTAM	10	U										
CARBAZOLE	10	U										
CHRYSENE	10	U										
DI-N-BUTYL PHTHALATE	10	U										
DI-N-OCTYL PHTHALATE	10	U										
DIBENZO(A,H)ANTHRACENE	10	U										
DIBENZOFURAN	10	U										
DIETHYL PHTHALATE	10	U										
DIMETHYL PHTHALATE	10	U										
FLUORANTHENE	10	U										
FLUORENE	10	U										
HEXACHLOROBENZENE	10	U										
HEXACHLOROBUTADIENE	10	U										
HEXACHLOROCYCLOPENTADIENE	50	U										
HEXACHLOROETHANE	10	U										
INDENO(1,2,3-CD)PYRENE	10	U										
ISOPHORONE	10	U										
N-NITROSO-DI-N-PROPYLAMINE	10	U										
N-NITROSODIPHENYLAMINE	10	U										
NAPHTHALENE	10	U										
NITROBENZENE	10	U										
PENTACHLOROPHENOL	50	U										

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCRB09220101			
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224020			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
PHENANTHRENE	10	U										
PHENOL	3.6	J	P									
PYRENE	10	U										
PYRIDINE	20	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1401			NTC17PCSD1601			NTC17PCSD1801			NTC17PCSD2101		
SAMPLE DATE:	09/23/01			09/23/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250224018			C1I250224016			C1I250224010			C1I250224006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			80.0 %			94.6 %			92.7 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
1,1-BIPHENYL	370	U		410	U		350	U		360	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	370	U		410	U		350	U		360	U	
2,4,5-TRICHLOROPHENOL	370	U		410	U		350	U		360	U	
2,4,6-TRICHLOROPHENOL	370	U		410	U		350	U		360	U	
2,4-DICHLOROPHENOL	370	U		410	U		350	U		360	U	
2,4-DIMETHYLPHENOL	370	U		410	U		350	U		360	U	
2,4-DINITROPHENOL	1800	U		2000	U		1700	U		1700	U	
2,4-DINITROTOLUENE	370	U		410	U		350	U		360	U	
2,6-DINITROTOLUENE	370	U		410	U		350	U		360	U	
2-CHLORONAPHTHALENE	370	U		410	U		350	U		360	U	
2-CHLOROPHENOL	370	U		410	U		350	U		360	U	
2-METHYLNAPHTHALENE	64	J	P	410	U		55	J	P	360	U	
2-METHYLPHENOL	370	U		410	U		350	U		360	U	
2-NITROANILINE	1800	U		2000	U		1700	U		1700	U	
2-NITROPHENOL	370	U		410	U		350	U		360	U	
3,3'-DICHLOROBENZIDINE	1800	U		2000	U		1700	U		1700	U	
3-NITROANILINE	1800	U		2000	U		1700	U		1700	U	
4,6-DINITRO-2-METHYLPHENOL	1800	U		2000	U		1700	U		1700	U	
4-BROMOPHENYL PHENYL ETHER	370	U		410	U		350	U		360	U	
4-CHLORO-3-METHYLPHENOL	370	U		410	U		350	U		360	U	
4-CHLOROANILINE	370	U		410	U		350	U		360	U	
4-CHLOROPHENYL PHENYL ETHER	370	U		410	U		350	U		360	U	
4-METHYLPHENOL	370	U		410	U		350	U		360	U	
4-NITROANILINE	1800	U		2000	U		1700	U		1700	U	
4-NITROPHENOL	1800	U		2000	U		1700	U		1700	U	
ACENAPHTHENE	400			91	J	P	330	J	P	67	J	P
ACENAPHTHYLENE	71	J	P	410	U		63	J	P	360	U	
ACETOPHENONE	370	U		410	U		350	U		360	U	
ANTHRACENE	970			210	J	P	820			230	J	P
ATRAZINE	370	U		410	U		350	U		360	U	
BENZALDEHYDE	370	U		410	U		350	U		360	U	
BENZO(A)ANTHRACENE	2300			560			1700			390		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1401			NTC17PCSD1601			NTC17PCSD1801			NTC17PCSD2101		
SAMPLE DATE:	09/23/01			09/23/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250224018			C1I250224016			C1I250224010			C1I250224006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			80.0 %			94.6 %			92.7 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
BENZO(A)PYRENE	2300			580			1500			360		
BENZO(B)FLUORANTHENE	2300			610			1700			330	J	P
BENZO(G,H,I)PERYLENE	750			260	J	P	580			180	J	P
BENZO(K)FLUORANTHENE	2000			560			1200			290	J	P
BIS(2-CHLOROETHOXY)METHANE	370	U		410	U		350	U		360	U	
BIS(2-CHLOROETHYL)ETHER	370	U		410	U		350	U		360	U	
BIS(2-ETHYLHEXYL)PHTHALATE	620			600			520			280	J	P
BUTYL BENZYL PHTHALATE	370	U		410	U		37	J	P	360	U	
CAPROLACTAM	370	U		410	U		57	J	P	360	U	
CARBAZOLE	720			130	J	P	380			75	J	P
CHRYSENE	2600			680			1800			410		
DI-N-BUTYL PHTHALATE	370	U		410	U		350	U		360	U	
DI-N-OCTYL PHTHALATE	370	U		410	U		350	U		360	U	
DIBENZO(A,H)ANTHRACENE	320	J	P	410	U		270	J	P	59	J	P
DIBENZOFURAN	250	J	P	56	J	P	180	J	P	47	J	P
DIETHYL PHTHALATE	370	U		410	U		350	U		360	U	
DIMETHYL PHTHALATE	370	U		410	U		350	U		360	U	
FLUORANTHENE	6500			1600			3600			1100		
FLUORENE	470			110	J	P	390			95	J	P
HEXACHLOROBENZENE	370	U		410	U		350	U		360	U	
HEXACHLOROBUTADIENE	370	U		410	U		350	U		360	U	
HEXACHLOROCYCLOPENTADIENE	1800	U		2000	U		1700	U		1700	U	
HEXACHLOROETHANE	370	U		410	U		350	U		360	U	
INDENO(1,2,3-CD)PYRENE	840			280	J	P	630			180	J	P
ISOPHORONE	370	U		410	U		350	U		360	U	
N-NITROSO-DI-N-PROPYLAMINE	370	U		410	U		350	U		360	U	
N-NITROSODIPHENYLAMINE	370	U		410	U		350	U		360	U	
NAPHTHALENE	150	J	P	410	U		52	J	P	360	U	
NITROBENZENE	370	U		410	U		350	U		360	U	
PENTACHLOROPHENOL	1800	U		2000	U		1700	U		1700	U	
PHENANTHRENE	4700			1100			2900			880		
PHENOL	370	U		410	U		350	U		360	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1401			NTC17PCSD1601			NTC17PCSD1801			NTC17PCSD2101		
SAMPLE DATE:	09/23/01			09/23/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250224018			C1I250224016			C1I250224010			C1I250224006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			80.0 %			94.6 %			92.7 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
PYRENE	4400			980			2700			740		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD2301			
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224003			
QC_TYPE:	NORMAL			
% SOLIDS:	79.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,1-BIPHENYL	420	U										
2,2'-OXYBIS(1-CHLOROPROPANE)	420	U										
2,4,5-TRICHLOROPHENOL	420	U										
2,4,6-TRICHLOROPHENOL	420	U										
2,4-DICHLOROPHENOL	420	U										
2,4-DIMETHYLPHENOL	420	U										
2,4-DINITROPHENOL	2000	U										
2,4-DINITROTOLUENE	420	U										
2,6-DINITROTOLUENE	420	U										
2-CHLORONAPHTHALENE	420	U										
2-CHLOROPHENOL	420	U										
2-METHYLNAPHTHALENE	93	J	P									
2-METHYLPHENOL	420	U										
2-NITROANILINE	2000	U										
2-NITROPHENOL	420	U										
3,3'-DICHLOROBENZIDINE	2000	U										
3-NITROANILINE	2000	U										
4,6-DINITRO-2-METHYLPHENOL	2000	U										
4-BROMOPHENYL PHENYL ETHER	420	U										
4-CHLORO-3-METHYLPHENOL	420	U										
4-CHLOROANILINE	420	U										
4-CHLOROPHENYL PHENYL ETHER	420	U										
4-METHYLPHENOL	420	U										
4-NITROANILINE	2000	U										
4-NITROPHENOL	2000	U										
ACENAPHTHENE	230	J	P									
ACENAPHTHYLENE	420	U										
ACETOPHENONE	420	U										
ANTHRACENE	440											
ATRAZINE	420	U										
BENZALDEHYDE	420	U										
BENZO(A)ANTHRACENE	990											

SAMPLE NUMBER:	NTC17PCSD2301			
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224003			
QC_TYPE:	NORMAL			
% SOLIDS:	79.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
BENZO(A)PYRENE	860											
BENZO(B)FLUORANTHENE	730											
BENZO(G,H,I)PERYLENE	670											
BENZO(K)FLUORANTHENE	750											
BIS(2-CHLOROETHOXY)METHANE	420	U										
BIS(2-CHLOROETHYL)ETHER	420	U										
BIS(2-ETHYLHEXYL)PHTHALATE	680											
BUTYL BENZYL PHTHALATE	420	U										
CAPROLACTAM	420	U										
CARBAZOLE	250	J	P									
CHRYSENE	1000											
DI-N-BUTYL PHTHALATE	420	U										
DI-N-OCTYL PHTHALATE	420	U										
DIBENZO(A,H)ANTHRACENE	250	J	P									
DIBENZOFURAN	140	J	P									
DIETHYL PHTHALATE	420	U										
DIMETHYL PHTHALATE	420	U										
FLUORANTHENE	2300											
FLUORENE	230	J	P									
HEXACHLOROBENZENE	420	U										
HEXACHLOROBUTADIENE	420	U										
HEXACHLOROCYCLOPENTADIENE	2000	U										
HEXACHLOROETHANE	420	U										
INDENO(1,2,3-CD)PYRENE	650											
ISOPHORONE	420	U										
N-NITROSO-DI-N-PROPYLAMINE	420	U										
N-NITROSODIPHENYLAMINE	420	U										
NAPHTHALENE	89	J	P									
NITROBENZENE	420	U										
PENTACHLOROPHENOL	2000	U										
PHENANTHRENE	1900											
PHENOL	420	U										

SAMPLE NUMBER:	NTC17PCSD2301			
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224003			
QC_TYPE:	NORMAL			
% SOLIDS:	79.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
PYRENE	1900											

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCIDWSOIL			
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224001			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,4-DICHLOROBENZENE	0.05	U										
2,4,5-TRICHLOROPHENOL	0.05	U										
2,4,6-TRICHLOROPHENOL	0.05	U										
2,4-DINITROTOLUENE	0.05	U										
HEXACHLOROBENZENE	0.05	U										
HEXACHLOROBUTADIENE	0.05	U										
HEXACHLOROETHANE	0.05	U										
NITROBENZENE	0.05	U										
PENTACHLOROPHENOL	0.25	U										
PYRIDINE	0.1	U										
TOTAL METHYLPHENOL	0.05	U										

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCRB09220101		
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224020		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	0.005	J										
4,4'-DDE	0.050	U										
4,4'-DDT	0.050	U										
ALDRIN	0.050	U										
ALPHA-BHC	0.050	U										
ALPHA-CHLORDANE	0.050	U										
AROCLOR-1016	1.0	U										
AROCLOR-1221	1.0	U										
AROCLOR-1232	1.0	U										
AROCLOR-1242	1.0	U										
AROCLOR-1248	1.0	U										
AROCLOR-1254	1.0	U										
AROCLOR-1260	1.0	U										
BETA-BHC	0.050	U										
DELTA-BHC	0.050	U										
DIELDRIN	0.050	U										
ENDOSULFAN I	0.050	U										
ENDOSULFAN II	0.050	U										
ENDOSULFAN SULFATE	0.050	U										
ENDRIN	0.050	U										
ENDRIN ALDEHYDE	0.050	U										
ENDRIN KETONE	0.050	U										
GAMMA-BHC (LINDANE)	0.050	U										
GAMMA-CHLORDANE	0.050	U										
HEPTACHLOR	0.050	U										
HEPTACHLOR EPOXIDE	0.050	U										
METHOXYCHLOR	0.10	U										
TOXAPHENE	2.0	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1401			NTC17PCSD1402			NTC17PCSD1501			NTC17PCSD1601		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250224018			C1I250224019			C1I250224017			C1I250224016		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			83.0 %			91.2 %			80.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	100			180			73			78		
4,4'-DDE	150			200			68			130		
4,4'-DDT	190			190			92			170		
ALDRIN	38	U		41	U		19	U		43	U	
ALPHA-BHC	38	U		41	U		19	U		43	U	
ALPHA-CHLORDANE	38	U		41	U		1.7	J		43	U	
AROCLOR-1016	37	U		40	U		36	U		41	U	
AROCLOR-1221	37	U		40	U		36	U		41	U	
AROCLOR-1232	37	U		40	U		36	U		41	U	
AROCLOR-1242	37	U		40	U		36	U		41	U	
AROCLOR-1248	37	U		40	U		36	U		41	U	
AROCLOR-1254	200			40	U		97			120		
AROCLOR-1260	43			40	U		51			53		
BETA-BHC	38	U		41	U		19	U		43	U	
DELTA-BHC	38	U		41	U		19	U		43	U	
DIELDRIN	38	U		41	U		19	U		43	U	
ENDOSULFAN I	38	U		41	U		19	U		43	U	
ENDOSULFAN II	38	U		41	U		19	U		43	U	
ENDOSULFAN SULFATE	38	U		41	U		19	U		43	U	
ENDRIN	38	U		41	U		19	U		43	U	
ENDRIN ALDEHYDE	38	U		41	U		19	U		43	U	
ENDRIN KETONE	38	U		41	U		19	U		43	U	
GAMMA-BHC (LINDANE)	38	U		41	U		19	U		43	U	
GAMMA-CHLORDANE	38	U		41	U		19	U		43	U	
HEPTACHLOR	38	U		41	U		19	U		43	U	
HEPTACHLOR EPOXIDE	38	U		41	U		19	U		43	U	
METHOXYCHLOR	380	U		410	U		190	U		430	U	
TOXAPHENE	1500	U		1600	U		730	U		1700	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1701			NTC17PCSD1702			NTC17PCSD1801			NTC17PCSD1802		
SAMPLE DATE:	09/22/01			09/22/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250224012			C1I250224013			C1I250224010			C1I250224011		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	91.0 %			90.0 %			94.6 %			90.2 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	30			59			110			190		
4,4'-DDE	46			150			130			250		
4,4'-DDT	110			160			150			220		
ALDRIN	9.3	U		38	U		36	U		75	U	
ALPHA-BHC	9.3	U		38	U		36	U		75	U	
ALPHA-CHLORDANE	1.1	J		38	U		36	U		16	J	
AROCLOR-1016	36	U		37	U		35	U		37	U	
AROCLOR-1221	36	U		37	U		35	U		37	U	
AROCLOR-1232	36	U		37	U		35	U		37	U	
AROCLOR-1242	36	U		37	U		35	U		37	U	
AROCLOR-1248	36	U		37	U		35	U		37	U	
AROCLOR-1254	69			37	U		35	U		930		
AROCLOR-1260	36	U		51			55			37	U	
BETA-BHC	9.3	U		38	U		36	U		75	U	
DELTA-BHC	9.3	U		38	U		36	U		75	U	
DIELDRIN	0.97	J		38	U		36	U		13	J	
ENDOSULFAN I	9.3	U		38	U		36	U		75	U	
ENDOSULFAN II	1.8	J		38	U		36	U		75	U	
ENDOSULFAN SULFATE	9.3	U		38	U		36	U		75	U	
ENDRIN	9.3	U		38	U		36	U		75	U	
ENDRIN ALDEHYDE	9.3	U		38	U		36	U		75	U	
ENDRIN KETONE	9.3	U		38	U		36	U		75	U	
GAMMA-BHC (LINDANE)	9.3	U		38	U		36	U		75	U	
GAMMA-CHLORDANE	0.91	J		38	U		36	U		75	U	
HEPTACHLOR	9.3	U		38	U		36	U		75	U	
HEPTACHLOR EPOXIDE	9.3	U		38	U		36	U		75	U	
METHOXYCHLOR	93	U		380	U		360	U		750	U	
TOXAPHENE	370	U		1500	U		1400	U		3000	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1901			NTC17PCSD2001			NTC17PCSD2002			NTC17PCSD2101		
SAMPLE DATE:	09/22/01			09/22/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250224009			C1I250224007			C1I250224008			C1I250224006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	81.0 %			82.0 %			90.0 %			92.7 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	170			50			81			51		
4,4'-DDE	210			68			68			42		
4,4'-DDT	230			65			73			62		
ALDRIN	42	U		21	U		19	U		9.2	U	
ALPHA-BHC	42	U		21	U		19	U		9.2	U	
ALPHA-CHLORDANE	6.9	J		5.9	J		1.3	J		1.3	J	
AROCLOR-1016	41	U		40	U		37	U		36	U	
AROCLOR-1221	41	U		40	U		37	U		36	U	
AROCLOR-1232	41	U		40	U		37	U		36	U	
AROCLOR-1242	41	U		40	U		37	U		36	U	
AROCLOR-1248	41	U		40	U		37	U		36	U	
AROCLOR-1254	440			400			78			56		
AROCLOR-1260	110			40	U		37	U		36	U	
BETA-BHC	42	U		21	U		19	U		9.2	U	
DELTA-BHC	42	U		21	U		19	U		9.2	U	
DIELDRIN	42	U		21	U		19	U		1.7	J	
ENDOSULFAN I	42	U		21	U		19	U		9.2	U	
ENDOSULFAN II	42	U		21	U		19	U		1.1	J	
ENDOSULFAN SULFATE	42	U		21	U		19	U		9.2	U	
ENDRIN	42	U		21	U		19	U		9.2	U	
ENDRIN ALDEHYDE	42	U		21	U		19	U		9.2	U	
ENDRIN KETONE	42	U		21	U		19	U		9.2	U	
GAMMA-BHC (LINDANE)	42	U		21	U		19	U		9.2	U	
GAMMA-CHLORDANE	42	U		1.9	J		19	U		9.2	U	
HEPTACHLOR	42	U		21	U		19	U		9.2	U	
HEPTACHLOR EPOXIDE	42	U		21	U		19	U		9.2	U	
METHOXYCHLOR	420	U		210	U		190	U		92	U	
TOXAPHENE	1700	U		820	U		740	U		360	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD2201			NTC17PCSD2301			NTC17PCSD2302			NTC17PCSD2401		
SAMPLE DATE:	09/22/01			09/22/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250224005			C1I250224003			C1I250224004			C1I250224002		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	86.0 %			79.0 %			84.0 %			80.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	88			89			45			78		
4,4'-DDE	90			91			40			89		
4,4'-DDT	81			81			90			93		
ALDRIN	20	U		22	U		10	U		21	U	
ALPHA-BHC	20	U		22	U		10	U		21	U	
ALPHA-CHLORDANE	1.9	J		2.3	J		0.78	J		1.4	J	
AROCLOR-1016	38	U		42	U		39	U		41	U	
AROCLOR-1221	38	U		42	U		39	U		41	U	
AROCLOR-1232	38	U		42	U		39	U		41	U	
AROCLOR-1242	38	U		42	U		39	U		41	U	
AROCLOR-1248	38	U		42	U		39	U		41	U	
AROCLOR-1254	110			42	U		39	U		41	U	
AROCLOR-1260	41			42	U		39	U		41	U	
BETA-BHC	20	U		22	U		10	U		21	U	
DELTA-BHC	20	U		22	U		10	U		21	U	
DIELDRIN	20	U		22	U		10	U		21	U	
ENDOSULFAN I	20	U		22	U		10	U		21	U	
ENDOSULFAN II	20	U		22	U		10	U		21	U	
ENDOSULFAN SULFATE	20	U		22	U		10	U		21	U	
ENDRIN	20	U		22	U		10	U		21	U	
ENDRIN ALDEHYDE	20	U		22	U		10	U		21	U	
ENDRIN KETONE	20	U		22	U		10	U		21	U	
GAMMA-BHC (LINDANE)	20	U		22	U		10	U		21	U	
GAMMA-CHLORDANE	1.7	J		22	U		10	U		21	U	
HEPTACHLOR	20	U		22	U		10	U		21	U	
HEPTACHLOR EPOXIDE	20	U		22	U		10	U		21	U	
METHOXYCHLOR	200	U		220	U		100	U		210	U	
TOXAPHENE	770	U		850	U		400	U		830	U	

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCFD09220101	NTCFD09220102		
SAMPLE DATE:	09/22/01	09/22/01	/ /	/ /
LABORATORY ID:	C1I250224014	C1I250224015		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	88.0 %	82.0 %	100.0 %	100.0 %
UNITS:	UG/KG	UG/KG		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	86			120								
4,4'-DDE	87			140								
4,4'-DDT	110			170								
ALDRIN	19	U		21	U							
ALPHA-BHC	19	U		21	U							
ALPHA-CHLORDANE	1.8	J		2.7	J							
AROCLOR-1016	38	U		40	U							
AROCLOR-1221	38	U		40	U							
AROCLOR-1232	38	U		40	U							
AROCLOR-1242	38	U		40	U							
AROCLOR-1248	38	U		40	U							
AROCLOR-1254	38	U		220								
AROCLOR-1260	39			460								
BETA-BHC	19	U		21	U							
DELTA-BHC	19	U		21	U							
DIELDRIN	19	U		21	U							
ENDOSULFAN I	19	U		21	U							
ENDOSULFAN II	19	U		15	J							
ENDOSULFAN SULFATE	19	U		21	U							
ENDRIN	19	U		4.8	J							
ENDRIN ALDEHYDE	19	U		21	U							
ENDRIN KETONE	19	U		21	U							
GAMMA-BHC (LINDANE)	19	U		21	U							
GAMMA-CHLORDANE	1.5	J		2.1	J							
HEPTACHLOR	19	U		21	U							
HEPTACHLOR EPOXIDE	19	U		21	U							
METHOXYCHLOR	190	U		210	U							
TOXAPHENE	760	U		820	U							

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCIDWSOIL		
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224001		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
CHLORDANE (TECHNICAL)	0.005	U										
ENDRIN	0.0005	U										
GAMMA-BHC (LINDANE)	0.0005	U										
HEPTACHLOR	0.0005	U										
HEPTACHLOR EPOXIDE	0.0005	U										
METHOXYCHLOR	0.001	U										
TOXAPHENE	0.02	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1401			NTC17PCSD1402			NTC17PCSD1501			NTC17PCSD1601		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250224018			C1I250224019			C1I250224017			C1I250224016		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			83.0 %			91.0 %			80.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	740	U		800	U		180	U		410	U	
ACENAPHTHYLENE	36	J	P	800	U		13	J	P	410	U	
ANTHRACENE	110	J	P	290			37			63	J	P
BENZO(A)ANTHRACENE	440			500			150			240		
BENZO(A)PYRENE	410			410			130			240		
BENZO(B)FLUORANTHENE	440			380			150			220		
BENZO(G,H,I)PERYLENE	260			230			70			170		
BENZO(K)FLUORANTHENE	240			230			78			130		
CHRYSENE	430			430			150			230		
DIBENZO(A,H)ANTHRACENE	150	U		160	U		37	U		84	U	
FLUORANTHENE	1200			1300			380			650		
FLUORENE	80	J	P	150	J	P	21	J	P	65	J	P
INDENO(1,2,3-CD)PYRENE	170			140	J	P	70			100		
NAPHTHALENE	740	U		800	U		180	U		410	U	
PHENANTHRENE	720			1000			210			430		
PYRENE	930			1000			310			500		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1701	NTC17PCSD1702	NTC17PCSD1801	NTC17PCSD1802
SAMPLE DATE:	09/22/01	09/22/01	09/22/01	09/22/01
LABORATORY ID:	C1I250224012	C1I250224013	C1I250224010	C1I250224011
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	91.0 %	90.0 %	95.0 %	90.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	730	U		370	U		700	U		1500	U	
ACENAPHTHYLENE	50	J	P	370	U		700	U		1500	U	
ANTHRACENE	160			87			280			410		
BENZO(A)ANTHRACENE	530			340			630			1000		
BENZO(A)PYRENE	500			300			510			940		
BENZO(B)FLUORANTHENE	510			310			550			930		
BENZO(G,H,I)PERYLENE	320			200			320			600		
BENZO(K)FLUORANTHENE	270			180			300			530		
CHRYSENE	490			330			590			1000		
DIBENZO(A,H)ANTHRACENE	150	U		75	U		140	U		300	U	
FLUORANTHENE	1300			900			1700			3100		
FLUORENE	40	J	P	73	J	P	110	J	P	250	J	P
INDENO(1,2,3-CD)PYRENE	180			130			190			460		
NAPHTHALENE	730	U		370	U		700	U		1500	U	
PHENANTHRENE	590			610			1100			2200		
PYRENE	980			720			1300			2300		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1901	NTC17PCSD2001	NTC17PCSD2002	NTC17PCSD2101
SAMPLE DATE:	09/22/01	09/22/01	09/22/01	09/22/01
LABORATORY ID:	C1I250224009	C1I250224007	C1I250224008	C1I250224006
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	81.0 %	82.0 %	90.0 %	93.0 %
UNITS:	UG/KG	UG/KG	UG/KG	UG/KG
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	820	U		400	U		180	U		360	U	
ACENAPHTHYLENE	820	U		40	J	P	180	U		28	J	P
ANTHRACENE	290			100			54			120		
BENZO(A)ANTHRACENE	760			450			270			380		
BENZO(A)PYRENE	790			470			240			330		
BENZO(B)FLUORANTHENE	790			480			240			340		
BENZO(G,H,I)PERYLENE	540	J	U	340			170			230		
BENZO(K)FLUORANTHENE	440			260			140			190		
CHRYSENE	740			450			240			350		
DIBENZO(A,H)ANTHRACENE	170	U		82	U		37	U		72	U	
FLUORANTHENE	2000	J	U	1200			580			940		
FLUORENE	120	J	PU	92			22	J	P	77		
INDENO(1,2,3-CD)PYRENE	320	J	U	230			120			140		
NAPHTHALENE	820	U		400	U		180	U		360	U	
PHENANTHRENE	1300			670			270			500		
PYRENE	1500			940			500			720		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD2201			NTC17PCSD2301			NTC17PCSD2302			NTC17PCSD2401		
SAMPLE DATE:	09/22/01			09/22/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250224005			C1I250224003			C1I250224004			C1I250224002		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	86.0 %			79.0 %			84.0 %			80.0 %		
UNITS:	UG/KG			UG/KG			UG/KG			UG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	760	U		420	U		790	U		1600	U	
ACENAPHTHYLENE	71	J	P	420	U		790	U		1600	U	
ANTHRACENE	240			150			390			400		
BENZO(A)ANTHRACENE	990			470			790			930		
BENZO(A)PYRENE	970			470			770			840		
BENZO(B)FLUORANTHENE	1000			450			730			870		
BENZO(G,H,I)PERYLENE	650			85	U		460			610	J	U
BENZO(K)FLUORANTHENE	540			260			410			500		
CHRYSENE	1000			450			730			890		
DIBENZO(A,H)ANTHRACENE	150	U		85	U		160	U		330	U	
FLUORANTHENE	2800			1300			2400			2800		
FLUORENE	180			76	J	P,	240			170	J	PU
INDENO(1,2,3-CD)PYRENE	460			230			300			390	J	U
NAPHTHALENE	760	U		420	U		790	U		1600	U	
PHENANTHRENE	1600			730			1900			1800		
PYRENE	2100			1000			1800			2000		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCFD09220101			NTCFD09220102								
SAMPLE DATE:	09/22/01			09/22/01			/ /			/ /		
LABORATORY ID:	C1I250224014			C1I250224015								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	88.0 %			82.0 %			100.0 %			100.0 %		
UNITS:	UG/KG			UG/KG								
FIELD DUPLICATE OF:	NTC17PCSD2201			NTC17PCSD1901								
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	380	U		810	U							
ACENAPHTHYLENE	31	J	P	56	J	P						
ANTHRACENE	88			110	J	P						
BENZO(A)ANTHRACENE	360			710								
BENZO(A)PYRENE	320			710								
BENZO(B)FLUORANTHENE	320			710								
BENZO(G,H,I)PERYLENE	200			520								
BENZO(K)FLUORANTHENE	180			400								
CHRYSENE	350			740								
DIBENZO(A,H)ANTHRACENE	76	U		160	U							
FLUORANTHENE	950			2100								
FLUORENE	73	J	P	120	J	P						
INDENO(1,2,3-CD)PYRENE	150			370								
NAPHTHALENE	380	U		810	U							
PHENANTHRENE	520			1200								
PYRENE	740			1600								

CTO154-NTC GREAT LAKES
TCLP DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCIDWSOIL		
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224001		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	MG/L		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
HERBICIDES												
2,4,5-TP (SILVEX)	0.01	U										
2,4-D	0.04	U										

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**B. DAVIS**	**DATE:**	**DECEMBER 12, 2001**
FROM:	**ANGELA SCHEETZ**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS, pH, TOC, and GRAIN SIZE**
CTO-154 NTC GREAT LAKES
SAMPLE DELIVERY GROUP (SDG) – GL010

SAMPLES: 2/Sediment/

NTC17PCSD2401 NTC17PCSD1901

Overview

The sample set for CTO 154, NTC Great Lakes, SDG GL010, consists of two (2) sediment environmental samples.

The samples were analyzed for target analyte list (TAL) metals, total organic carbon (TOC), and pH. Sample NTC17PCSD1901 was also analyzed for grain size. The samples were collected by TetraTech NUS on September 22, 2001 and analyzed by Severn Trent Laboratory - Pittsburgh under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses, with the exception of mercury were conducted using SW 846 method 6010B. Mercury analyses were conducted using SW 846 methods 7471A. TOC analyses were conducted using Walkley Black. pH analysis was conducted using SW 846 method 9045C. Grain size was conducted using the ASTM D 422-63 method.

Metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
* • Laboratory Control Sample Results
• ICP Interference Check Sample Results
* • Matrix Spike Recoveries
* • ICP Serial Dilution Results
* • Laboratory Duplicate Results
* • Sample Quantitation
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses

The following contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Antimony	3.8 µg /L	1.9 mg/kg
Barium	0.7 µg /L	0.35 mg/kg
Beryllium	0.6 µg /L	0.3 mg/kg
Calcium[(1)]	3.7 mg/kg	18.5 mg/kg
Chromium[(1)]	0.27 mg /kg	1.35 mg/kg
Iron[(1)]	4.5 mg /kg	22.5 mg/kg
Silver[(1)]	0.099 mg /kg	0.495 mg/kg
Sodium[(1)]	1.6 mg /kg	8.0 mg/kg
Zinc[(1)]	0.33 mg /kg	1.65 mg/kg

[(1)]Maximum contamination present in the sediment preparation blank.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot, percent solids, and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results below the action level were qualified as nondetected, "U". Positive results greater than the action level were reported for several of the above analytes and were qualified as estimated, "J", per regional guidance.

ICP Interference Check Sample Results

The interfering analyte calcium was present in sample NTC17PCSD1901 at concentrations that were comparable to the levels of calcium in the Interference Check Sample (ICS) solution. Several analytes, namely, arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, and thallium were present in the ICS solution at a concentration that exceeded the absolute value of the Instrument Detection Limit (IDL). Interference affects exist for cadmium, cobalt, and thallium in the affected sample. The positive results reported for cadmium, cobalt, and thallium were qualified as estimated, "J".

The interfering analyte calcium was present in sample NTC17PCSD2401 at concentrations that were comparable to the levels of calcium in the Interference Check Sample (ICS) solution. Several analytes, namely, arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, and thallium were present in the ICS solution at a concentration that exceeded the absolute value of the Instrument Detection Limit (IDL). Interference affects exist for cadmium and cobalt in the affected sample. The positive results reported for cadmium and cobalt were qualified as estimated, "J".

ICP Serial Dilution Results

The ICP serial dilution percent difference for iron exceeded the 10% quality control limit. Positive results reported for iron were qualified as estimated, "J". A direction of bias could not be determined.

Notes

As per project directive, only 10% of the analytical results were validated.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method/preparation blanks.

Other Factors Affecting Data Quality: Several analytes were qualified due to ICP interference. Iron was qualified due to ICP serial dilution noncompliance.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1994, EPA Region V, September 1993, and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Angela Scheetz
Environmental Scientist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1401			NTC17PCSD1402			NTC17PCSD1501			NTC17PCSD1601		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	C1I250224018			C1I250224019			C1I250224017			C1I250224016		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	89.0 %			83.0 %			91.2 %			80.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	2790			6300			2350			2720		
ANTIMONY	0.60	U	A	0.78	U	A	0.62	U	A	0.58	U	A
ARSENIC	5.9			19.1			5.6			5.8		
BARIUM	24.3			38.8			18.6			22.8		
BERYLLIUM	0.81			1.9			1.4			0.64		
CADMIUM	0.64			0.79			4.2			0.49		
CALCIUM	65600			67500			72200			45700		
CHROMIUM	13.4			14.2			26.2			16.8		
COBALT	5.2			9.7			5.1			5.6		
COPPER	123			268			189			141		
IRON	11700			30300			14400			13000		
LEAD	108			177			106			130		
MAGNESIUM	32600			35600			35700			23500		
MANGANESE	404			492			343			301		
MERCURY	4.7			0.10			0.16			0.12		
NICKEL	17.7			28.5			23.0			18.6		
POTASSIUM	417			1270			324			348		
SELENIUM	0.37	U		1.3			0.36	U		6.6		
SILVER	1.4			0.21	U	A	0.28	U	A	0.50	U	A
SODIUM	313			2330			658			311		
THALLIUM	0.64	U		2.5			0.92			0.92		
VANADIUM	9.0			14.9			17.0			12.1		
ZINC	810			2180			2120			797		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1701			NTC17PCSD1702			NTC17PCSD1801			NTC17PCSD1802		
SAMPLE DATE:	09/22/01			09/22/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250224012			C1I250224013			C1I250224010			C1I250224011		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	91.0 %			90.0 %			94.6 %			90.2 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	1990			2520			3010			3540		
ANTIMONY	0.45	U	A	0.27	U		0.36	U	A	0.29	U	A
ARSENIC	5.2			5.1			5.7			7.2		
BARIUM	17.2			15.7			30.3			58.8		
BERYLLIUM	0.87			0.81			1.1			0.84		
CADMIUM	0.43			0.35			0.50			0.62		
CALCIUM	79100			99700			66300			56400		
CHROMIUM	8.4			10.0			17.1			16.2		
COBALT	4.1			4.3			5.7			6.6		
COPPER	206			138			194			139		
IRON	11100			10400			12500			16300		
LEAD	135			77.1			162			110		
MAGNESIUM	44500			57500			35500			28600		
MANGANESE	539			291			393			346		
MERCURY	0.08			0.10			0.12			0.10		
NICKEL	11.9			15.2			15.2			17.9		
POTASSIUM	293			346			458			559		
SELENIUM	0.36	U		0.37	U		0.35	U		0.37	U	
SILVER	0.36	U	A	0.15	U	A	0.55			0.65		
SODIUM	328			278			294			274		
THALLIUM	0.76			1.4			1.6			1.1		
VANADIUM	7.3			11.6			10.3			12.5		
ZINC	1210			799			1290			821		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1901			NTC17PCSD2001			NTC17PCSD2002			NTC17PCSD2101		
SAMPLE DATE:	09/22/01			09/22/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250224009			C1I250224007			C1I250224008			C1I250224006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	81.0 %			82.0 %			90.0 %			92.7 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	3010			2370			2770			2700		
ANTIMONY	0.61	U	A	0.54	U	A	0.63	U	A	0.31	U	A
ARSENIC	5.4			4.6			5.7			7.0		
BARIUM	41.7	J	A	34.4			30.6			58.3		
BERYLLIUM	0.40	J	A	0.24	U	A	0.43			0.30	U	A
CADMIUM	0.56	J	K	0.22			0.55			0.30		
CALCIUM	45300	J	A	34300			69800			72600		
CHROMIUM	14.6	J	A	11.7			10.5			10.4		
COBALT	5.4	J	K	4.7			5.1			11.3		
COPPER	118			35.1			120			79.6		
IRON	10300	J	AI	8940			12200			12200		
LEAD	109			44.2			83.6			45.5		
MAGNESIUM	23100			17900			36100			40800		
MANGANESE	324			243			370			577		
MERCURY	0.61			0.04			0.10			0.06		
NICKEL	15.9			11.9			11.2			12.6		
POTASSIUM	479			428			483			406		
SELENIUM	0.41	U		0.40	U		0.37	U		0.36	U	
SILVER	1.7	J	A	0.12	U	A	0.30	U	A	0.21	U	A
SODIUM	186	J	A	158			236			254		
THALLIUM	0.81	J	K	0.70	U		0.82			1.3		
VANADIUM	9.8			11.0			9.6			10.5		
ZINC	377	J	A	166			560			362		

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD2201			NTC17PCSD2301			NTC17PCSD2302			NTC17PCSD2401		
SAMPLE DATE:	09/22/01			09/22/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250224005			C1I250224003			C1I250224004			C1I250224002		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	86.0 %			79.0 %			84.0 %			80.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	2220			2880			2340			2130		
ANTIMONY	0.48	U	A	0.87	U	A	0.54	U	A	0.30	U	
ARSENIC	4.5			5.0			7.2			3.7		
BARIUM	32.2			22.8			26.7			26.4	J	A
BERYLLIUM	0.60			0.36	U	A	1.0			0.42	J	A
CADMIUM	0.35			0.35			0.40			0.31	J	K
CALCIUM	67100			39400			55600			36600	J	A
CHROMIUM	10.1			11.8			17.0			8.9	J	A
COBALT	4.5			5.3			5.1			4.0	J	K
COPPER	199			50.3			167			151		
IRON	10400			10400			14400			8570	J	AI
LEAD	104			57.6			159			60.3		
MAGNESIUM	34800			20900			31000			18900		
MANGANESE	361			281			321			264		
MERCURY	0.09			0.09			0.15			0.09		
NICKEL	12.1			12.0			13.4			8.1		
POTASSIUM	389			506			412			379		
SELENIUM	0.38	U		0.42	U		0.52			0.41	U	
SILVER	0.51	U	A	0.30	U	A	0.45	U	A	0.25	U	A
SODIUM	242			186			258			157	J	A
THALLIUM	0.66	U		0.73	U		0.68	U		0.71	U	
VANADIUM	7.8			9.9			11.3			8.9		
ZINC	672			279			1240			376	J	A

CTO154-NTC GREAT LAKES
SOIL DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCFD09220101			NTCFD09220102								
SAMPLE DATE:	09/22/01			09/22/01			/ /			/ /		
LABORATORY ID:	C1I250224014			C1I250224015								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	88.0 %			82.0 %			100.0 %			100.0 %		
UNITS:	MG/KG			MG/KG								
FIELD DUPLICATE OF:	NTC17PCSD2201			NTC17PCSD1901								
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	2690			2850								
ANTIMONY	0.38	U	A	0.83	U	A						
ARSENIC	5.8			4.8								
BARIUM	20.2			26.5								
BERYLLIUM	0.30	U	A	0.51								
CADMIUM	0.39			0.93								
CALCIUM	60000			55700								
CHROMIUM	12.6			10.6								
COBALT	5.7			4.4								
COPPER	41.1			76.2								
IRON	10400			10700								
LEAD	57.1			66.8								
MAGNESIUM	32200			29000								
MANGANESE	407			310								
MERCURY	0.13			0.11								
NICKEL	12.6			12.8								
POTASSIUM	435			567								
SELENIUM	0.38	U		0.41	U							
SILVER	0.22	U	A	0.68								
SODIUM	254			198								
THALLIUM	0.67			0.97								
VANADIUM	10.0			12.4								
ZINC	179			565								

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCRB09220101		
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224020			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	21.1	U										
ANTIMONY	3.5											
ARSENIC	3.2	U										
BARIUM	0.37	U										
BERYLLIUM	0.17	U										
CADMIUM	0.51	U										
CALCIUM	13.3											
CHROMIUM	0.74	U										
COBALT	2.9	U										
COPPER	2.4	U										
IRON	7.0											
LEAD	4.1											
MAGNESIUM	21.4	U										
MANGANESE	0.89	U										
MERCURY	0.047	U										
NICKEL	10.4	U										
POTASSIUM	438	U										
SELENIUM	3.3	U										
SILVER	0.8	U										
SODIUM	129											
THALLIUM	5.7	U										
VANADIUM	2.5	U										
ZINC	2.4	U										

CTO154-NTC GREAT LAKES
WATER DATA
STL-PGH
SDG: GL010

SAMPLE NUMBER:	NTCRB09220101		
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:	C1I250224020		
QC_TYPE:	NORMAL		
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L		
FIELD DUPLICATE OF:			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	21.1	U										
ANTIMONY	3.5											
ARSENIC	3.2	U										
BARIUM	0.37	U										
BERYLLIUM	0.17	U										
CADMIUM	0.51	U										
CALCIUM	13.3											
CHROMIUM	0.74	U										
COBALT	2.9	U										
COPPER	2.4	U										
IRON	7.0											
LEAD	4.1											
MAGNESIUM	21.4	U										
MANGANESE	0.89	U										
MERCURY	0.047	U										
NICKEL	10.4	U										
POTASSIUM	438	U										
SELENIUM	3.3	U										
SILVER	0.8	U										
SODIUM	129											
THALLIUM	5.7	U										
VANADIUM	2.5	U										
ZINC	2.4	U										

CTO154-NTC GREAT LAKES
WATER DATA
ALSI
SDG: GL010

SAMPLE NUMBER:	NTCRB09220101			
SAMPLE DATE:	09/22/01	/ /	/ /	/ /
LABORATORY ID:				
QC_TYPE:	RB			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
TOTAL ORGANIC CARBON(MG/L)	1	U										

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1401	NTC17PCSD1402	NTC17PCSD1501	NTC17PCSD1601
SAMPLE DATE:	09/23/01	09/23/01	09/23/01	09/23/01
LABORATORY ID:	C1I250224018	C1I250224019	C1I250224017	C1I250224016
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	89.0 %	83.0 %	91.2 %	80.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
NO. 10 SIEVE(%)							90.6					
NO. 140 SIEVE(%)							0.76					
NO. 20 SIEVE(%)							71.22					
NO. 200 SIEVE(%)							0.69					
NO. 4 SIEVE(%)							97.8					
NO. 40 SIEVE(%)							34.5					
NO. 60 SIEVE(%)							5.31					
PH()	8.3			8.4			8.4			8		
SIEVE 1"(%)							100					
SIEVE 1-1/2"(%)							100					
SIEVE 1/2"(%)							100					
SIEVE 12"(%)							100					
SIEVE 2"(%)							100					
SIEVE 3"(%)							100					
SIEVE 3/4"(%)							100					
SIEVE 3/8"(%)							100					
SIEVE 6"(%)							100					
TOTAL ORGANIC CARBON(MG/KG)	2930			3300			1000			2070		

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1701	NTC17PCSD1702	NTC17PCSD1801	NTC17PCSD1802
SAMPLE DATE:	09/22/01	09/22/01	09/22/01	09/22/01
LABORATORY ID:	C1I250224012	C1I250224013	C1I250224010	C1I250224011
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	91.0 %	90.0 %	94.6 %	90.2 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE(MG/KG)	8.4	U										
CADMIUM(MG/KG)	0.43											
COPPER(MG/KG)	119											
LEAD(MG/KG)	72											
MERCURY(MG/KG)	0.04											
NICKEL(MG/KG)	5											
PH()	8.4			8.3			8.3			8.2		
TOTAL ORGANIC CARBON(MG/KG)	4510			3030			2890			4910		
ZINC(MG/KG)	270											

CTO 154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD1901	NTCFD09220102	NTC17PCSD2001	NTC17PCSD2002
SAMPLE DATE:	09/22/01	09/22/01	09/22/01	09/22/01
LABORATORY ID:	C1I250224009	C1I250224015	C1I250224007	C1I250224008
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	81.0 %	82.0 %	82.0 %	90.0 %
FIELD DUPLICATE OF:		NTC17PCSD1901		

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
NO. 10 SIEVE(%)	95.82											
NO. 140 SIEVE(%)	16.53											
NO. 20 SIEVE(%)	86.93											
NO. 200 SIEVE(%)	13.66											
NO. 4 SIEVE(%)	98.9											
NO. 40 SIEVE(%)	69.83											
NO. 60 SIEVE(%)	40.84											
PH()	8.2			8.2			8.2			8.2		
SIEVE 1"(%)	100											
SIEVE 1-1/2"(%)	100											
SIEVE 1/2"(%)	100											
SIEVE 12"(%)	100											
SIEVE 2"(%)	100											
SIEVE 3"(%)	100											
SIEVE 3/4"(%)	100											
SIEVE 3/8"(%)	99.56											
SIEVE 6"(%)	100											
TOTAL ORGANIC CARBON(MG/KG)	3140			4680			3590			4540		

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD2101			NTC17PCSD2201			NTCFD09220101			NTC17PCSD2301		
SAMPLE DATE:	09/22/01			09/22/01			09/22/01			09/22/01		
LABORATORY ID:	C1I250224006			C1I250224005			C1I250224014			C1I250224003		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	93.0 %			86.0 %			88.0 %			79.0 %		
FIELD DUPLICATE OF:							NTC17PCSD2201					
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE(MG/KG)	9.6	U										
CADMIUM(MG/KG)	0.28											
COPPER(MG/KG)	31.9											
LEAD(MG/KG)	26.9											
MERCURY(MG/KG)	0.02											
NICKEL(MG/KG)	3.8											
PH()	8.4			8.3			8.4			8		
TOTAL ORGANIC CARBON(MG/KG)	1560			2150			2650			3660		
ZINC(MG/KG)	155											

CTO154-NTC GREAT LAKES
SOIL DATA
STL
SDG: GL010

SAMPLE NUMBER:	NTC17PCSD2302	NTC17PCSD2401		
SAMPLE DATE:	09/22/01	09/22/01	/ /	/ /
LABORATORY ID:	C1I250224004	C1I250224002		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	84.0 %	80.0 %	100.0 %	100.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
PH()	8.4			8.1								
TOTAL ORGANIC CARBON(MG/KG)	3120			4330								

APPENDIX B.3

SUMMARY OF POSITIVE HITS TABLES

Summary of Positive Hits in Surface Water
Site 17 - Boat Basin and Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BBSW06		NTC17BBSW06		NTC17BBSW06		NTC17BBSW06		NTC17PCSW01		NTC17PCSW01		NTC17PCSW02	
SAMPLE ID	NTC17BBSW0501		NTC17BBSW0501-F		NTC17BBSW0601		NTC17BBSW0601-F		NTC17PCSW0101		NTC17PCSW0101-F		NTC17PCSW0201	
SAMPLE	NTC17BBSW0501		NTC17BBSW0501-F		NTC17BBSW0601		NTC17BBSW0601-F		NTC17PCSW0101		NTC17PCSW0101-F		NTC17PCSW0201	
DEPTH RANGE	-9999 - -9999		-9999 - -9999		-9999 - -9999		-9999 - -9999		-9999 - -9999		-9999 - -9999		-9999 - -9999	
SAMPLE DATE	9/7/2001	QUAL	9/7/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/22/2001	QUAL
VOLATILE ORGANICS (UG/L)														
2-BUTANONE									5.6					
ACETONE	8.2	J			5.4	J			11					
BROMODICHLOROMETHANE									0.34	J			0.74	J
CHLORODIBROMOMETHANE													0.59	J
CHLOROFORM									0.42	J			1.2	
CIS-1,2-DICHLOROETHENE									9.2				1.1	
TETRACHLOROETHENE									1.4				0.41	J
TOLUENE									0.7	J				
TRICHLOROETHENE									5.5				0.46	J
VINYL CHLORIDE									0.77	J				
SEMIVOLATILE ORGANICS (UG/L)														
DI-N-BUTYL PHTHALATE									2.7	J				
PESTICIDES/PCBs (UG/L)														
4,4'-DDD													*0.0054*	J
4,4'-DDE													0.024	J
4,4'-DDT													0.029	J
ENDOSULFAN I	0.01	J												
INORGANICS (UG/L)														
ALUMINUM	44.8				316				450				675	
ARSENIC	3.8				3.7									
BARIUM	16.8	J			25				58.7				49.8	
BERYLLIUM														
CADMIUM														
CALCIUM	23200	J			36800				91600				76400	J
CHROMIUM														
COBALT														
COPPER	6.9								22.2				12.9	
IRON	84.4	J			417				818				843	J
LEAD	3								6.4				3.9	
MAGNESIUM	7720				12600				37400				29500	
MANGANESE	14.6	J			18.2				64.2				35.8	
MERCURY									0.06				0.05	
NICKEL														
POTASSIUM	1980				1270				5560				3710	
SELENIUM														
SODIUM	40200	J			13100				122000				95400	J
VANADIUM													2.9	
ZINC									150				58.3	J
FILTERED METALS (UG/L)														
ALUMINUM			51.3				317							
ARSENIC			4.3				3.6							
BARIUM			17.1	J			25.1				53.3			
BERYLLIUM														
CADMIUM											0.58			
CALCIUM			23500	J			36900				87500			
CHROMIUM														
COBALT														
COPPER			2.9								10.7			
IRON			78	J			429							
LEAD							3.3							
MAGNESIUM			7840				12800				36700			
MANGANESE			14.6	J			18.8				46.3			
MERCURY														
NICKEL														
POTASSIUM			2000				1360				5150			
SELENIUM											4.4			
SODIUM			40500	J			13400				115000			
VANADIUM														
ZINC											111			

ASSOCIATD SAMPLES

NTC17BBSW0501	NTC17PCSW0201
NTC17BBSW0501-F	NTC17PCSW0201-F
NTC17BBSW0601	NTC17PCSW0301
NTC17BBSW0601-F	NTC17PCSW0301-F
NTC17PCSW0101	NTC17PCSW0401
NTC17PCSW0101-F	NTC17PCSW0401-F

Summary of Positive Hits in Surface Water
Site 17 - Boat Basin and Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSW02		NTC17PCSW03		NTC17PCSW03		NTC17PCSW04		NTC17PCSW04	
SAMPLE ID	NTC17PCSW0201-F		NTC17PCSW0301		NTC17PCSW0301-F		NTC17PCSW0401		NTC17PCSW0401-F	
SAMPLE	NTC17PCSW0201-F		NTC17PCSW0301		NTC17PCSW0301-F		NTC17PCSW0401		NTC17PCSW0401-F	
DEPTH RANGE	-9999 - -9999		-9999 - -9999		-9999 - -9999		-9999 - -9999		-9999 - -9999	
SAMPLE DATE	9/22/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL
VOLATILE ORGANICS (UG/L)										
2-BUTANONE										
ACETONE			4.4	J			2.6	J		
BROMODICHLOROMETHANE										
CHLORODIBROMOMETHANE										
CHLOROFORM										
CIS-1,2-DICHLOROETHENE										
TETRACHLOROETHENE										
TOLUENE										
TRICHLOROETHENE										
VINYL CHLORIDE										
SEMIVOLATILE ORGANICS (UG/L)										
DI-N-BUTYL PHTHALATE										
PESTICIDES/PCBs (UG/L)										
4,4'-DDD										
4,4'-DDE			0.01	J			0.0084	J		
4,4'-DDT										
ENDOSULFAN I										
INORGANICS (UG/L)										
ALUMINUM			9460				3360			
ARSENIC			3.7							
BARIUM			81.8				48.1			
BERYLLIUM			0.26							
CADMIUM										
CALCIUM			44000				60900			
CHROMIUM			14.4							
COBALT			4.6							
COPPER			18.9				11.8			
IRON			10900				3800			
LEAD			18				7.8			
MAGNESIUM			21100				29500			
MANGANESE			245				121			
MERCURY			0.07				0.1			
NICKEL			12.5							
POTASSIUM			6280				5150			
SELENIUM										
SODIUM			32900				55900			
VANADIUM			15.6				8.7			
ZINC			77.6				28			
FILTERED METALS (UG/L)										
ALUMINUM	35				114				25.5	
ARSENIC										
BARIUM	44.2				16.8				30	
BERYLLIUM										
CADMIUM										
CALCIUM	73800	J			28300				54300	
CHROMIUM										
COBALT										
COPPER	8.7				10.7				5.8	
IRON	344	J			141				82.9	
LEAD										
MAGNESIUM	28200				11500				25800	
MANGANESE	21.9				16.5				33.8	
MERCURY									0.08	
NICKEL										
POTASSIUM	3540				2730				3790	
SELENIUM										
SODIUM	92800	J			31500				53000	
VANADIUM	2.8									
ZINC	33.4				5.6				8.3	

Summary of Positive Hits in Surface Sediment
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD01		NTC17PCSD02		NTC17PCSD03		NTC17PCSD04		NTC17PCSD05		NTC17PCSD06		NTC17PCSD07	
SAMPLE ID	NTC17PCSD0101		NTC17PCSD0201		NTC17PCSD0301		NTC17PCSD0401		NTC17PCSD0501		NTC17PCSD0601		NTC17PCSD0701	
SAMPLE	NTC17PCSD0101		NTC17PCSD0201		NTC17PCSD0301		NTC17PCSD0401		NTC17PCSD0501		NTC17PCSD0601		NTC17PCSD0701	
DEPTH RANGE	0 - 0.131		0 - 0.13		0 - 0.13		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131	
SAMPLE DATE	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL
VOLATILE ORGANICS (UG/KG)														
METHYLENE CHLORIDE							11							
SEMIVOLATILE ORGANICS (UG/KG)														
2-METHYLNAPHTHALENE														
ACENAPHTHYLENE					79	J								
ANTHRACENE	4000		930		410		120	J	320	J	58	J	75	J
BENZALDEHYDE							1500							
BENZO(A)ANTHRACENE	11000		2400		1400		560		1000		440		470	
BENZO(A)PYRENE	11000		2300		1500		570		1100		460		530	
BENZO(B)FLUORANTHENE	12000		2400		1500		650		1200		490		580	
BENZO(G,H,I)PERYLENE	7500	J	1600		1200		530		930		230		430	
BENZO(K)FLUORANTHENE	6300		1300		820		350		620		270		310	
BIS(2-ETHYLHEXYL)PHTHALATE							670							
BUTYL BENZYL PHTHALATE														
CAPROLACTAM														
CARBAZOLE							150	J						
CHRYSENE	12000		2400		1500		600		1000		480		530	
DIBENZOFURAN							37	J						
FLUORANTHENE	33000		7400		4600		1500		3000		1000		1200	
FLUORENE	2400	J	570	J	320	J	62	J	190	J	40	J	56	J
INDENO(1,2,3-CD)PYRENE	5800	J	940		680		430		590		270		380	
PHENANTHRENE	24000		4800		2600		730		1700		460		670	
PHENOL							94	J						
PYRENE	27000		5500		3400		1200		2300		890		1000	
PESTICIDES/PCBs (UG/KG)														
4,4'-DDD	25	J	7.2	J	63		120		150	J	3.7		2.3	
4,4'-DDE	36	J	66		110		130		200	J	5.1		4.3	
4,4'-DDT	32	J	51		190		240		1800		4.9		5.6	
ALDRIN	6.4	J												
ALPHA-CHLORDANE			2.5	J	3.7	J	4.3	J			0.16	J		
AROCLOR-1248														
AROCLOR-1254	300	J	110		200		290		160					
AROCLOR-1260			49		150		140		110					
DIELDRIN											0.25	J	0.46	J
ENDOSULFAN I														
ENDOSULFAN II	12	J			4.1	J	7.4	J			0.52	J	0.58	J
ENDRIN							2.6	J						
ENDRIN ALDEHYDE														
GAMMA-CHLORDANE					2.1	J	2.9	J						
HEPTACHLOR EPOXIDE													0.13	J
INORGANICS (MG/KG)														
ALUMINUM	4270		2820		2830		2130		2260		2480		2420	
ANTIMONY	1.5		0.45		1		0.74				0.51		0.48	
ARSENIC	10.4		5.2		8.5		6.2		5.4		5.2		4.4	
BARIUM	54.2	J	29.3		40.5		20.4		21.2		122		42.6	
BERYLLIUM	0.73	J	0.84		0.58		0.65		0.88		0.44			
CADMIUM	3.7		0.58		1.4		0.96		0.61					
CALCIUM	50400	J	56500		43600		45500		67000		110000		62900	
CHROMIUM	55.8	J	13.7		17.4		22.4		10.8		13.1		11.8	
COBALT	10.1		6.9		6.7		7.8		4.2		7.9		4.9	
COPPER	368		477		222		181		225		129		72.5	
IRON	14900	J	12600		14100		10300		10600		13000		12200	

Summary of Positive Hits in Surface Sediment
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD01		NTC17PCSD02		NTC17PCSD03		NTC17PCSD04		NTC17PCSD05		NTC17PCSD06		NTC17PCSD07	
SAMPLE ID	*NTC17PCSD0101*		*NTC17PCSD0201*		NTC17PCSD0301		*NTC17PCSD0401*		*NTC17PCSD0501*		*NTC17PCSD0601*		*NTC17PCSD0701*	
SAMPLE	NTC17PCSD0101		NTC17PCSD0201		NTC17PCSD0301		NTC17PCSD0401		NTC17PCSD0501		NTC17PCSD0601		NTC17PCSD0701	
DEPTH RANGE	0 - 0.131		0 - 0.13		0 - 0.13		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131	
SAMPLE DATE	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL
LEAD	322	J	144		213		181		117		123		76.7	
MAGNESIUM	23600		29400		21500		24400		36200		51200		32800	
MANGANESE	436		339		295		256		271		662		333	
MERCURY	0.94	J	0.17		0.25		0.32		0.17		0.09		0.04	
NICKEL	20.9		18.3		16.6		14.7		12		9.9		9.8	
POTASSIUM	657		383		428		316		292		376		397	
SELENIUM	0.6	J					0.52		0.46					
SILVER	0.95	J			2.3		3.2							
SODIUM	287	J	281		186		142		319		260		152	
THALLIUM	1.7	J	1.4				1.4				0.74		0.85	
VANADIUM	14	J	10.2		10		10.9		7.7		12.1		9.8	
ZINC	1140	J	1390		774		836		1030		699		538	
MISCELLANEOUS PARAMETERS (MG/KG)														
ACIDVOLATILESULFIDE														
CADMIUM														
COPPER														
LEAD														
MERCURY														
NICKEL														
NO. 10 SIEVE %					99.58									
NO. 140 SIEVE %					14.37									
NO. 20 SIEVE %					98.61									
NO. 200 SIEVE %					11.4									
NO. 4 SIEVE %					99.73									
NO. 40 SIEVE %					86.64									
NO. 60 SIEVE %					47.6									
PH S.U.	8.1		8.3		7.9		8.3		8		8.4		8.2	
SIEVE 1" %					100									
SIEVE 1-1/2" %					100									
SIEVE 1/2" %					100									
SIEVE 12" %					100									
SIEVE 2" %					100									
SIEVE 3" %					100									
SIEVE 3/4" %					100									
SIEVE 3/8" %					100									
SIEVE 6" %					100									
TOTAL ORGANIC CARBON	9240		3260		4560		4360		3110		3400		7240	
ZINC														

ASSOCIATED SAMPL NTC17PCSD1101
NTC17PCSD0101 NTC17PCSD1201
NTC17PCSD0201 NTC17PCSD1301
NTC17PCSD0301 NTC17PCSD1401
NTC17PCSD0401 NTC17PCSD1501
NTC17PCSD0501 NTC17PCSD1601
NTC17PCSD0601 NTC17PCSD1701
NTC17PCSD0701 NTC17PCSD1801
NTC17PCSD0801 NTC17PCSD1901
NTC17PCSD0901 NTC17PCSD2001
NTC17PCSD1001 NTC17PCSD2101
NTC17PCSD2201
NTC17PCSD2301
NTC17PCSD2401
NTC17PCSD2501
NTC17PCSD2601
NTC17PCSD2701
NTC17PCSD2801
NTC17PCSD2901
NTC17PCSD3001
NTC17PCSD3101
NTC17PCSD3201
NTC17PCSD3301
NTC17PCSD3401
NTC17PCSD3501
NTC17PCSD3601
NTC17PCSD3701
NTC17PCSD3801

Summary of Positive Hits in Surface Sediment
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD08		NTC17PCSD09		NTC17PCSD10		NTC17PCSD11		NTC17PCSD12		NTC17PCSD13		NTC17PCSD14	
SAMPLE ID	NTC17PCSD0801		NTC17PCSD0901		NTC17PCSD1001		NTC17PCSD1101		NTC17PCSD1201		NTC17PCSD1301		NTC17PCSD1401	
SAMPLE	NTC17PCSD0801		NTC17PCSD0901		NTC17PCSD1001		NTC17PCSD1101		NTC17PCSD1201		NTC17PCSD1301		NTC17PCSD1401	
DEPTH RANGE	0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.13	
SAMPLE DATE	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL
VOLATILE ORGANICS (UG/KG)														
METHYLENE CHLORIDE														
SEMIVOLATILE ORGANICS (UG/KG														
2-METHYLNAPHTHALENE													64	J
ACENAPHTHYLENE					92	J							36	J
ANTHRACENE	73	J	61	J	820	J	1100		120	J	600		110	J
BENZALDEHYDE														
BENZO(A)ANTHRACENE	430		390		2000		2900		340		2000		440	
BENZO(A)PYRENE	470		470		2100	J	2700		300		1900		410	
BENZO(B)FLUORANTHENE	510		460		2100		2800		300		1900		440	
BENZO(G,H,I)PERYLENE	420		360		1500	J	1500		200		1300		260	
BENZO(K)FLUORANTHENE	270		260		1200		1600		150		1100		240	
BIS(2-ETHYLHEXYL)PHTHALATE													620	
BUTYL BENZYL PHTHALATE														
CAPROLACTAM														
CARBAZOLE													720	
CHRYSENE	470		410		2100		2900		360		1900		430	
DIBENZOFURAN													250	J
FLUORANTHENE	1100		950		5900		8400		1000		5200		1200	
FLUORENE	74	J	48	J	440		850		110	J	280	J	80	J
INDENO(1,2,3-CD)PYRENE	370		270		990	J	1500		170		920		170	
PHENANTHRENE	630		490		3900		6400		820		3100		720	
PHENOL														
PYRENE	940		810		4400		6600		850		4200		930	
PESTICIDES/PCBs (UG/KG)														
4,4'-DDD	4.7		4.4		7.5		58		73		100		100	
4,4'-DDE	11		20		20		110		53		110		150	
4,4'-DDT	7.5		17		18		170		160		150		190	
ALDRIN														
ALPHA-CHLORDANE	0.81	J	0.44	J										
AROCLOR-1248														
AROCLOR-1254											140		200	
AROCLOR-1260							46				41		43	
DIELDRIN	0.55	J	0.23	J										
ENDOSULFAN I									1.1	J				
ENDOSULFAN II	0.55	J			0.82	J								
ENDRIN														
ENDRIN ALDEHYDE					3.3									
GAMMA-CHLORDANE					1	J					1.6	J		
HEPTACHLOR EPOXIDE	0.17	J			0.2	J								
INORGANICS (MG/KG)														
ALUMINUM	2950		3300		4810		2900		1960		2500		2790	
ANTIMONY	0.31		0.62				0.53		0.27		0.41			
ARSENIC	5.3		4.8		7.2		6		4		9.1		5.9	
BARIUM	32		27.9		54.7	J	26.3		23.1		25.9		24.3	
BERYLLIUM					0.44	J	0.39		0.77		0.78		0.81	
CADMIUM			0.11		0.23	J	0.47		0.57		0.5		0.64	
CALCIUM	45300		49200		42900	J	45900		91700		57400		65600	
CHROMIUM	16.5		12.1		15.8	J	10.2		16.7		29.6		13.4	
COBALT	5.6		5.6		8.6		5.3		4		5.7		5.2	
COPPER	43.1		42.6		40		123		127		197		123	
IRON	11400		12400		14200	J	10900		9590		12500		11700	

Summary of Positive Hits in Surface Sediment
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD08		NTC17PCSD09		NTC17PCSD10		NTC17PCSD11		NTC17PCSD12		NTC17PCSD13		NTC17PCSD14	
SAMPLE ID	NTC17PCSD0801		NTC17PCSD0901		NTC17PCSD1001		NTC17PCSD1101		NTC17PCSD1201		NTC17PCSD1301		NTC17PCSD1401	
SAMPLE	NTC17PCSD0801		NTC17PCSD0901		NTC17PCSD1001		NTC17PCSD1101		NTC17PCSD1201		NTC17PCSD1301		NTC17PCSD1401	
DEPTH RANGE	0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.13	
SAMPLE DATE	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL
LEAD	73		30.8		68.3	J	120		142		155		108	
MAGNESIUM	23100		26500		21700		24000		51400		30500		32600	
MANGANESE	341		358		407		337		370		396		404	
MERCURY	0.05		0.31		0.07	J	0.45		0.13		0.22		4.7	
NICKEL	10.2		14.2		15.9		11.9		18.3		23		17.7	
POTASSIUM	492		692		798		392		293		312		417	
SELENIUM														
SILVER							1.5				0.98		1.4	
SODIUM	128		138		140	J	155		291		255		313	
THALLIUM			1.4		2.1	J								
VANADIUM	11		17.9		14.7	J	8.6		7.1		8.3		9	
ZINC	192		126		183	J	570		1110		856		810	
MISCELLANEOUS PARAMETERS														
ACIDVOLATILESULFIDE														
CADMIUM							0.55							
COPPER							128							
LEAD							63.7							
MERCURY							0.11							
NICKEL							7.3							
NO. 10 SIEVE %														
NO. 140 SIEVE %														
NO. 20 SIEVE %														
NO. 200 SIEVE %														
NO. 4 SIEVE %														
NO. 40 SIEVE %														
NO. 60 SIEVE %														
PH S.U.	8.1		7.9		8		8.3		8.4		8.4		8.3	
SIEVE 1" %														
SIEVE 1-1/2" %														
SIEVE 1/2" %														
SIEVE 12" %														
SIEVE 2" %														
SIEVE 3" %														
SIEVE 3/4" %														
SIEVE 3/8" %														
SIEVE 6" %														
TOTAL ORGANIC CARBON	4090		4630		7870		4590		2190		3340		2930	
ZINC							248							

Summary of Positive Hits in Surface Sediment
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD15		NTC17PCSD16		NTC17PCSD17		NTC17PCSD18		NTC17PCSD19		NTC17PCSD20		NTC17PCSD21	
SAMPLE ID	NTC17PCSD1501		NTC17PCSD1601		NTC17PCSD1701		NTC17PCSD1801		NTC17PCSD1901		NTC17PCSD2001		NTC17PCSD2101	
SAMPLE	NTC17PCSD1501		NTC17PCSD1601		NTC17PCSD1701		NTC17PCSD1801		NTC17PCSD1901		NTC17PCSD2001		NTC17PCSD2101	
DEPTH RANGE	0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.13		0 - 0.131		0 - 0.13	
SAMPLE DATE	9/23/2001	QUAL	9/23/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL
VOLATILE ORGANICS (UG/KG)														
METHYLENE CHLORIDE														
SEMIVOLATILE ORGANICS (UG/KG														
2-METHYLNAPHTHALENE							55	J						
ACENAPHTHYLENE	13	J			50	J					40	J	28	J
ANTHRACENE	37		63	J	160		280		290		100		120	
BENZALDEHYDE														
BENZO(A)ANTHRACENE	150		240		530		630		760		450		380	
BENZO(A)PYRENE	130		240		500		510		790		470		330	
BENZO(B)FLUORANTHENE	150		220		510		550		790		480		340	
BENZO(G,H,I)PERYLENE	70		170		320		320		540	J	340		230	
BENZO(K)FLUORANTHENE	78		130		270		300		440		260		190	
BIS(2-ETHYLHEXYL)PHTHALATE			600				520						280	J
BUTYL BENZYL PHTHALATE							37	J						
CAPROLACTAM							57	J						
CARBAZOLE			130	J			380						75	J
CHRYSENE	150		230		490		590		740		450		350	
DIBENZOFURAN			56	J			180	J					47	J
FLUORANTHENE	380		650		1300		1700		2000	J	1200		940	
FLUORENE	21	J	65	J	40	J	110	J	120	J	92		77	
INDENO(1,2,3-CD)PYRENE	70		100		180		190		320	J	230		140	
PHENANTHRENE	210		430		590		1100		1300		670		500	
PHENOL														
PYRENE	310		500		980		1300		1500		940		720	
PESTICIDES/PCBs (UG/KG)														
4,4'-DDD	73		78		30		110		170		50		51	
4,4'-DDE	68		130		46		130		210		68		42	
4,4'-DDT	92		170		110		150		230		65		62	
ALDRIN														
ALPHA-CHLORDANE	1.7	J			1.1	J			6.9	J	5.9	J	1.3	J
AROCLOR-1248														
AROCLOR-1254	97		120		69				440		400		56	
AROCLOR-1260	51		53				55		110					
DIELDRIN					0.97	J							1.7	J
ENDOSULFAN I														
ENDOSULFAN II					1.8	J							1.1	J
ENDRIN														
ENDRIN ALDEHYDE														
GAMMA-CHLORDANE					0.91	J					1.9	J		
HEPTACHLOR EPOXIDE														
INORGANICS (MG/KG)														
ALUMINUM	2350		2720		1990		3010		3010		2370		2700	
ANTIMONY														
ARSENIC	5.6		5.8		5.2		5.7		5.4		4.6		7	
BARIUM	18.6		22.8		17.2		30.3		41.7	J	34.4		58.3	
BERYLLIUM	1.4		0.64		0.87		1.1		0.4	J				
CADMIUM	4.2		0.49		0.43		0.5		0.56	J	0.22		0.3	
CALCIUM	72200		45700		79100		66300		45300	J	34300		72600	
CHROMIUM	26.2		16.8		8.4		17.1		14.6	J	11.7		10.4	
COBALT	5.1		5.6		4.1		5.7		5.4	J	4.7		11.3	
COPPER	189		141		206		194		118		35.1		79.6	
IRON	14400		13000		11100		12500		10300	J	8940		12200	

Summary of Positive Hits in Surface Sediment
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD15		NTC17PCSD16		NTC17PCSD17		NTC17PCSD18		NTC17PCSD19		NTC17PCSD20		NTC17PCSD21	
SAMPLE ID	NTC17PCSD1501		NTC17PCSD1601		NTC17PCSD1701		NTC17PCSD1801		NTC17PCSD1901		NTC17PCSD2001		NTC17PCSD2101	
SAMPLE	NTC17PCSD1501		NTC17PCSD1601		NTC17PCSD1701		NTC17PCSD1801		NTC17PCSD1901		NTC17PCSD2001		NTC17PCSD2101	
DEPTH RANGE	0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.13		0 - 0.131		0 - 0.13	
SAMPLE DATE	9/23/2001	QUAL	9/23/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL
LEAD	106		130		135		162		109		44.2		45.5	
MAGNESIUM	35700		23500		44500		35500		23100		17900		40800	
MANGANESE	343		301		539		393		324		243		577	
MERCURY	0.16		0.12		0.08		0.12		0.61		0.04		0.06	
NICKEL	23		18.6		11.9		15.2		15.9		11.9		12.8	
POTASSIUM	324		348		293		458		479		428		406	
SELENIUM			6.6											
SILVER							0.55		1.7	J				
SODIUM	658		311		328		294		186	J	158		254	
THALLIUM	0.92		0.92		0.76		1.6		0.81	J			1.3	
VANADIUM	17		12.1		7.3		10.3		9.8		11		10.5	
ZINC	2120		797		1210		1290		377	J	166		362	
MISCELLANEOUS PARAMETERS														
ACIDVOLATILESULFIDE														
CADMIUM					0.43								0.28	
COPPER					119								31.9	
LEAD					72								26.9	
MERCURY					0.04								0.02	
NICKEL					5								3.8	
NO. 10 SIEVE %	90.6								95.82					
NO. 140 SIEVE %	0.76								16.53					
NO. 20 SIEVE %	71.22								86.93					
NO. 200 SIEVE %	0.69								13.66					
NO. 4 SIEVE %	97.8								98.9					
NO. 40 SIEVE %	34.5								69.83					
NO. 60 SIEVE %	5.31								40.84					
PH S.U.	8.4		8		8.4		8.3		8.2		8.2		8.4	
SIEVE 1" %	100								100					
SIEVE 1-1/2" %	100								100					
SIEVE 1/2" %	100								100					
SIEVE 12" %	100								100					
SIEVE 2" %	100								100					
SIEVE 3" %	100								100					
SIEVE 3/4" %	100								100					
SIEVE 3/8" %	100								99.56					
SIEVE 6" %	100								100					
TOTAL ORGANIC CARBON	1000		2070		4510		2890		3140		3590		1560	
ZINC					270								155	

Summary of Positive Hits in Surface Sediment
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD22		NTC17PCSD23		NTC17PCSD24		NTC17PCSD25		NTC17PCSD26		NTC17PCSD27		NTC17PCSD28	
SAMPLE ID	NTC17PCSD2201		NTC17PCSD2301		NTC17PCSD2401		NTC17PCSD2501		NTC17PCSD2601		NTC17PCSD2701		NTC17PCSD2801	
SAMPLE	NTC17PCSD2201		NTC17PCSD2301		NTC17PCSD2401		NTC17PCSD2501		NTC17PCSD2601		NTC17PCSD2701		NTC17PCSD2801	
DEPTH RANGE	0 - 0.13		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131	
SAMPLE DATE	9/22/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL
VOLATILE ORGANICS (UG/KG)														
METHYLENE CHLORIDE														
SEMIVOLATILE ORGANICS (UG/KG														
2-METHYLNAPHTHALENE			93	J										
ACENAPHTHYLENE	71	J												
ANTHRACENE	240		150		400		86		43		1100		34	
BENZALDEHYDE														
BENZO(A)ANTHRACENE	990		470		930		260		150		2800		130	
BENZO(A)PYRENE	970		470		840		300		150		2100	J	160	
BENZO(B)FLUORANTHENE	1000		450		870		240		150		2200		150	
BENZO(G,H,I)PERYLENE	650				610	J	110		81		990	J	93	
BENZO(K)FLUORANTHENE	540		260		500		130		76		1300		75	
BIS(2-ETHYLHEXYL)PHTHALATE			680											
BUTYL BENZYL PHTHALATE														
CAPROLACTAM														
CARBAZOLE			250	J										
CHRYSENE	1000		450		890		270		150		2900		140	
DIBENZOFURAN			140	J										
FLUORANTHENE	2800		1300		2800		690		340		9000		330	
FLUORENE	180		76	J	170	J	35	J	26	J	410	J	21	J
INDENO(1,2,3-CD)PYRENE	460		230		390	J	140		91		880	J	95	
PHENANTHRENE	1600		730		1800		440		180		6300		160	
PHENOL														
PYRENE	2100		1000		2000		540		290		6400		280	
PESTICIDES/PCBs (UG/KG)														
4,4'-DDD	88		89		78		7.6		8.4		14		24	
4,4'-DDE	90		91		89		28		24		31		20	
4,4'-DDT	81		81		93		35		25		39		20	
ALDRIN														
ALPHA-CHLORDANE	1.9	J	2.3	J	1.4	J	0.72	J	0.66	J	1.1	J	2.2	
AROCLOR-1248														
AROCLOR-1254	110												110	
AROCLOR-1260	41													
DIELDRIN							0.41	J	0.52	J			2.9	
ENDOSULFAN I														
ENDOSULFAN II							0.32	J	0.3	J			1.3	J
ENDRIN													1.3	J
ENDRIN ALDEHYDE														
GAMMA-CHLORDANE	1.7	J					0.83	J	0.92	J	1.6	J	1.3	J
HEPTACHLOR EPOXIDE									0.15	J			0.46	J
INORGANICS (MG/KG)														
ALUMINUM	2220		2880		2130		2460		2710		2460		1670	
ANTIMONY														
ARSENIC	4.5		5		3.7		3.9		4.7		5.2		2.7	
BARIUM	32.2		22.8		26.4	J	32		40.4		19.2	J	22.3	
BERYLLIUM	0.6				0.42	J	0.19		0.44		0.23		0.13	
CADMIUM	0.35		0.35		0.31	J			0.07		0.08	J	0.08	
CALCIUM	67100		39400		36600	J	99100		50800		66300	J	31400	
CHROMIUM	10.1		11.8		8.9	J	9.1		14.7		10	J	6.8	
COBALT	4.5		5.3		4	J	4		5.2		4.7	J	3.3	
COPPER	199		50.3		151		22.3		46.2		27.3		9.2	
IRON	10400		10400		8570	J	9710		12400		13100	J	8410	

Summary of Positive Hits in Surface Sediment
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD22		NTC17PCSD23		NTC17PCSD24		NTC17PCSD25		NTC17PCSD26		NTC17PCSD27		NTC17PCSD28	
SAMPLE ID	NTC17PCSD2201		NTC17PCSD2301		NTC17PCSD2401		NTC17PCSD2501		NTC17PCSD2601		NTC17PCSD2701		NTC17PCSD2801	
SAMPLE	NTC17PCSD2201		NTC17PCSD2301		NTC17PCSD2401		NTC17PCSD2501		NTC17PCSD2601		NTC17PCSD2701		NTC17PCSD2801	
DEPTH RANGE	0 - 0.13		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131	
SAMPLE DATE	9/22/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL
LEAD	104		57.6		60.3		27.5		57.9		53.9	J	18.2	
MAGNESIUM	34800		20900		18900		54500		27100		36400		16900	
MANGANESE	361		281		264		504		350		381		213	
MERCURY	0.09		0.09		0.09		0.02		0.02		0.03		0.14	
NICKEL	12.1		12		8.1		8.1		11.3		8.1	J	7	
POTASSIUM	389		506		379		387		400		375		330	
SELENIUM														
SILVER														
SODIUM	242		186		157	J	197		205		186		78.3	
THALLIUM							0.82		1.4		0.73	J		
VANADIUM	7.8		9.9		8.9		8.2		10.7		8.7		7.9	
ZINC	672		279		376	J	102		253		208		55	
MISCELLANEOUS PARAMETERS														
ACIDVOLATILESULFIDE														
CADMIUM											0.28	J		
COPPER											29	J		
LEAD											30.2	J		
MERCURY											0.03	J		
NICKEL											3.5	J		
NO. 10 SIEVE %														
NO. 140 SIEVE %														
NO. 20 SIEVE %														
NO. 200 SIEVE %														
NO. 4 SIEVE %														
NO. 40 SIEVE %														
NO. 60 SIEVE %														
PH S.U.	8.3		8		8.1		8.5		8.3		8.3		8	
SIEVE 1" %														
SIEVE 1-1/2" %														
SIEVE 1/2" %														
SIEVE 12" %														
SIEVE 2" %														
SIEVE 3" %														
SIEVE 3/4" %														
SIEVE 3/8" %														
SIEVE 6" %														
TOTAL ORGANIC CARBON	2150		3660		4330		2400		2570		2690		6110	
ZINC											137	J		

Summary of Positive Hits in Surface Sediment
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD29		NTC17PCSD30		NTC17PCSD31		NTC17PCSD32		NTC17PCSD33		NTC17PCSD34		NTC17PCSD35	
SAMPLE ID	NTC17PCSD2901		NTC17PCSD3001		NTC17PCSD3101		NTC17PCSD3201		NTC17PCSD3301		NTC17PCSD3401		NTC17PCSD3501	
SAMPLE	NTC17PCSD2901		NTC17PCSD3001		NTC17PCSD3101		NTC17PCSD3201		NTC17PCSD3301		NTC17PCSD3401		NTC17PCSD3501	
DEPTH RANGE	0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131	
SAMPLE DATE	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL
VOLATILE ORGANICS (UG/KG)														
METHYLENE CHLORIDE	8.9													
SEMIVOLATILE ORGANICS (UG/KG														
2-METHYLNAPHTHALENE														
ACENAPHTHYLENE											25	J	51	J
ANTHRACENE	33		220		51		19		44	J	24	J	28	J
BENZALDEHYDE														
BENZO(A)ANTHRACENE	140		500		220		75		200		99		130	
BENZO(A)PYRENE	170		530		240		69		250		110		150	
BENZO(B)FLUORANTHENE	150		480		230		68		240		110		160	
BENZO(G,H,I)PERYLENE	100		290		140		35		160		77		110	
BENZO(K)FLUORANTHENE	84		260		130		35		130		60		82	
BIS(2-ETHYLHEXYL)PHTHALATE	130	J												
BUTYL BENZYL PHTHALATE														
CAPROLACTAM														
CARBAZOLE														
CHRYSENE	140		460		230		73		210		110		140	
DIBENZOFURAN														
FLUORANTHENE	290		1300		590		190		510		280		350	
FLUORENE	25		110		24	J	13	J	22	J	14	J	17	J
INDENO(1,2,3-CD)PYRENE	90		240		130		37		150		69		110	
PHENANTHRENE	150		840		270		85		230		130		160	
PHENOL														
PYRENE	250		1000		470		150		400		210		260	
PESTICIDES/PCBs (UG/KG)														
4,4'-DDD	31		20		20		11		17		17		32	
4,4'-DDE	26		20		12	J	10		18		23		17	
4,4'-DDT	26		28		290		8.5		17		29		12	
ALDRIN														
ALPHA-CHLORDANE	2.4	J	1	J			0.43	J	0.92	J	0.79	J	1.8	J
AROCLOR-1248					50									
AROCLOR-1254	140				84									
AROCLOR-1260									55					
DIELDRIN	2.2	J	0.66	J			0.16	J	0.68	J	0.95	J	1.4	J
ENDOSULFAN I														
ENDOSULFAN II			0.75	J					1.9	J	1.1	J		
ENDRIN			0.57	J					1	J	0.42	J		
ENDRIN ALDEHYDE											4			
GAMMA-CHLORDANE	1.3	J	1.1	J					0.99	J	1.1	J	1.4	J
HEPTACHLOR EPOXIDE			0.15	J					0.16	J				
INORGANICS (MG/KG)														
ALUMINUM	2310		1970		3660		1890		3040		3760		2720	
ANTIMONY	0.4								0.33					
ARSENIC	3.7		3.7		5.3		5.3		4.3		5.4		3.7	
BARIUM	19.4		17.9		31.7		12		24.1		25.5		19.4	
BERYLLIUM	0.2		0.17		0.27		0.29		0.2					
CADMIUM			0.11		0.07				0.11		0.19		0.14	
CALCIUM	30400		34800		44800		63600		43000		44300		32200	
CHROMIUM	10.7		9.1		10.5		7.9		12.2		8.1		7.2	
COBALT	3.9		4.7		7.6		4.8		5.6		5.8		4.8	
COPPER	10.4		13.4		21.5		25.6		18.5		13.9		11.6	
IRON	8020		7470		11800		11900		9760		11400		8420	

Summary of Positive Hits in Surface Sediment
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD29		NTC17PCSD30		NTC17PCSD31		NTC17PCSD32		NTC17PCSD33		NTC17PCSD34		NTC17PCSD35	
SAMPLE ID	NTC17PCSD2901		NTC17PCSD3001		NTC17PCSD3101		NTC17PCSD3201		NTC17PCSD3301		NTC17PCSD3401		NTC17PCSD3501	
SAMPLE	NTC17PCSD2901		NTC17PCSD3001		NTC17PCSD3101		NTC17PCSD3201		NTC17PCSD3301		NTC17PCSD3401		NTC17PCSD3501	
DEPTH RANGE	0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131	
SAMPLE DATE	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL
LEAD	32.1		28.6		31.1		50.8		44.8		30.5		20.7	
MAGNESIUM	16100		18200		24100		34900		22500		24300		17500	
MANGANESE	233		267		348		411		355		406		297	
MERCURY	0.09		0.11		0.18		0.05		0.17		0.23		0.17	
NICKEL	7.3		8.9		15.4		8.7		12.6		11.6		7.8	
POTASSIUM	348		373		596		331		499		602		453	
SELENIUM														
SILVER														
SODIUM	81.7		92.5		147		133		99.1		138		106	
THALLIUM					0.95		1.4				1.5		0.82	
VANADIUM	8.9		6.8		12.5		7.7		10.6		13.2		9.9	
ZINC	57.8		74.9		74.3		245		108		180		70.1	
MISCELLANEOUS PARAMETERS														
ACIDVOLATILESULFIDE														
CADMIUM														
COPPER														
LEAD														
MERCURY														
NICKEL														
NO. 10 SIEVE %														
NO. 140 SIEVE %														
NO. 20 SIEVE %														
NO. 200 SIEVE %														
NO. 4 SIEVE %														
NO. 40 SIEVE %														
NO. 60 SIEVE %														
PH S.U.	8		8		7.9		8.3		8.2		7.9		8	
SIEVE 1" %														
SIEVE 1-1/2" %														
SIEVE 1/2" %														
SIEVE 12" %														
SIEVE 2" %														
SIEVE 3" %														
SIEVE 3/4" %														
SIEVE 3/8" %														
SIEVE 6" %														
TOTAL ORGANIC CARBON	5430		5720		4600		2920		16400		6130		5760	
ZINC														

Summary of Positive Hits in Surface Sediment
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD36		NTC17PCSD37		NTC17PCSD38	
SAMPLE ID	NTC17PCSD3601		NTC17PCSD3701		NTC17PCSD3801	
SAMPLE	NTC17PCSD3601		NTC17PCSD3701		NTC17PCSD3801	
DEPTH RANGE	0 - 0.131		0 - 0.131		0 - 0.13	
SAMPLE DATE	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL
VOLATILE ORGANICS (UG/KG)						
METHYLENE CHLORIDE						
SEMIVOLATILE ORGANICS (UG/KG						
2-METHYLNAPHTHALENE						
ACENAPHTHYLENE						
ANTHRACENE	22		64		29	J
BENZALDEHYDE						
BENZO(A)ANTHRACENE	69		140		130	
BENZO(A)PYRENE	66		140		140	
BENZO(B)FLUORANTHENE	61		150		140	
BENZO(G,H,I)PERYLENE	34		100		100	
BENZO(K)FLUORANTHENE	34		84		71	
BIS(2-ETHYLHEXYL)PHTHALATE	80	J				
BUTYL BENZYL PHTHALATE						
CAPROLACTAM						
CARBAZOLE						
CHRYSENE	65		160		140	
DIBENZOFURAN						
FLUORANTHENE	160		460		360	
FLUORENE	17		36	J	17	J
INDENO(1,2,3-CD)PYRENE	40		81		69	
PHENANTHRENE	88		260		160	
PHENOL						
PYRENE	130		330		280	
PESTICIDES/PCBs (UG/KG)						
4,4'-DDD	16		16		8.9	
4,4'-DDE	16		21		12	
4,4'-DDT	12		29		14	
ALDRIN						
ALPHA-CHLORDANE	0.92	J	0.85	J	0.35	J
AROCLOR-1248						
AROCLOR-1254						
AROCLOR-1260						
DIELDRIN	0.73	J	0.61	J	0.16	J
ENDOSULFAN I						
ENDOSULFAN II	0.61	J				
ENDRIN						
ENDRIN ALDEHYDE						
GAMMA-CHLORDANE	0.86	J	0.82	J	0.31	J
HEPTACHLOR EPOXIDE						
INORGANICS (MG/KG)						
ALUMINUM	1480		2200		1900	
ANTIMONY			0.47		0.49	
ARSENIC	1.5		3.3		2.6	
BARIUM	6.9		24.4		17.5	
BERYLLIUM			0.15		0.13	
CADMIUM			0.08			
CALCIUM	25700		34700		31300	
CHROMIUM	5.5		11.3		7.6	
COBALT	2.4		4.7		3.7	
COPPER	3.4		18.3		8.2	
IRON	4900		8190		6540	

Summary of Positive Hits in Surface Sediment
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE		SITE 17		SITE 17		SITE 17	
LOCATION		NTC17PCSD36		NTC17PCSD37		NTC17PCSD38	
SAMPLE ID		NTC17PCSD3601		NTC17PCSD3701		NTC17PCSD3801	
SAMPLE		NTC17PCSD3601		NTC17PCSD3701		NTC17PCSD3801	
DEPTH RANGE		0 - 0.131		0 - 0.131		0 - 0.13	
SAMPLE DATE		9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL
LEAD		8.3		32.9		15.7	
MAGNESIUM		14100		18700		17000	
MANGANESE		177		269		225	
MERCURY		0.05		0.18		0.12	
NICKEL		3.8		7.6		6.5	
POTASSIUM		306		347		371	
SELENIUM							
SILVER							
SODIUM		91.5		84.8		104	
THALLIUM							
VANADIUM		7		7.8		8.7	
ZINC		31		85		51.1	
MISCELLANEOUS PARAMETERS							
ACIDVOLATILESULFIDE				11.5			
CADMIUM		0.12		0.15			
COPPER		5.2		9.1			
LEAD		11.3		19.2			
MERCURY		0.06		0.09			
NICKEL		1.7		2.9			
NO. 10 SIEVE	%					98.88	
NO. 140 SIEVE	%					14.85	
NO. 20 SIEVE	%					97.16	
NO. 200 SIEVE	%					12	
NO. 4 SIEVE	%					99.7	
NO. 40 SIEVE	%					91.79	
NO. 60 SIEVE	%					49.74	
PH	S.U.	8.2		8.1		8.2	
SIEVE 1"	%					100	
SIEVE 1-1/2"	%					100	
SIEVE 1/2"	%					100	
SIEVE 12"	%					100	
SIEVE 2"	%					100	
SIEVE 3"	%					100	
SIEVE 3/4"	%					100	
SIEVE 3/8"	%					100	
SIEVE 6"	%					100	
TOTAL ORGANIC CARBON		1400		5550		6320	
ZINC		26.4		41.8			

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD01		NTC17PCSD04		NTC17PCSD08		NTC17PCSD10		NTC17PCSD11	
SAMPLE ID	NTC17PCSD0102		NTC17PCSD0402		NTC17PCSD0802		NTC17PCSD1002		NTC17PCSD1102	
SAMPLE	NTC17PCSD0102		NTC17PCSD0402		NTC17PCSD0802		NTC17PCSD1002		NTC17PCSD1102	
DEPTH RANGE	1 - 1		1 - 1		1 - 1		1 - 1		1 - 1	
SAMPLE DATE	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/23/2001	QUAL
SEMIVOLATILE ORGANICS (UG/KG)										
ACENAPHTHYLENE	130	J	230	J	220	J				
ANTHRACENE	1600		910		800		160	J	310	
BENZO(A)ANTHRACENE	4100		2400		2800		820		950	
BENZO(A)PYRENE	4000		2300		2900		630	J	1200	
BENZO(B)FLUORANTHENE	4100		2400		3200		690		1000	
BENZO(G,H,I)PERYLENE	2600		2100		2300		520	J	1100	
BENZO(K)FLUORANTHENE	2300		1300		1800		350		560	
CHRYSENE	4200		2400		3000		670		950	
FLUORANTHENE	13000		6700		8200		1700		2700	
FLUORENE	840		340	J	450		120	J	160	
INDENO(1,2,3-CD)PYRENE	1600		1200		1600		430		690	
PHENANTHRENE	8500		4300		4600		1000		1800	
PYRENE	9700		5100		6100		1400		2100	
PESTICIDES/PCBs (UG/KG)										
4,4'-DDD	3.8		180		14		15		78	
4,4'-DDE	8.5		240		22		15		160	
4,4'-DDT	9.5		580		15		11	J	190	
ALDRIN	0.97	J			1.1	J				
ALPHA-CHLORDANE	2.4		13	J	1.2	J			13	J
AROCLOR-1248										
AROCLOR-1254	92		380						790	
AROCLOR-1260			320				70			
DELTA-BHC					0.11	J				
DIELDRIN					0.57	J				
ENDOSULFAN II	2.8				0.9	J	2.6	J		
ENDRIN							1.3	J		
ENDRIN ALDEHYDE					2.7					
GAMMA-CHLORDANE					0.63	J	1.9	J	3.5	J
HEPTACHLOR EPOXIDE					0.29	J	0.41	J		
INORGANICS (MG/KG)										
ALUMINUM	3960		4630		4800		5150		2340	
ANTIMONY	0.45		2.7				0.89		0.5	
ARSENIC	4.7		34.2		6.2		7.4		7.5	
BARIUM	45.3		53.4		61.9		44.9	J	22.3	
BERYLLIUM	1.8		0.81				0.41	J	0.82	
CADMIUM	0.44		5.7		0.59		0.24	J	0.27	
CALCIUM	95800		37300		62200		49600	J	81600	
CHROMIUM	16		31		30.8		16.1	J	13.9	
COBALT	5.4		10.7		7.7		8	J	4.9	
COPPER	370		577		55.8		39.4		182	
IRON	21800		16900		14200		13600	J	13600	
LEAD	187		435		71.9		139	J	154	
MAGNESIUM	48700		19700		30800		25300		42000	
MANGANESE	1600		308		522		394		321	
MERCURY	0.31		0.87		0.12		0.07	J	0.14	
NICKEL	18.4		44		15.5		15.3		15.7	
POTASSIUM	402		661		783		1100		324	
SELENIUM			1.8		0.46				62.5	
SILVER			5.5							
SODIUM	583		157		188		180	J	405	
THALLIUM			1.4		2		1.8	J	0.8	
VANADIUM	15.6		16.3		14.5		15.2	J	8.7	
ZINC	2620		2410		171		178	J	1260	

SITE		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION		NTC17PCSD01		NTC17PCSD04		NTC17PCSD08		NTC17PCSD10		NTC17PCSD11	
SAMPLE ID		NTC17PCSD0102		NTC17PCSD0402		NTC17PCSD0802		NTC17PCSD1002		NTC17PCSD1102	
SAMPLE		NTC17PCSD0102		NTC17PCSD0402		NTC17PCSD0802		NTC17PCSD1002		NTC17PCSD1102	
DEPTH RANGE		1 - 1		1 - 1		1 - 1		1 - 1		1 - 1	
SAMPLE DATE		9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/24/2001	QUAL	9/23/2001	QUAL
MISCELLANEOUS PARAMETERS											
NO. 10 SIEVE	%	56.58									
NO. 140 SIEVE	%	0.79									
NO. 20 SIEVE	%	22.82									
NO. 200 SIEVE	%	0.65									
NO. 4 SIEVE	%	86.51									
NO. 40 SIEVE	%	10.65									
NO. 60 SIEVE	%	4.42									
PH	S.U.	8.4		8		7.3		7.8		8.3	
SIEVE 1"	%	100									
SIEVE 1-1/2"	%	100									
SIEVE 1/2"	%	97.88									
SIEVE 12"	%	100									
SIEVE 2"	%	100									
SIEVE 3"	%	100									
SIEVE 3/4"	%	98.42									
SIEVE 3/8"	%	94.71									
SIEVE 6"	%	100									
TOTAL ORGANIC CARBON	MG/KG	3920		18600		14600		10100		3630	

ASSOCIATED SAMPLES

NTC17PCSD0102	NTC17PCSD1702
NTC17PCSD0402	NTC17PCSD1802
NTC17PCSD0802	NTC17PCSD2002
NTC17PCSD1002	NTC17PCSD2302
NTC17PCSD1102	NTC17PCSD2902
NTC17PCSD1202	NTC17PCSD3202
NTC17PCSD1402	NTC17PCSD3602

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD12		NTC17PCSD14		NTC17PCSD17		NTC17PCSD18		NTC17PCSD20	
SAMPLE ID	*NTC17PCSD1202*		*NTC17PCSD1402*		*NTC17PCSD1702*		*NTC17PCSD1802*		*NTC17PCSD2002*	
SAMPLE	NTC17PCSD1202		NTC17PCSD1402		NTC17PCSD1702		NTC17PCSD1802		NTC17PCSD2002	
DEPTH RANGE	1 - 1		1 - 1		1 - 1		1 - 1		1 - 1	
SAMPLE DATE	9/23/2001	QUAL	9/23/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL
SEMIVOLATILE ORGANICS (UG/KG)										
ACENAPHTHYLENE										
ANTHRACENE	67		290		87		410		54	
BENZO(A)ANTHRACENE	230		500		340		1000		270	
BENZO(A)PYRENE	230		410		300		940		240	
BENZO(B)FLUORANTHENE	270		380		310		930		240	
BENZO(G,H,I)PERYLENE	170		230		200		600		170	
BENZO(K)FLUORANTHENE	130		230		180		530		140	
CHRYSENE	240		430		330		1000		240	
FLUORANTHENE	600		1300		900		3100		580	
FLUORENE	47	J	150	J	73	J	250	J	22	J
INDENO(1,2,3-CD)PYRENE	170		140	J	130		460		120	
PHENANTHRENE	360		1000		610		2200		270	
PYRENE	480		1000		720		2300		500	
PESTICIDES/PCBs (UG/KG)										
4,4'-DDD	48		180		59		190		81	
4,4'-DDE	51		200		150		250		68	
4,4'-DDT	55		190		160		220		73	
ALDRIN										
ALPHA-CHLORDANE	3.8	J					16	J	1.3	J
AROCLOR-1248	380									
AROCLOR-1254	150						930		78	
AROCLOR-1260	47				51					
DELTA-BHC										
DIELDRIN							13	J		
ENDOSULFAN II	1.9	J								
ENDRIN										
ENDRIN ALDEHYDE										
GAMMA-CHLORDANE	1.3	J								
HEPTACHLOR EPOXIDE										
INORGANICS (MG/KG)										
ALUMINUM	2500		6300		2520		3540		2770	
ANTIMONY	0.83									
ARSENIC	9		19.1		5.1		7.2		5.7	
BARIUM	19.9		38.8		15.7		58.8		30.6	
BERYLLIUM	1.2		1.9		0.81		0.84		0.43	
CADMIUM	0.38		0.79		0.35		0.62		0.55	
CALCIUM	111000		67500		99700		56400		69800	
CHROMIUM	9.8		14.2		10		16.2		10.6	
COBALT	5.8		9.7		4.3		6.6		5.1	
COPPER	200		268		138		139		120	
IRON	14400		30300		10400		16300		12200	
LEAD	181		177		77.1		110		83.6	
MAGNESIUM	56800		35600		57500		28600		36100	
MANGANESE	490		492		291		346		370	
MERCURY	0.28		0.1		0.1		0.1		0.1	
NICKEL	14.9		28.6		15.2		17.9		11.2	
POTASSIUM	390		1270		346		559		483	
SELENIUM			1.3							
SILVER							0.65			
SODIUM	419		2330		278		274		236	
THALLIUM	1.7		2.5		1.4		1.1		0.82	
VANADIUM	11.1		14.9		11.6		12.5		9.6	
ZINC	1520		2180		799		821		560	

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION		NTC17PCSD12		NTC17PCSD14		NTC17PCSD17		NTC17PCSD18		NTC17PCSD20	
SAMPLE ID		NTC17PCSD1202		NTC17PCSD1402		NTC17PCSD1702		NTC17PCSD1802		NTC17PCSD2002	
SAMPLE		NTC17PCSD1202		NTC17PCSD1402		NTC17PCSD1702		NTC17PCSD1802		NTC17PCSD2002	
DEPTH RANGE		1 - 1		1 - 1		1 - 1		1 - 1		1 - 1	
SAMPLE DATE		9/23/2001	QUAL	9/23/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL	9/22/2001	QUAL
MISCELLANEOUS PARAMETERS											
NO. 10 SIEVE	%										
NO. 140 SIEVE	%										
NO. 20 SIEVE	%										
NO. 200 SIEVE	%										
NO. 4 SIEVE	%										
NO. 40 SIEVE	%										
NO. 60 SIEVE	%										
PH	S.U.	8.6		8.4		8.3		8.2		8.2	
SIEVE 1"	%										
SIEVE 1-1/2"	%										
SIEVE 1/2"	%										
SIEVE 12"	%										
SIEVE 2"	%										
SIEVE 3"	%										
SIEVE 3/4"	%										
SIEVE 3/8"	%										
SIEVE 6"	%										
TOTAL ORGANIC CARBON	MG/KG	1640		3300		3030		4910		4540	

SITE	SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17PCSD23		NTC17PCSD29		NTC17PCSD32		NTC17PCSD36	
SAMPLE ID	NTC17PCSD2302		NTC17PCSD2902		NTC17PCSD3202		NTC17PCSD3602	
SAMPLE	NTC17PCSD2302		NTC17PCSD2902		NTC17PCSD3202		NTC17PCSD3602	
DEPTH RANGE	1 - 1		1 - 1		1 - 1		1 - 1	
SAMPLE DATE	9/22/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/24/2001	QUAL
SEMIVOLATILE ORGANICS (UG/KG)								
ACENAPHTHYLENE							81	J
ANTHRACENE	390		93		20		92	
BENZO(A)ANTHRACENE	790		310		110		230	
BENZO(A)PYRENE	770		340		120		220	
BENZO(B)FLUORANTHENE	730		310		120		210	
BENZO(G,H,I)PERYLENE	460		190		98		110	
BENZO(K)FLUORANTHENE	410		170		62		110	
CHRYSENE	730		290		110		220	
FLUORANTHENE	2400		700		240		580	
FLUORENE	240		49	J	17		59	
INDENO(1,2,3-CD)PYRENE	300		180		66		130	
PHENANTHRENE	1900		360		110		440	
PYRENE	1800		570		200		440	
PESTICIDES/PCBs (UG/KG)								
4,4'-DDD	45		20		15		21	
4,4'-DDE	40		22		14		26	
4,4'-DDT	90		36		9		16	
ALDRIN								
ALPHA-CHLORDANE	0.78	J	1.3	J	1	J	1.5	J
AROCLOR-1248								
AROCLOR-1254								
AROCLOR-1260								
DELTA-BHC							0.095	J
DIELDRIN			0.87	J	0.49	J	1.2	J
ENDOSULFAN II			0.92	J	0.44	J	0.88	J
ENDRIN					0.46	J		
ENDRIN ALDEHYDE							0.67	J
GAMMA-CHLORDANE			1.1	J	0.76	J	1.2	J
HEPTACHLOR EPOXIDE								
INORGANICS (MG/KG)								
ALUMINUM	2340		3570		2030		2690	
ANTIMONY							0.51	
ARSENIC	7.2		4.9		2.8		4.1	
BARIUM	26.7		30.2		16.9		15.2	
BERYLLIUM	1		0.25		0.13		0.46	
CADMIUM	0.4		0.27					
CALCIUM	55600		41400		43800		38200	
CHROMIUM	17		13.4		7.7		7.5	
COBALT	5.1		6.4		4		4.9	
COPPER	187		24.4		9.2		91.1	
IRON	14400		11600		7900		9950	
LEAD	159		46.1		18.5		47.2	
MAGNESIUM	31000		22400		24000		19500	
MANGANESE	321		433		323		314	
MERCURY	0.15		0.31		0.15		0.07	
NICKEL	13.4		13.5		8.5		10.6	
POTASSIUM	412		511		290		361	
SELENIUM	0.52		0.5					
SILVER								
SODIUM	258		96.4		79.1		255	
THALLIUM			0.97				1	
VANADIUM	11.3		12.3		6.6		11.1	
ZINC	1240		117		280		665	

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Pettibone Creek
Naval Training Center
Great Lakes, Illinois

SITE		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION		NTC17PCSD23		NTC17PCSD29		NTC17PCSD32		NTC17PCSD36	
SAMPLE ID		NTC17PCSD2302		NTC17PCSD2902		NTC17PCSD3202		NTC17PCSD3602	
SAMPLE		NTC17PCSD2302		NTC17PCSD2902		NTC17PCSD3202		NTC17PCSD3602	
DEPTH RANGE		1 - 1		1 - 1		1 - 1		1 - 1	
SAMPLE DATE		9/22/2001	QUAL	9/23/2001	QUAL	9/23/2001	QUAL	9/24/2001	QUAL
MISCELLANEOUS PARAMETERS									
NO. 10 SIEVE	%								
NO. 140 SIEVE	%								
NO. 20 SIEVE	%								
NO. 200 SIEVE	%								
NO. 4 SIEVE	%								
NO. 40 SIEVE	%								
NO. 60 SIEVE	%								
PH	S.U.	8.4		8.1		7.8		8	
SIEVE 1"	%								
SIEVE 1-1/2"	%								
SIEVE 1/2"	%								
SIEVE 12"	%								
SIEVE 2"	%								
SIEVE 3"	%								
SIEVE 3/4"	%								
SIEVE 3/8"	%								
SIEVE 6"	%								
TOTAL ORGANIC CARBON	MG/KG	3120		7180		5180		3080	

Summary of Positive Hits in Surface Sediment
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois
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SITE		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION		NTC17BBSD46		NTC17BBSD46		NTC17BBSD47		NTC17BBSD48		NTC17BBSD49		NTC17BBSD50		NTC17BBSD51		NTC17BBSD52			
NSAMPLE		NTC17BBSD4601		NTC17BBSD4601		NTC17BBSD4701		NTC17BBSD4801		NTC17BBSD4901		NTC17BBSD5001		NTC17BBSD5101		NTC17BBSD5201			
SAMPLE DATE		NTC17BBSD4601		NTC17BBSD4601		NTC17BBSD4701		NTC17BBSD4801		NTC17BBSD4901		NTC17BBSD5001		NTC17BBSD5101		NTC17BBSD5201			
DEPTH RANGE		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131		0 - 0.131			
SAMPLE DATE		9/7/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL	9/5/2001	QUAL	9/7/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL	9/5/2001	QUAL		
VOLATILE ORGANICS (UG/KG)																			
METHYLENE CHLORIDE						6.6													
SEMIVOLATILE ORGANICS (UG/KG)																			
ACENAPHTHYLENE		160	J			36	J			24	J	36	J			160	J		
ANTHRACENE		1800		1900		240		190	J	49	J	89		110	J	620			
BENZO(A)ANTHRACENE		4900		3300		670		680		250		380		350		1900			
BENZO(A)PYRENE		4500		2700		550		680		260		360		370		1700			
BENZO(B)FLUORANTHENE		4500		2700		590		680		280		370		410		1600			
BENZO(G,H,I)PERYLENE		2800		1500		330	J	630		200	J	250		270					
BENZO(K)FLUORANTHENE		2500		1500		340		400		150		200		220		1000			
BIS(2-ETHYLHEXYL)PHTHALATE						610	J												
CHRYSENE		4900		3100		730		670		270		390		390		1800			
FLUORANTHENE		14000		10000		2400		1900		730		960		1100		4500			
FLUORENE		1300		1300		220		120	J	51	J	40	J	54	J	270	J		
INDENO(1,2,3-CD)PYRENE		2000		950		260	J	340		150	J	200		230		810			
NAPHTHALENE				1200	J														
PHENANTHRENE		10000		9700		2000		1000		380		510		710		2800			
PYRENE		11000		7700		1800		1300		560		850		720		3800			
PESTICIDES/PCBs (UG/KG)																			
4,4'-DDD	0.28	122.3657931		82		100		310		76		110		73		190			
4,4'-DDE		85		60		68		230		58		55		92		140			
4,4'-DDT		87		42		120		67		43		86		90					
ALDRIN						4.1	J												
ALPHA-BHC																			
ALPHA-CHLORDANE		2.6	J	1.2	J	2.3	J	11	J	2.3	J	1.8	J	2	J	8.7	J		
AROCLOR-1254								680		69									
AROCLOR-1260		49						270											
BETA-BHC																7.6	J		
DELTA-BHC								7.9	J							2	J		
DIELDRIN		3.1	J	1.5	J			13	J			2.2	J	1.9	J	6.3	J		
ENDOSULFAN I		0.68	J	1.1	J	4.6	J	8.7	J			2.5	J	1.2	J	7.7	J		
ENDOSULFAN II		3.6	J	2.8	J			7.5	J					1.9	J	12	J		
ENDOSULFAN SULFATE																7.3	J		
ENDRIN				1.3	J														
ENDRIN KETONE		4.7	J																
GAMMA-BHC (LINDANE)																			
GAMMA-CHLORDANE		2.4	J	1.8	J			8	J	1.8	J	2	J	1.6	J				
METHOXYCHLOR																32	J		
INORGANICS (MG/KG)																			
ALUMINUM		2810		2050		2730		6860		2700		1740		2280		2470			
ANTIMONY												0.45							
ARSENIC		5.1		5.3		5.6		9.9		5.8		4.9		5.1		4.3			
BARIUM		30.2		21.4		17.2	J	57.8		33.9	J	12		28		19.3			
BERYLLIUM						0.41	J	0.94		0.7	J	0.37		1.7		0.57			
CADMIUM		0.52		0.46		0.36	J	2.2		0.73	J	0.37		0.57		0.23			
CALCIUM		45100		56100		46300	J	73200		86300	J	33500		60900		50800			
CHROMIUM		15.4		9.5		10.8	J	28.9		10.5	J	7.9		12.4		9.4			
COBALT		5.3		4.8		4.9	J	10.1		6.1		3.8		4.5		4.5			
COPPER		78.5		79.6		90	J	283		232	J	60.6		83.1		78.8			
IRON		10700		12800		10400	J	19200		14500	J	9110		11500		10500			
LEAD		81.6		88.4		66.7	J	289		149	J	72.6		77.3		58.4			
MAGNESIUM		22500		27300		22000	J	37600		46900	J	17200		24900		25300			
MANGANESE		292		337		324	J	635		731	J	256		366		308			
MERCURY		0.12		0.068		0.094		0.95		0.17		0.11		0.09		0.34			
NICKEL		11.1		14.7		16.8		29.4	J	21.6		13.3		15.6		12.4			
POTASSIUM		406		295		366		1150		365		249		304		409			
SELENIUM				0.66				1.2		0.72									
SILVER		0.87		0.34		0.33	J	4.2		2.3		0.52		0.56		0.38			
SODIUM		209		237		196	J	272		467	J	152		217		255			
VANADIUM		11.6		9.5		7.6	J	18.9		8.7	J	6.8		9.8		9.8			
ZINC		367		626		535		1050		2070	J	387		623		531			
MISCELLANEOUS PARAMETERS (MG/KG)																			
ACID VOLATILE SULFIDE																			
CADMIUM																			
COPPER																			
LEAD																			
MERCURY																			
NICKEL																			
PH S.U.		7.4	J	7.3	J	7.8	J	7.2		7.6	J	8	J	7.5	J	7.9			
TOTAL ORGANIC CARBON		7250		2290		1460		21800		7760		2510		6490		7030			
ZINC																			

ASSOCIATED SAMPLES

NTC17BBSD4501	NTC17BBSD5001	NTC17BBSD5501
NTC17BBSD4601	NTC17BBSD5101	NTC17BBSD5601
NTC17BBSD4701	NTC17BBSD5201	
NTC17BBSD4801	NTC17BBSD5301	
NTC17BBSD4901	NTC17BBSD5401	

Summary of Positive Hits in Surface Sediment
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BSSD83		NTC17BSSD84		NTC17BSSD85		NTC17BSSD86	
NSAMPLE	NTC17BSSD8301		NTC17BSSD8401		NTC17BSSD8501		NTC17BSSD8601	
SAMPLE DATE	NTC17BSSD8301		NTC17BSSD8401		NTC17BSSD8501		NTC17BSSD8601	
DEPTH RANGE	0 - 0.13		0 - 0.131		0 - 0.131		0 - 0.131	
SAMPLE DATE	8/5/2001	QUAL	8/5/2001	QUAL	8/5/2001	QUAL	8/5/2001	QUAL
VOLATILE ORGANICS (UG/KG)								
METHYLENE CHLORIDE								
SEMIVOLATILE ORGANICS (UG/KG)								
ACENAPHTHYLENE							200	J
ANTHRACENE	110		180		360		360	J
BENZO(A)ANTHRACENE	390		380		770		1000	
BENZO(A)PYRENE	430		400		690		900	
BENZO(B)FLUORANTHENE	400		370		700		1100	
BENZO(G,H,I)PERYLENE	210				410		700	
BENZO(K)FLUORANTHENE	220		210		400		900	
BIS(2-ETHYLHEXYL)PHTHALATE								
CHRYSENE	380		380		720		1100	
FLUORANTHENE	1000		1100		2200		3200	
FLUORENE	53	J	76	J	170	J	330	J
INDENO(1,2,3-CD)PYRENE	200		190		320		330	J
NAPHTHALENE								
PHENANTHRENE	540		700		1400		2300	
PYRENE	840		740		1500		2300	
PESTICIDES/PCBs (UG/KG)								
4,4'-DDD	90		71		140		82	
4,4'-DDE	59		67		100		67	
4,4'-DDT	34		58		73		43	
ALDRIN								
ALPHA-BHC							6.5	J
ALPHA-CHLORDANE	2.5	J	1.6	J	6.5	J	2.2	J
AROCLOR-1254					400		79	
AROCLOR-1260					170			
BETA-BHC					5.6	J	6.9	J
DELTA-BHC					5.3	J	6.5	J
DIELDRIN	2.5	J	1.7	J	5	J	2.9	J
ENDOSULFAN I	1.8	J	1.1	J	2.8	J		
ENDOSULFAN II	1.6	J	0.94	J	6.2	J	2.7	J
ENDOSULFAN SULFATE								
ENDRIN								
ENDRIN KETONE								
GAMMA-BHC (LINDANE)							4.6	J
GAMMA-CHLORDANE	1.8	J	1.3	J	2.8	J	1.2	J
METHOXYCHLOR								
INORGANICS (MG/KG)								
ALUMINUM	1300		3690		2220		1780	
ANTIMONY	0.47							
ARSENIC	3.4		5.2		5.8		4.1	
BARIUM	16.8		34		26.3		17.4	
BERYLLIUM	0.33		0.79		1.1		0.96	
CADMIUM	0.4		0.86		0.65		0.43	
CALCIUM	46600		69200		68700		36800	
CHROMIUM	9.7		12.7		15.4		8.4	
COBALT	3.7		6.6		6.9		5.5	
COPPER	85.6		150		125		73.2	
IRON	7410		15400		10300		9180	
LEAD	47.6		130		88.1		61.9	
MAGNESIUM	24000		37000		35400		18700	
MANGANESE	279		468		411		226	
MERCURY	0.13		0.13		0.24		0.18	
NICKEL	10.4		31.6		17		8.9	
POTASSIUM	180		366		261		261	
SELENIUM								
SILVER	0.58		0.62		1		0.29	
SODIUM	136		351		182		144	
VANADIUM	8		12.3		8.2		13.3	
ZINC	255		976		378		247	
MISCELLANEOUS PARAMETERS (MG/KG)								
ACID VOLATILE SULFIDE	30.8							
CADMIUM	0.39							
COPPER	71.7							
LEAD	40.4							
MERCURY	0.05							
NICKEL	9.2							
PH S.U.	7.4	J	7.8		7.6		7.5	
TOTAL ORGANIC CARBON	3660				3500		13200	
ZINC	334							

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BBSD45		NTC17BBSD45		NTC17BBSD45		NTC17BBSD46		NTC17BBSD46		NTC17BBSD46	
SAMPLE ID	NTC17BBSD4503		NTC17BBSD4504		NTC17BBSD4505		NTC17BBSD4603		NTC17BBSD4604		NTC17BBSD4605	
SAMPLE	NTC17BBSD4503		NTC17BBSD4504		NTC17BBSD4505		NTC17BBSD4603		NTC17BBSD4604		NTC17BBSD4605	
DEPTH RANGE	0.131 - 3		3 - 6		6 - 10		0.131 - 3		3 - 6		6 - 10	
SAMPLE DATE	9/7/2001	QUAL	9/7/2001	QUAL	9/7/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL
VOLATILE ORGANICS (UG/KG)												
METHYLENE CHLORIDE												
SEMIVOLATILE ORGANICS (UG/KG)												
ACENAPHTHYLENE	140	J	110	J			81	J	89	J	76	J
ANTHRACENE	160	J	190	J	190	J	260		77	J	120	J
BENZO(A)ANTHRACENE	550		630		600		660		400		660	
BENZO(A)PYRENE	520		540		620		720		270		520	
BENZO(B)FLUORANTHENE	560		600		560		650		360		600	
BENZO(G,H,I)PERYLENE	190	J	290		310		290	J	220		260	
BENZO(K)FLUORANTHENE	290		300		270		330		170	J	320	
BIS(2-ETHYLHEXYL)PHTHALATE												
CHRYSENE	570		650		560		650		390		640	
DIBENZO(A,H)ANTHRACENE												
FLUORANTHENE	1400		1700		1600		1900		990		1500	
FLUORENE	180	J	210		190	J	170	J	120	J	160	J
INDENO(1,2,3-CD)PYRENE	260		320		220		280	J	200	J	320	
NAPHTHALENE												
PHENANTHRENE	1100		1500		1300		1300		810		1100	
PYRENE	1200		1400		1300		1500		890		1400	
PESTICIDES/PCBs (UG/KG)												
4,4'-DDD	490		3600		3800		460		4100		1500	
4,4'-DDE	170		410	J	540	J	160		400	J	150	
4,4'-DDT	130		220	J			300		400	J	27	J
ALDRIN												
ALPHA-BHC												
ALPHA-CHLORDANE	22	J	95	J			21	J			34	J
AROCLOR-1248	460						360					
AROCLOR-1254	840		4600		6100		830		4200		2200	
AROCLOR-1260			760				210					
BETA-BHC												
DELTA-BHC												
DIELDRIN	22	J	51	J	77	J	18	J			23	J
ENDOSULFAN I	6.2	J					7.5	J				
ENDOSULFAN II	6.5	J					7.6	J			20	J
ENDOSULFAN SULFATE												
ENDRIN							17	J				
ENDRIN ALDEHYDE												
ENDRIN KETONE	7.1	J										
GAMMA-BHC (LINDANE)												
GAMMA-CHLORDANE	12	J					12	J			18	J
METHOXYCHLOR												
INORGANICS (MG/KG)												
ALUMINUM	5130		8330		6860		4040		6030		8270	
ANTIMONY					6.5				3.4		4.6	
ARSENIC	9.7		12.5		18.9		11.4		18.6		19.8	
BARIUM	56		101		130		51.1	J	117		114	
BERYLLIUM			0.74		1				0.71		0.96	

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BBSD45		NTC17BBSD45		NTC17BBSD45		NTC17BBSD46		NTC17BBSD46		NTC17BBSD46	
SAMPLE ID	NTC17BBSD4503		NTC17BBSD4504		NTC17BBSD4505		NTC17BBSD4603		NTC17BBSD4604		NTC17BBSD4605	
SAMPLE	NTC17BBSD4503		NTC17BBSD4504		NTC17BBSD4505		NTC17BBSD4603		NTC17BBSD4604		NTC17BBSD4605	
DEPTH RANGE	0.131 - 3		3 - 6		6 - 10		0.131 - 3		3 - 6		6 - 10	
SAMPLE DATE	9/7/2001	QUAL	9/7/2001	QUAL	9/7/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL
CADMIUM	2.6		17.3		3.7		3.2	J	4.7		4.7	
CALCIUM	63500		73500		48200		57600	J	64300		55700	
CHROMIUM	22.8		57.6		50.2		23.8	J	59.5		45.2	
COBALT	11.3		10.1		11.9		9.5		12.7		12	
COPPER	295		644		258		313	J	183		482	
IRON	15400		20600		19100		14200	J	18100		19400	
LEAD	244		503		188		270	J	214		281	
MAGNESIUM	32700		37000		17300		29800	J	32700		24100	
MANGANESE	566		633		974		539	J	702		778	
MERCURY	3.2		1.4		1.7		0.75		2.5		0.088	
NICKEL	97.4		309		113		78.2		136		96.7	
POTASSIUM	706		1070		2040		465		812		1620	
SELENIUM	2		3.3		5.2		1.8		4.9		5	
SILVER	14.4		70.8		22.8		20.6		40		17.4	
SODIUM	239		268		346		199	J	287		307	
VANADIUM	16.4		19.7		20.6		12.4	J	21.1		21.4	
ZINC	788		1060		479		709	J	470		814	
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE MG/KG												
CADMIUM MG/KG			2.8									
COPPER MG/KG			251									
LEAD MG/KG			120									
MERCURY MG/KG			0.03									
NICKEL MG/KG			51.5									
NO. 10 SIEVE %												
NO. 140 SIEVE %												
NO. 20 SIEVE %												
NO. 200 SIEVE %												
NO. 4 SIEVE %												
NO. 40 SIEVE %												
NO. 60 SIEVE %												
PH S.U.	7.8	J	7.5	J	7.5	J	7.2	J	7.4	J	7.5	J
SIEVE 1" %												
SIEVE 1-1/2" %												
SIEVE 1/2" %												
SIEVE 12" %												
SIEVE 2" %												
SIEVE 3" %												
SIEVE 3/4" %												
SIEVE 3/8" %												
SIEVE 6" %												
TOTAL ORGANIC CARBON MG/KG	24400		23400		25700		18100		30200		9730	
ZINC MG/KG			628									

ASSOCIATED SAMPLE

NTC17BBSD4503
NTC17BBSD4504
NTC17BBSD4505
NTC17BBSD4603
NTC17BBSD4604
NTC17BBSD4605
NTC17BBSD4703
NTC17BBSD4704
NTC17BBSD4705
NTC17BBSD4803
NTC17BBSD4804
NTC17BBSD4805
NTC17BBSD4903
NTC17BBSD4904
NTC17BBSD4905
NTC17BBSD5003
NTC17BBSD5004
NTC17BBSD5005
NTC17BBSD5103
NTC17BBSD5104
NTC17BBSD5105
NTC17BBSD5203
NTC17BBSD5204
NTC17BBSD5205
NTC17BBSD5303
NTC17BBSD5304
NTC17BBSD5305
NTC17BBSD5403
NTC17BBSD5404
NTC17BBSD5405
NTC17BBSD5503
NTC17BBSD5504
NTC17BBSD5505
NTC17BBSD5603
NTC17BBSD5604
NTC17BBSD5605

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BBSD47		NTC17BBSD47		NTC17BBSD47		NTC17BBSD48		NTC17BBSD48		NTC17BBSD48	
SAMPLE ID	NTC17BBSD4703		NTC17BBSD4704		NTC17BBSD4705		NTC17BBSD4803		NTC17BBSD4804		NTC17BBSD4805	
SAMPLE	NTC17BBSD4703		NTC17BBSD4704		NTC17BBSD4705		NTC17BBSD4803		NTC17BBSD4804		NTC17BBSD4805	
DEPTH RANGE	0.131 - 3		3 - 6		6 - 10		0.13 - 3		3 - 6		6 - 10	
SAMPLE DATE	9/6/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL
VOLATILE ORGANICS (UG/KG)												
METHYLENE CHLORIDE												
SEMIVOLATILE ORGANICS (UG/KG)												
ACENAPHTHYLENE							49	J	58	J	42	J
ANTHRACENE	180		86	J	100		64				93	
BENZO(A)ANTHRACENE			300		400		280		230		260	
BENZO(A)PYRENE	480		280		360		250		200		290	
BENZO(B)FLUORANTHENE	560		310		440		280		220		260	
BENZO(G,H,I)PERYLENE			120		240		210		140		170	
BENZO(K)FLUORANTHENE			180		240		170		140		140	
BIS(2-ETHYLHEXYL)PHTHALATE												
CHRYSENE	580		310		440		290		240		260	
DIBENZO(A,H)ANTHRACENE												
FLUORANTHENE	1600		770		1200		770		630		760	
FLUORENE	100		82	J	120		79		70		38	J
INDENO(1,2,3-CD)PYRENE	270		150		170		120		91		120	
NAPHTHALENE												
PHENANTHRENE	940		540		770		460		400		450	
PYRENE	1100		570		830		590		480		540	
PESTICIDES/PCBs (UG/KG)												
4,4'-DDD	240		740		390		420		900		120	
4,4'-DDE	170		250		60		210		360		93	
4,4'-DDT	85		43	J	11	J	68		87	J	69	
ALDRIN											1.8	J
ALPHA-BHC												
ALPHA-CHLORDANE	8.3	J	31	J	16	J	23	J	65	J	4.1	J
AROCLOR-1248							540		1500			
AROCLOR-1254			1200		840		1300		2800		180	
AROCLOR-1260	99		540				1100		920			
BETA-BHC												
DELTA-BHC												
DIELDRIN	7.1	J	31	J	15	J	17	J	39	J	3.9	J
ENDOSULFAN I	3.7	J	24	J	8.6	J	7.1	J	25	J	1.7	J
ENDOSULFAN II	8.1	J	14	J			21	J	41	J	3.8	J
ENDOSULFAN SULFATE												
ENDRIN	5.6	J	19	J	8.9	J	12	J			2.6	J
ENDRIN ALDEHYDE												
ENDRIN KETONE							6.7	J				
GAMMA-BHC (LINDANE)												
GAMMA-CHLORDANE	5.2	J	18	J	4.9	J	13	J	36	J	2.4	J
METHOXYCHLOR												
INORGANICS (MG/KG)												
ALUMINUM	3980		6700		6920		6970		9050		8180	
ANTIMONY	0.88		1.3		6.2							
ARSENIC	7.4		12.6		19.9		10.3		13.1		8.8	
BARIUM	43		77.6		177		57.2		71.7		66.3	
BERYLLIUM	0.46		0.97		0.8		0.59		0.82		1.1	

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BBSD47		NTC17BBSD47		NTC17BBSD47		NTC17BBSD48		NTC17BBSD48		NTC17BBSD48	
SAMPLE ID	NTC17BBSD4703		NTC17BBSD4704		NTC17BBSD4705		NTC17BBSD4803		NTC17BBSD4804		NTC17BBSD4805	
SAMPLE	NTC17BBSD4703		NTC17BBSD4704		NTC17BBSD4705		NTC17BBSD4803		NTC17BBSD4804		NTC17BBSD4805	
DEPTH RANGE	0.131 - 3		3 - 6		6 - 10		0.13 - 3		3 - 6		6 - 10	
SAMPLE DATE	9/6/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL
CADMIUM	1.7		7.4		26		2.6		3.5		5.3	
CALCIUM	71500		81300		54000		72900		66200		55700	
CHROMIUM	21.6		43.7		147		25.8		31.9		35.2	
COBALT	7.1		12.3		20.1		9.6		12.1		10.7	
COPPER	177		573		948		265		391		871	
IRON	13800		19700		22300		18000		21100		20000	
LEAD	189		392		451		298		379		395	
MAGNESIUM	35400		40200		25400		37400		33600		28400	
MANGANESE	519		625		874		598		588		527	
MERCURY	0.78		4.2		1.5		1.8		3.1		0.2	
NICKEL	21		154		139		30.5		81.6		118	
POTASSIUM	603		923		881		1180		1590		1210	
SELENIUM	0.86		2.6		2.6		3.1		1.3		1.9	
SILVER	3.7		43.8		11.5		3.9		17.1		44.8	
SODIUM	250		250		266		243		246		234	
VANADIUM	13.8		19.8		18.7		18.4		22.6		19.4	
ZINC	653		1310		1290		911		1130		1580	
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE MG/KG												
CADMIUM MG/KG												
COPPER MG/KG												
LEAD MG/KG												
MERCURY MG/KG												
NICKEL MG/KG												
NO. 10 SIEVE %												
NO. 140 SIEVE %												
NO. 20 SIEVE %												
NO. 200 SIEVE %												
NO. 4 SIEVE %												
NO. 40 SIEVE %												
NO. 60 SIEVE %												
PH S.U.	7.2	J	7.3	J	7.3	J	7.1		7.2		7.2	
SIEVE 1" %												
SIEVE 1-1/2" %												
SIEVE 1/2" %												
SIEVE 12" %												
SIEVE 2" %												
SIEVE 3" %												
SIEVE 3/4" %												
SIEVE 3/8" %												
SIEVE 6" %												
TOTAL ORGANIC CARBON MG/KG	15700		23300		22400		20700		25500		2110	
ZINC MG/KG												

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BBSD49		NTC17BBSD49		NTC17BBSD49		NTC17BBSD50		NTC17BBSD50		NTC17BBSD50	
SAMPLE ID	NTC17BBSD4903		NTC17BBSD4904		NTC17BBSD4905		NTC17BBSD5003		NTC17BBSD5004		NTC17BBSD5005	
SAMPLE	NTC17BBSD4903		NTC17BBSD4904		NTC17BBSD4905		NTC17BBSD5003		NTC17BBSD5004		NTC17BBSD5005	
DEPTH RANGE	0.131 - 3		3 - 6		6 - 10		0.131 - 3		3 - 6		6 - 10	
SAMPLE DATE	9/7/2001	QUAL	9/7/2001	QUAL	9/7/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL
VOLATILE ORGANICS (UG/KG)												
METHYLENE CHLORIDE												
SEMIVOLATILE ORGANICS (UG/KG)												
ACENAPHTHYLENE	41	J					19	J			48	J
ANTHRACENE	160	J	990		280		130		220		160	
BENZO(A)ANTHRACENE	580		2500		770		260		660		450	
BENZO(A)PYRENE	600		2300		710		220		710		410	
BENZO(B)FLUORANTHENE	610		2300		740		210		660		430	
BENZO(G,H,I)PERYLENE	410		1200		460		130		410		240	
BENZO(K)FLUORANTHENE	330		1300		390		120		370		210	
BIS(2-ETHYLHEXYL)PHTHALATE												
CHRYSENE	630		2600		830		240		670		450	
DIBENZO(A,H)ANTHRACENE												
FLUORANTHENE	1800		7700		2500		770		1800		1200	
FLUORENE	150	J	910		240	J	74	J	160	J	140	
INDENO(1,2,3-CD)PYRENE	410		1200		380		130		320		240	
NAPHTHALENE					290	J						
PHENANTHRENE	1300		6800		2200		610		1300		920	
PYRENE	1400		5900		2000		610		1300		960	
PESTICIDES/PCBs (UG/KG)												
4,4'-DDD	270		400		640		130		750		1000	
4,4'-DDE	100		130		150		95		260		220	
4,4'-DDT	56		61		60	J	110		120		170	
ALDRIN												
ALPHA-BHC												
ALPHA-CHLORDANE	7.4	J	16	J	17	J	3.2	J	30	J	37	J
AROCLOR-1248							130		1500			
AROCLOR-1254	490		740		1100				1900		3100	
AROCLOR-1260	98		150		250		54		490		760	
BETA-BHC												
DELTA-BHC												
DIELDRIN	8.5	J	15	J	17	J	2.5	J	24	J	39	J
ENDOSULFAN I	6.4	J	7.2	J	15	J	3.2	J	19	J	20	J
ENDOSULFAN II	4.6	J	9.1	J	10	J	2.9	J	16	J	38	J
ENDOSULFAN SULFATE												
ENDRIN			11	J							41	J
ENDRIN ALDEHYDE												
ENDRIN KETONE												
GAMMA-BHC (LINDANE)												
GAMMA-CHLORDANE	6.4	J	8.5	J	11	J	2.4	J	12	J	19	J
METHOXYCHLOR	11	J	16	J								
INORGANICS (MG/KG)												
ALUMINUM	2450		2640		6720		3200		3760		5110	
ANTIMONY							0.83		0.84		3.9	
ARSENIC	5.7		9.4		12.8		7.4		10.9		16	
BARIUM	29.1		35.2		73		30.9		49.6		97.4	
BERYLLIUM	4		0.65		0.96		1.3		0.69		0.83	

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BBSD49		NTC17BBSD49		NTC17BBSD49		NTC17BBSD50		NTC17BBSD50		NTC17BBSD50	
SAMPLE ID	NTC17BBSD4903		NTC17BBSD4904		NTC17BBSD4905		NTC17BBSD5003		NTC17BBSD5004		NTC17BBSD5005	
SAMPLE	NTC17BBSD4903		NTC17BBSD4904		NTC17BBSD4905		NTC17BBSD5003		NTC17BBSD5004		NTC17BBSD5005	
DEPTH RANGE	0.131 - 3		3 - 6		6 - 10		0.131 - 3		3 - 6		6 - 10	
SAMPLE DATE	9/7/2001	QUAL	9/7/2001	QUAL	9/7/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL
CADMIUM	4.6		1.9		7.4		2		3.2		5	
CALCIUM	40100		35700		38800		47000		45000		43600	
CHROMIUM	12.7		16.2		53.8		13.5		26.3		45.4	
COBALT	5.7		6		9.8		7.6		8.2		8.8	
COPPER	358		245		457		284		357		347	
IRON	11100		11200		16400		12400		12600		14000	
LEAD	152		190		299		173		200		233	
MAGNESIUM	20800		18000		18600		23300		22000		21100	
MANGANESE	326		322		450		389		381		535	
MERCURY	0.38		0.4		2		0.71		0.86		1.2	
NICKEL	43.7		55.7		133		48.6		88.4		95.1	
POTASSIUM	352		348		1240		454		588		789	
SELENIUM	1.1		0.91		3.4		0.62		1.3		5.8	
SILVER	33		3.6		44		4.7		25.2		31.8	
SODIUM	298		208		325		219		167		278	
VANADIUM	8.7		9.7		17.3		11.4		12.1		15.7	
ZINC	1190		804		1040		1090		755		637	
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE MG/KG												
CADMIUM MG/KG												
COPPER MG/KG												
LEAD MG/KG												
MERCURY MG/KG												
NICKEL MG/KG												
NO. 10 SIEVE %												
NO. 140 SIEVE %												
NO. 20 SIEVE %												
NO. 200 SIEVE %												
NO. 4 SIEVE %												
NO. 40 SIEVE %												
NO. 60 SIEVE %												
PH S.U.	7.8	J	7.8	J	7.5	J	7.5	J	7.4	J	7.3	J
SIEVE 1" %												
SIEVE 1-1/2" %												
SIEVE 1/2" %												
SIEVE 12" %												
SIEVE 2" %												
SIEVE 3" %												
SIEVE 3/4" %												
SIEVE 3/8" %												
SIEVE 6" %												
TOTAL ORGANIC CARBON MG/KG	5450		4430		8470		5480		17600		20700	
ZINC MG/KG												

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BBSD51		NTC17BBSD51		NTC17BBSD51		NTC17BBSD52		NTC17BBSD52		NTC17BBSD52	
SAMPLE ID	NTC17BBSD5103		NTC17BBSD5104		NTC17BBSD5105		NTC17BBSD5203		NTC17BBSD5204		NTC17BBSD5205	
SAMPLE	NTC17BBSD5103		NTC17BBSD5104		NTC17BBSD5105		NTC17BBSD5203		NTC17BBSD5204		NTC17BBSD5205	
DEPTH RANGE	0.131 - 3		3 - 6		6 - 10		0.131 - 3		3 - 6		6 - 10	
SAMPLE DATE	9/6/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL
VOLATILE ORGANICS (UG/KG)												
METHYLENE CHLORIDE												
SEMIVOLATILE ORGANICS (UG/KG)												
ACENAPHTHYLENE			220	J	22	J	42	J				
ANTHRACENE	240		650		69	J	160	J	120	J	180	J
BENZO(A)ANTHRACENE	690		1800		260		540		490		680	
BENZO(A)PYRENE	710		1600		270		520		500		650	
BENZO(B)FLUORANTHENE	670		1700		250		580		520		690	
BENZO(G,H,I)PERYLENE	390		860		120							
BENZO(K)FLUORANTHENE	360		920		120		320		270		430	
BIS(2-ETHYLHEXYL)PHTHALATE												
CHRYSENE	690		2000		260		620		540		670	
DIBENZO(A,H)ANTHRACENE									42	J		
FLUORANTHENE	2000		5900		670		1800		1400		1800	
FLUORENE	170	J	640		82	J	150	J	100	J	120	J
INDENO(1,2,3-CD)PYRENE	370		790		160		270		230			
NAPHTHALENE												
PHENANTHRENE	1200		5000		500		1100		900		980	
PYRENE	1500		4500		570		1300		1000		1300	
PESTICIDES/PCBs (UG/KG)												
4,4'-DDD	170		400		1100		410		340		340	
4,4'-DDE	100		180		310		97		140		230	
4,4'-DDT	36		93		220		65		37	J	100	
ALDRIN												
ALPHA-BHC												
ALPHA-CHLORDANE	3.1	J	20	J	41	J	21	J	24	J	6.9	J
AROCLOR-1248					920				600			
AROCLOR-1254	230		1100		2600		1400		1200		410	
AROCLOR-1260			320		810		560		530		230	
BETA-BHC												
DELTA-BHC											2.9	J
DIELDRIN	4	J	11	J	31	J	15	J	9.7	J	8.7	J
ENDOSULFAN I	3.5	J	6.3	J	31	J	5	J	12	J	5.8	J
ENDOSULFAN II	2.8	J	16	J	28	J	19	J			6.4	J
ENDOSULFAN SULFATE												
ENDRIN	3.7	J			20	J	8.9	J				
ENDRIN ALDEHYDE												
ENDRIN KETONE												
GAMMA-BHC (LINDANE)												
GAMMA-CHLORDANE	3	J	12	J	18	J	6.4	J	12	J	7.2	J
METHOXYCHLOR												
INORGANICS (MG/KG)												
ALUMINUM	2310		3560		5530		11000		6750		6530	
ANTIMONY	0.55		0.82		0.74							
ARSENIC	5.8		7.9		12.6		20.3		13.2		12.3	
BARIUM	20.2		69.8		79.4		141		88.1		78	
BERYLLIUM	0.35		0.44		0.78		1.4		1.1		0.87	

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BBSD51		NTC17BBSD51		NTC17BBSD51		NTC17BBSD52		NTC17BBSD52		NTC17BBSD52	
SAMPLE ID	NTC17BBSD5103		NTC17BBSD5104		NTC17BBSD5105		NTC17BBSD5203		NTC17BBSD5204		NTC17BBSD5205	
SAMPLE	NTC17BBSD5103		NTC17BBSD5104		NTC17BBSD5105		NTC17BBSD5203		NTC17BBSD5204		NTC17BBSD5205	
DEPTH RANGE	0.131 - 3		3 - 6		6 - 10		0.131 - 3		3 - 6		6 - 10	
SAMPLE DATE	9/6/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL
CADMIUM	0.81		1.9		7.7		15.7		6.2		6.3	
CALCIUM	67800		69600		64700		60600		58200		68300	
CHROMIUM	14.1		16.3		51.7		95.9		55.9		50.4	
COBALT	5.4		7.3		10.4		43.2		21.4		12.8	
COPPER	86.4		181		592		497		393		545	
IRON	11000		12900		16500		23900		18700		19000	
LEAD	78.9		226		328		330		281		317	
MAGNESIUM	33900		34800		31700		27300		28100		34500	
MANGANESE	463		525		538		993		784		600	
MERCURY	0.25		2.1		1.3		4		1.6		0.91	
NICKEL	16.3		60.3		158		92.2		74.2		117	
POTASSIUM	325		484		741		1880		915		958	
SELENIUM					2.8		2.5		3.1		3.7	
SILVER	2.3		3.2		62.5		29		28.9		59.6	
SODIUM	183		191		215		352		265		240	
VANADIUM	10.2		12.4		16.5		25.8		18.7		18.4	
ZINC	319		590		967		1020		904		949	
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE MG/KG			25.2									
CADMIUM MG/KG			1.8									
COPPER MG/KG			210									
LEAD MG/KG			194									
MERCURY MG/KG			0.04									
NICKEL MG/KG			17									
NO. 10 SIEVE %												
NO. 140 SIEVE %												
NO. 20 SIEVE %												
NO. 200 SIEVE %												
NO. 4 SIEVE %												
NO. 40 SIEVE %												
NO. 60 SIEVE %												
PH S.U.	7.4	J	7.3	J	7.3	J	7.5		7.2		7.1	
SIEVE 1" %												
SIEVE 1-1/2" %												
SIEVE 1/2" %												
SIEVE 12" %												
SIEVE 2" %												
SIEVE 3" %												
SIEVE 3/4" %												
SIEVE 3/8" %												
SIEVE 6" %												
TOTAL ORGANIC CARBON MG/KG	7010		16700		25200		17600		18300		23000	
ZINC MG/KG			725									

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BBSD53		NTC17BBSD53		NTC17BBSD53		NTC17BBSD54		NTC17BBSD54		NTC17BBSD54	
SAMPLE ID	NTC17BBSD5303		NTC17BBSD5304		NTC17BBSD5305		NTC17BBSD5403		NTC17BBSD5404		NTC17BBSD5405	
SAMPLE	NTC17BBSD5303		NTC17BBSD5304		NTC17BBSD5305		NTC17BBSD5403		NTC17BBSD5404		NTC17BBSD5405	
DEPTH RANGE	0.131 - 3		3 - 6		6 - 10		0.131 - 3		3 - 6		6 - 10	
SAMPLE DATE	9/6/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL
VOLATILE ORGANICS (UG/KG)												
METHYLENE CHLORIDE	11											
SEMIVOLATILE ORGANICS (UG/KG)												
ACENAPHTHYLENE	66	J	46	J	64	J						
ANTHRACENE	460		56	J	130		230		210		140	
BENZO(A)ANTHRACENE	1100		320		500		550		700		370	
BENZO(A)PYRENE	1000		400		430		480		610		310	
BENZO(B)FLUORANTHENE	1000		370		460		520		690		310	
BENZO(G,H,I)PERYLENE	500		160		200				380		210	
BENZO(K)FLUORANTHENE	550		200		210		290		370		160	
BIS(2-ETHYLHEXYL)PHTHALATE	6300											
CHRYSENE	1100		360		530		550		710		370	
DIBENZO(A,H)ANTHRACENE												
FLUORANTHENE	3300		810		1200		1600		1800		860	
FLUORENE	330		85	J	180		130	J	140		120	
INDENO(1,2,3-CD)PYRENE	470	J	200		240		200		250		110	
NAPHTHALENE												
PHENANTHRENE	2500		490		940		1100		1100		750	
PYRENE	2500		730		1100		1100		1400		730	
PESTICIDES/PCBs (UG/KG)												
4,4'-DDD	180		320		510		190		440		180	
4,4'-DDE	120		190		150		160		200		42	
4,4'-DDT	46	J	61		36	J	51		110		11	J
ALDRIN												
ALPHA-BHC												
ALPHA-CHLORDANE	9.7	J	20	J	55		5.9	J	19	J	8.1	J
AROCLOR-1248			800						420			
AROCLOR-1254	350		1000		3500		330		890		360	
AROCLOR-1260	170		500				170		360		150	
BETA-BHC												
DELTA-BHC												
DIELDRIN	10	J	25		26	J	6.6	J	22	J	8.7	J
ENDOSULFAN I	6.1	J	9.1	J	19	J	8	J	11	J	4.8	J
ENDOSULFAN II	6.1	J	21	J					13	J	5.9	J
ENDOSULFAN SULFATE												
ENDRIN	7.8	J							18	J	10	J
ENDRIN ALDEHYDE					12	J						
ENDRIN KETONE			16	J								
GAMMA-BHC (LINDANE)												
GAMMA-CHLORDANE			11	J	18	J			12	J	4	J
METHOXYCHLOR			14	J								
INORGANICS (MG/KG)												
ALUMINUM	4040		8160		9870		3060		3550		5110	
ANTIMONY	1.1	J	0.99		8				1.2		2.3	
ARSENIC	8.6		11.3		28.7		6.2		7.9		9.7	
BARIUM	43.9	J	72		230		34.2		47.7		61.5	
BERYLLIUM	0.46	J	0.76		1.5		0.38		0.6		0.75	

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BBSD53		NTC17BBSD53		NTC17BBSD53		NTC17BBSD54		NTC17BBSD54		NTC17BBSD54	
SAMPLE ID	NTC17BBSD5303		NTC17BBSD5304		NTC17BBSD5305		NTC17BBSD5403		NTC17BBSD5404		NTC17BBSD5405	
SAMPLE	NTC17BBSD5303		NTC17BBSD5304		NTC17BBSD5305		NTC17BBSD5403		NTC17BBSD5404		NTC17BBSD5405	
DEPTH RANGE	0.131 - 3		3 - 6		6 - 10		0.131 - 3		3 - 6		6 - 10	
SAMPLE DATE	9/6/2001	QUAL	9/6/2001	QUAL	9/6/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL
CADMIUM	1.9	J	4		9.3		0.83		2.8		4.2	
CALCIUM	70200	J	61000		68900		60900		57800		61900	
CHROMIUM	20.8	J	36.3		61.4		17.7		25.2		32.8	
COBALT	7.2	J	10.3		17.1		5.8		7.3		9.3	
COPPER	199	J	401		378		109		288		737	
IRON	13800	J	18900		24600		11600		12400		18500	
LEAD	201	J	400		369		104		209		334	
MAGNESIUM	34900	J	30400		32100		30900		28500		31200	
MANGANESE	515	J	524		1290		393		447		532	
MERCURY	0.57		1.7		3.2		0.38		1		0.75	
NICKEL	21.6		69.4		97.1		17.7		48.1		61	
POTASSIUM	573		1300		1880		436		432		793	
SELENIUM	1		1.9		13.4		2.4		1.4		1.7	
SILVER	3	J	24.6		67.7		1.7		15.2		20.1	
SODIUM	211	J	223		376		190		168		199	
VANADIUM	13.1	J	19.9		27		11.2		11		16.3	
ZINC	591		1040		934		373		745		1320	
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE MG/KG												
CADMIUM MG/KG												
COPPER MG/KG												
LEAD MG/KG												
MERCURY MG/KG												
NICKEL MG/KG												
NO. 10 SIEVE %	93.89											
NO. 140 SIEVE %	54.32											
NO. 20 SIEVE %	90.53											
NO. 200 SIEVE %	49.45											
NO. 4 SIEVE %	96.55											
NO. 40 SIEVE %	84.63											
NO. 60 SIEVE %	71.56											
PH S.U.	7.1	J	7.2	J	7.2	J	7.2		7.1		7.3	
SIEVE 1" %	100											
SIEVE 1-1/2" %	100											
SIEVE 1/2" %	98.07											
SIEVE 12" %	100											
SIEVE 2" %	100											
SIEVE 3" %	100											
SIEVE 3/4" %	100											
SIEVE 3/8" %	97.88											
SIEVE 6" %	100											
TOTAL ORGANIC CARBON MG/KG	18800		21800		29600		11600		20100		14100	
ZINC MG/KG												

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BBSD55		NTC17BBSD55		NTC17BBSD55		NTC17BBSD56		NTC17BBSD56		NTC17BBSD56	
SAMPLE ID	NTC17BBSD5503		NTC17BBSD5504		NTC17BBSD5505		NTC17BBSD5603		NTC17BBSD5604		NTC17BBSD5605	
SAMPLE	NTC17BBSD5503		NTC17BBSD5504		NTC17BBSD5505		NTC17BBSD5603		NTC17BBSD5604		NTC17BBSD5605	
DEPTH RANGE	0.131 - 3		3 - 6		6 - 10		0.131 - 3		3 - 6		6 - 10	
SAMPLE DATE	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL
VOLATILE ORGANICS (UG/KG)												
METHYLENE CHLORIDE												
SEMIVOLATILE ORGANICS (UG/KG)												
ACENAPHTHYLENE											14	J
ANTHRACENE	360		360		370		140	J	100	J	40	J
BENZO(A)ANTHRACENE	1000		700		850		440		320		180	
BENZO(A)PYRENE	980		590		830		450		310		170	
BENZO(B)FLUORANTHENE	970		640		870		460		320		140	
BENZO(G,H,I)PERYLENE	590		300	J	570		290		210		170	
BENZO(K)FLUORANTHENE	560		360		500		250		160	J	80	
BIS(2-ETHYLHEXYL)PHTHALATE												
CHRYSENE	1000		660		880		460		330		160	
DIBENZO(A,H)ANTHRACENE			57	J								
FLUORANTHENE	3100		2100	J	2700		1300		860		300	
FLUORENE	190		260		230		80	J	66	J	33	J
INDENO(1,2,3-CD)PYRENE	450		270	J	390		230		120	J	67	
NAPHTHALENE					200	J						
PHENANTHRENE	1900		1600		1800		790		540		140	
PYRENE	2100		1300	J	1800		930		640		210	
PESTICIDES/PCBs (UG/KG)												
4,4'-DDD	160		290		210		160		310		30	
4,4'-DDE	130		120		160		100		120		13	
4,4'-DDT	57		37	J	46		88		35	J	6.5	
ALDRIN												
ALPHA-BHC							4.1	J				
ALPHA-CHLORDANE	3.2	J	14	J	6.1	J	5.9	J	18	J	2	J
AROCLOR-1248			290									
AROCLOR-1254	260		810		310		340		1100		130	
AROCLOR-1260	84		420		140				420		47	
BETA-BHC	2.9	J					4.3	J	6.4	J		
DELTA-BHC							5.2	J	6.1	J		
DIELDRIN	4	J	15	J	6	J	3.6	J	15	J	1.6	J
ENDOSULFAN I	2.4	J	7.5	J			1.5	J	10	J	0.92	J
ENDOSULFAN II	2.8	J	9.6	J			7.4	J	7.5	J	1.2	J
ENDOSULFAN SULFATE											0.26	J
ENDRIN			8.5	J					6.2	J		
ENDRIN ALDEHYDE												
ENDRIN KETONE												
GAMMA-BHC (LINDANE)							2.8	J				
GAMMA-CHLORDANE	3.2	J			4.6	J	2.9	J	7.3	J	1.1	J
METHOXYCHLOR												
INORGANICS (MG/KG)												
ALUMINUM	3230		6980		3470		3790		3300		1340	
ANTIMONY												
ARSENIC	5.7		11.7		6.7		7		8.9		3.9	
BARIUM	30.6		69.2	J	31.8		37.2		47.4		15.4	
BERYLLIUM	0.36		0.83	J	0.37		0.49		0.51		0.18	

Summary of Positive Hits in Sediment Samples at Depth
Site 17 - Boat Basin
Naval Training Center
Great Lakes, Illinois

SITE	SITE 17		SITE 17		SITE 17		SITE 17		SITE 17		SITE 17	
LOCATION	NTC17BBSD55		NTC17BBSD55		NTC17BBSD55		NTC17BBSD56		NTC17BBSD56		NTC17BBSD56	
SAMPLE ID	NTC17BBSD5503		NTC17BBSD5504		NTC17BBSD5505		NTC17BBSD5603		NTC17BBSD5604		NTC17BBSD5605	
SAMPLE	NTC17BBSD5503		NTC17BBSD5504		NTC17BBSD5505		NTC17BBSD5603		NTC17BBSD5604		NTC17BBSD5605	
DEPTH RANGE	0.131 - 3		3 - 6		6 - 10		0.131 - 3		3 - 6		6 - 10	
SAMPLE DATE	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL	9/5/2001	QUAL
CADMIUM	0.77		4.9		1.3		1.6		3.5		0.81	
CALCIUM	48400		76500	J	94400		55700		50700		47700	
CHROMIUM	19.5		44.8	J	23.4		16.6		34		7.8	
COBALT	6.7		11	J	6.2		8.7		7		3.4	
COPPER	101		453	J	125		156		267		135	
IRON	10600		18800	J	16400		13200		11500		7750	
LEAD	101		304	J	104		134		189		72.9	
MAGNESIUM	24500		34600		45500		28600		25700		23000	
MANGANESE	333		599	J	743		433		414		234	
MERCURY	0.31		1.3	J	0.59		0.19		1.1		0.15	
NICKEL	18		98.3	J	19.6		41.2		51.3		11.5	
POTASSIUM	431		1130		574		572		423		180	
SELENIUM			3.2				0.65		2.4			
SILVER	1.1		41.6		2.3		8.3		18.9		1.2	
SODIUM	181		221	J	254		147		149		103	
VANADIUM	11.1		19.1	J	11.8		12.7		11.3		7.2	
ZINC	366		1000	J	457		449		574		257	
MISCELLANEOUS PARAMETERS												
ACID VOLATILE SULFIDE MG/KG												
CADMIUM MG/KG												
COPPER MG/KG												
LEAD MG/KG												
MERCURY MG/KG												
NICKEL MG/KG												
NO. 10 SIEVE %												
NO. 140 SIEVE %												
NO. 20 SIEVE %												
NO. 200 SIEVE %												
NO. 4 SIEVE %												
NO. 40 SIEVE %												
NO. 60 SIEVE %												
PH S.U.	7.6		7.3		7.2		7.2		7.1		7.9	
SIEVE 1" %												
SIEVE 1-1/2" %												
SIEVE 1/2" %												
SIEVE 12" %												
SIEVE 2" %												
SIEVE 3" %												
SIEVE 3/4" %												
SIEVE 3/8" %												
SIEVE 6" %												
TOTAL ORGANIC CARBON MG/KG	11500		21000		17300		11200		12700		9630	
ZINC MG/KG												

APPENDIX C

LABORATORY FORM 1s

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 001
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ46M1AD Date Extracted:09/12/01
Dilution factor: 4 Date Analyzed: 09/20/01
Moisture %:30

QC Batch: 1255374

Client Sample Id: NTC17BBSD5601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	9.7	U
319-84-6	alpha-BHC	6.5	J
319-85-7	beta-BHC	6.9	J
319-86-8	delta-BHC	8.5	J
58-89-9	gamma-BHC (Lindane)	4.6	J P
5103-71-9	alpha-Chlordane	2.2	J
5103-74-2	gamma-Chlordane	1.2	J P
72-54-8	4,4'-DDD	82	
72-55-9	4,4'-DDE	67	
50-29-3	4,4'-DDT	43	
60-57-1	Dieldrin	2.9	J P
959-98-8	Endosulfan I	9.7	U
33213-65-9	Endosulfan II	2.7	J P
53494-70-5	Endrin ketone	9.7	U
1031-07-8	Endosulfan sulfate	9.7	U
72-20-8	Endrin	9.7	U
7421-93-4	Endrin aldehyde	9.7	U
76-44-8	Heptachlor	9.7	U
1024-57-3	Heptachlor epoxide	9.7	U
8001-35-2	Toxaphene	380	U
72-43-5	Methoxychlor	97	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I060230 002

Sample WT/Vol: 30 / g
Work Order: EJ48D1AN
Dilution factor: 10
Moisture %:25

Date Received: 09/06/01
Date Extracted:09/12/01
Date Analyzed: 09/21/01

QC Batch: 1255374

Client Sample Id: NTC17BBSD5603

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	23	U
319-84-6	alpha-BHC	4.1	J
319-85-7	beta-BHC	4.3	J
319-86-8	delta-BHC	5.2	J
58-89-9	gamma-BHC (Lindane)	2.8	J P
5103-71-9	alpha-Chlordane	5.9	J
5103-74-2	gamma-Chlordane	2.9	J P
72-54-8	4,4'-DDD	160	
72-55-9	4,4'-DDE	100	
50-29-3	4,4'-DDT	88	
60-57-1	Dieldrin	3.6	J P
959-98-8	Endosulfan I	1.5	J P
33213-65-9	Endosulfan II	7.4	J
53494-70-5	Endrin ketone	23	U
1031-07-8	Endosulfan sulfate	23	U
72-20-8	Endrin	23	U
7421-93-4	Endrin aldehyde	23	U
76-44-8	Heptachlor	23	U
1024-57-3	Heptachlor epoxide	23	U
8001-35-2	Toxaphene	890	U
72-43-5	Methoxychlor	230	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I060230 003

Sample WT/Vol: 30 / g
Work Order: EJ48F1AN
Dilution factor: 20
Moisture %:23

Date Received: 09/06/01
Date Extracted:09/12/01
Date Analyzed: 09/21/01

QC Batch: 1255374

Client Sample Id: NTC17BBSD5604

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	44	U
319-84-6	alpha-BHC	44	U
319-85-7	beta-BHC	6.4	J P
319-86-8	delta-BHC	6.1	J P
58-89-9	gamma-BHC (Lindane)	44	U
5103-71-9	alpha-Chlordane	18	J
5103-74-2	gamma-Chlordane	7.3	J P
72-54-8	4,4'-DDD	310	
72-55-9	4,4'-DDE	120	
50-29-3	4,4'-DDT	35	J P
60-57-1	Dieldrin	15	J P
959-98-8	Endosulfan I	10	J
33213-65-9	Endosulfan II	7.5	J P
53494-70-5	Endrin ketone	44	U
1031-07-8	Endosulfan sulfate	44	U
72-20-8	Endrin	6.2	J P
7421-93-4	Endrin aldehyde	44	U
76-44-8	Heptachlor	44	U
1024-57-3	Heptachlor epoxide	44	U
8001-35-2	Toxaphene	1700	U
72-43-5	Methoxychlor	440	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I060230 004

Sample WT/Vol: 30 / g
Work Order: EJ48G1AN
Dilution factor: 1
Moisture %:21

Date Received: 09/06/01
Date Extracted:09/12/01
Date Analyzed: 09/21/01

QC Batch: 1255374

Client Sample Id: NTC17BBSD5605

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	2.1	U
319-84-6	alpha-BHC	2.1	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	2.1	U
58-89-9	gamma-BHC (Lindane)	2.1	U
5103-71-9	alpha-Chlordane	2.0	J
5103-74-2	gamma-Chlordane	1.1	J P
72-54-8	4,4'-DDD	30	
72-55-9	4,4'-DDE	13	
50-29-3	4,4'-DDT	6.5	
60-57-1	Dieldrin	1.6	J
959-98-8	Endosulfan I	0.92	J P
33213-65-9	Endosulfan II	1.2	J
53494-70-5	Endrin ketone	2.1	U
1031-07-8	Endosulfan sulfate	0.26	J P
72-20-8	Endrin	2.1	U
7421-93-4	Endrin aldehyde	2.1	U
76-44-8	Heptachlor	2.1	U
1024-57-3	Heptachlor epoxide	2.1	U
8001-35-2	Toxaphene	84	U
72-43-5	Methoxychlor	21	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 005
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48H1AN Date Extracted:09/12/01
Dilution factor: 10 Date Analyzed: 09/21/01
Moisture %:25

QC Batch: 1255374

Client Sample Id: NTC17BBSD5501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	23	U
319-84-6	alpha-BHC	23	U
319-85-7	beta-BHC	5.6	J
319-86-8	delta-BHC	5.3	J
58-89-9	gamma-BHC (Lindane)	23	U
5103-71-9	alpha-Chlordane	6.5	J
5103-74-2	gamma-Chlordane	2.8	J P
72-54-8	4,4'-DDD	140	
72-55-9	4,4'-DDE	100	
50-29-3	4,4'-DDT	73	
60-57-1	Dieldrin	5.0	J P
959-98-8	Endosulfan I	2.8	J P
33213-65-9	Endosulfan II	8.2	J
53494-70-5	Endrin ketone	23	U
1031-07-8	Endosulfan sulfate	23	U
72-20-8	Endrin	23	U
7421-93-4	Endrin aldehyde	23	U
76-44-8	Heptachlor	23	U
1024-57-3	Heptachlor epoxide	23	U
8001-35-2	Toxaphene	890	U
72-43-5	Methoxychlor	230	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I060230 006

Sample WT/Vol: 30 / g
Work Order: EJ48J1AN
Dilution factor: 10
Moisture %:26

Date Received: 09/06/01
Date Extracted:09/12/01
Date Analyzed: 09/21/01

QC Batch: 1255374

Client Sample Id: NTC17BBSD5503

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	23	U
319-84-6	alpha-BHC	23	U
319-85-7	beta-BHC	2.9	J P
319-86-8	delta-BHC	23	U
58-89-9	gamma-BHC (Lindane)	23	U
5103-71-9	alpha-Chlordane	3.2	J P
5103-74-2	gamma-Chlordane	3.2	J
72-54-8	4,4'-DDD	160	
72-55-9	4,4'-DDE	130	
50-29-3	4,4'-DDT	57	
60-57-1	Dieldrin	4.0	J P
959-98-8	Endosulfan I	2.4	J P
33213-65-9	Endosulfan II	2.8	J P
53494-70-5	Endrin ketone	23	U
1031-07-8	Endosulfan sulfate	23	U
72-20-8	Endrin	23	U
7421-93-4	Endrin aldehyde	23	U
76-44-8	Heptachlor	23	U
1024-57-3	Heptachlor epoxide	23	U
8001-35-2	Toxaphene	910	U
72-43-5	Methoxychlor	230	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 007
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48M1AN Date Extracted:09/12/01
Dilution factor: 20 Date Analyzed: 09/21/01
Moisture %:30

QC Batch: 1255374

Client Sample Id: NTC17BBSD5504

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	48	U
319-84-6	alpha-BHC	48	U
319-85-7	beta-BHC	4.3	J P
319-86-8	delta-BHC	3.5	J P
58-89-9	gamma-BHC (Lindane)	48	U
5103-71-9	alpha-Chlordane	14	J
5103-74-2	gamma-Chlordane	6.4	J P
72-54-8	4,4'-DDD	290	
72-55-9	4,4'-DDE	120	
50-29-3	4,4'-DDT	37	J P
60-57-1	Dieldrin	15	J
959-98-8	Endosulfan I	7.5	J
33213-65-9	Endosulfan II	9.6	J
53494-70-5	Endrin ketone	48	U
1031-07-8	Endosulfan sulfate	48	U
72-20-8	Endrin	8.5	J
7421-93-4	Endrin aldehyde	48	U
76-44-8	Heptachlor	48	U
1024-57-3	Heptachlor epoxide	48	U
8001-35-2	Toxaphene	1900	U
72-43-5	Methoxychlor	480	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 008
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48R1AN Date Extracted:09/12/01
Dilution factor: 20 Date Analyzed: 09/21/01
Moisture %:27

QC Batch: 1255374

Client Sample Id: NTC17BBSD5505

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	46	U
319-84-6	alpha-BHC	46	U
319-85-7	beta-BHC	46	U
319-86-8	delta-BHC	46	U
58-89-9	gamma-BHC (Lindane)	46	U
5103-71-9	alpha-Chlordane	6.1	J P
5103-74-2	gamma-Chlordane	4.6	J P
72-54-8	4,4'-DDD	210	
72-55-9	4,4'-DDE	160	
50-29-3	4,4'-DDT	46	
60-57-1	Dieldrin	6.0	J P
959-98-8	Endosulfan I	46	U
33213-65-9	Endosulfan II	46	U
53494-70-5	Endrin ketone	46	U
1031-07-8	Endosulfan sulfate	46	U
72-20-8	Endrin	46	U
7421-93-4	Endrin aldehyde	46	U
76-44-8	Heptachlor	46	U
1024-57-3	Heptachlor epoxide	46	U
8001-35-2	Toxaphene	1800	U
72-43-5	Methoxychlor	460	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 009
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48W1AN Date Extracted:09/12/01
Dilution factor: 20 Date Analyzed: 09/21/01
Moisture %:34

QC Batch: 1255374

Client Sample Id: NTC17BBSD4801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	51	U
319-84-6	alpha-BHC	51	U
319-85-7	beta-BHC	51	U
319-86-8	delta-BHC	7.9	J
58-89-9	gamma-BHC (Lindane)	51	U
5103-71-9	alpha-Chlordane	11	J P
5103-74-2	gamma-Chlordane	8.0	J P
72-54-8	4,4'-DDD	310	
72-55-9	4,4'-DDE	230	
50-29-3	4,4'-DDT	67	
60-57-1	Dieldrin	13	J
959-98-8	Endosulfan I	8.7	J
33213-65-9	Endosulfan II	7.5	J P
53494-70-5	Endrin ketone	51	U
1031-07-8	Endosulfan sulfate	51	U
72-20-8	Endrin	51	U
7421-93-4	Endrin aldehyde	51	U
76-44-8	Heptachlor	51	U
1024-57-3	Heptachlor epoxide	51	U
8001-35-2	Toxaphene	2000	U
72-43-5	Methoxychlor	510	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 010
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ4801AN Date Extracted:09/12/01
Dilution factor: 20 Date Analyzed: 09/21/01
Moisture %:33

QC Batch: 1255374

Client Sample Id: NTC17BBSD4803

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	51	U
319-84-6	alpha-BHC	51	U
319-85-7	beta-BHC	51	U
319-86-8	delta-BHC	51	U
58-89-9	gamma-BHC (Lindane)	51	U
5103-71-9	alpha-Chlordane	23	J
5103-74-2	gamma-Chlordane	13	J P
72-54-8	4,4'-DDD	420	
72-55-9	4,4'-DDE	210	
50-29-3	4,4'-DDT	68	P
60-57-1	Dieldrin	17	J P
959-98-8	Endosulfan I	7.1	J P
33213-65-9	Endosulfan II	21	J P
53494-70-5	Endrin ketone	6.7	J P
1031-07-8	Endosulfan sulfate	51	U
72-20-8	Endrin	12	J
7421-93-4	Endrin aldehyde	51	U
76-44-8	Heptachlor	51	U
1024-57-3	Heptachlor epoxide	51	U
8001-35-2	Toxaphene	2000	U
72-43-5	Methoxychlor	510	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I060230 011

Sample WT/Vol: 30 / g
Work Order: EJ4811A0
Dilution factor: 50
Moisture %:34

Date Received: 09/06/01
Date Extracted:09/12/01
Date Analyzed: 09/21/01

QC Batch: 1255374

Client Sample Id: NTC17BBSD4804

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	130	U
319-84-6	alpha-BHC	130	U
319-85-7	beta-BHC	130	U
319-86-8	delta-BHC	130	U
58-89-9	gamma-BHC (Lindane)	130	U
5103-71-9	alpha-Chlordane	65	J
5103-74-2	gamma-Chlordane	36	J P
72-54-8	4,4'-DDD	900	
72-55-9	4,4'-DDE	360	
50-29-3	4,4'-DDT	87	J P
60-57-1	Dieldrin	39	J P
959-98-8	Endosulfan I	25	J P
33213-65-9	Endosulfan II	41	J
53494-70-5	Endrin ketone	130	U
1031-07-8	Endosulfan sulfate	130	U
72-20-8	Endrin	130	U
7421-93-4	Endrin aldehyde	130	U
76-44-8	Heptachlor	130	U
1024-57-3	Heptachlor epoxide	130	U
8001-35-2	Toxaphene	5000	U
72-43-5	Methoxychlor	1300	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I060230 012

Sample WT/Vol: 30 / g
Work Order: EJ4841AN
Dilution factor: 10
Moisture %:21

Date Received: 09/06/01
Date Extracted:09/12/01
Date Analyzed: 09/21/01

QC Batch: 1255374

Client Sample Id: NTC17BBSD4805

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	**Aldrin**	**1.8**	**J P**
319-84-6	alpha-BHC	21	U
319-85-7	beta-BHC	21	U
319-86-8	delta-BHC	21	U
58-89-9	gamma-BHC (Lindane)	21	U
5103-71-9	**alpha-Chlordane**	**4.1**	**J**
5103-74-2	**gamma-Chlordane**	**2.4**	**J P**
72-54-8	**4,4'-DDD**	**120**	
72-55-9	**4,4'-DDE**	**93**	
50-29-3	**4,4'-DDT**	**69**	
60-57-1	**Dieldrin**	**3.9**	**J P**
959-98-8	**Endosulfan I**	**1.7**	**J P**
33213-65-9	**Endosulfan II**	**3.8**	**J**
53494-70-5	Endrin ketone	21	U
1031-07-8	Endosulfan sulfate	21	U
72-20-8	**Endrin**	**2.6**	**J P**
7421-93-4	Endrin aldehyde	21	U
76-44-8	Heptachlor	21	U
1024-57-3	Heptachlor epoxide	21	U
8001-35-2	Toxaphene	840	U
72-43-5	Methoxychlor	210	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I060230 013

Sample WT/Vol: 30 / g
Work Order: EJ4861AN
Dilution factor: 20
Moisture %:26

Date Received: 09/06/01
Date Extracted:09/12/01
Date Analyzed: 09/21/01

QC Batch: 1255374

Client Sample Id: NTC17BBSD5201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	46	U
319-84-6	alpha-BHC	46	U
319-85-7	beta-BHC	7.6	J
319-86-8	delta-BHC	2.0	J P
58-89-9	gamma-BHC (Lindane)	46	U
5103-71-9	alpha-Chlordane	6.7	J
5103-74-2	gamma-Chlordane	46	U
72-54-8	4,4'-DDD	190	
72-55-9	4,4'-DDE	140	
50-29-3	4,4'-DDT	46	U
60-57-1	Dieldrin	6.3	J
959-98-8	Endosulfan I	7.7	J P
33213-65-9	Endosulfan II	12	J
53494-70-5	Endrin ketone	46	U
1031-07-8	Endosulfan sulfate	7.3	J P
72-20-8	Endrin	46	U
7421-93-4	Endrin aldehyde	46	U
76-44-8	Heptachlor	46	U
1024-57-3	Heptachlor epoxide	46	U
8001-35-2	Toxaphene	1800	U
72-43-5	Methoxychlor	32	J P

TETRA TECH NUS, INC.

Lab Name: Severn Trent Laboratories, Inc. SDG Number: GL001

Matrix: (soil/water) SOLID Lab Sample ID: C1I060230 014
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ49N1AN Date Extracted: 09/12/01
Dilution factor: 20 Date Analyzed: 09/21/01
Moisture %: 36

QC Batch: 1255374

Client Sample Id: NTC17BBSD5203

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	53	U
319-84-6	alpha-BHC	53	U
319-85-7	beta-BHC	53	U
319-86-8	delta-BHC	53	U
58-89-9	gamma-BHC (Lindane)	53	U
5103-71-9	alpha-Chlordane	21	J
5103-74-2	gamma-Chlordane	6.4	J P
72-54-8	4,4'-DDD	410	
72-55-9	4,4'-DDE	97	
50-29-3	4,4'-DDT	65	P
60-57-1	Dieldrin	15	J P
959-98-8	Endosulfan I	5.0	J P
33213-65-9	Endosulfan II	19	J
53494-70-5	Endrin ketone	53	U
1031-07-8	Endosulfan sulfate	53	U
72-20-8	Endrin	8.9	J P
7421-93-4	Endrin aldehyde	53	U
76-44-8	Heptachlor	53	U
1024-57-3	Heptachlor epoxide	53	U
8001-35-2	Toxaphene	2100	U
72-43-5	Methoxychlor	530	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 015
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ49T1AN Date Extracted:09/12/01
Dilution factor: 30 Date Analyzed: 09/21/01
Moisture %:27

QC Batch: 1255374

Client Sample Id: NTC17BBSD5204

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	70	U
319-84-6	alpha-BHC	70	U
319-85-7	beta-BHC	70	U
319-86-8	delta-BHC	70	U
58-89-9	gamma-BHC (Lindane)	70	U
5103-71-9	alpha-Chlordane	24	J P
5103-74-2	gamma-Chlordane	12	J P
72-54-8	4,4'-DDD	340	
72-55-9	4,4'-DDE	140	
50-29-3	4,4'-DDT	37	J P
60-57-1	Dieldrin	9.7	J P
959-98-8	Endosulfan I	12	J P
33213-65-9	Endosulfan II	70	U
53494-70-5	Endrin ketone	70	U
1031-07-8	Endosulfan sulfate	70	U
72-20-8	Endrin	70	U
7421-93-4	Endrin aldehyde	70	U
76-44-8	Heptachlor	70	U
1024-57-3	Heptachlor epoxide	70	U
8001-35-2	Toxaphene	2800	U
72-43-5	Methoxychlor	700	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I060230 016

Sample WT/Vol: 30 / g
Work Order: EJ4921AN
Dilution factor: 10
Moisture %:36

Date Received: 09/06/01
Date Extracted:09/12/01
Date Analyzed: 09/21/01

QC Batch: 1255374

Client Sample Id: NTC17BBSD5205

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	27	U
319-84-6	alpha-BHC	27	U
319-85-7	beta-BHC	27	U
319-86-8	delta-BHC	2.9	J P
58-89-9	gamma-BHC (Lindane)	27	U
5103-71-9	alpha-Chlordane	6.9	J P
5103-74-2	gamma-Chlordane	7.2	J P 10-4-01
72-54-8	4,4'-DDD	340	
72-55-9	4,4'-DDE	230	
50-29-3	4,4'-DDT	100	
60-57-1	Dieldrin	8.7	J P
959-98-8	Endosulfan I	5.8	J P
33213-65-9	Endosulfan II	6.4	J P
53494-70-5	Endrin ketone	27	U
1031-07-8	Endosulfan sulfate	27	U
72-20-8	Endrin	27	U
7421-93-4	Endrin aldehyde	27	U
76-44-8	Heptachlor	27	U
1024-57-3	Heptachlor epoxide	27	U
8001-35-2	Toxaphene	1000	U
72-43-5	Methoxychlor	270	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 018
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ5CH1CC Date Extracted:09/12/01
Dilution factor: 4 Date Analyzed: 09/21/01
Moisture %:17

QC Batch: 1255374

Client Sample Id: NTC17BBSD5401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	8.2	U
319-84-6	alpha-BHC	8.2	U
319-85-7	beta-BHC	8.2	U
319-86-8	delta-BHC	8.2	U
58-89-9	gamma-BHC (Lindane)	8.2	U
5103-71-9	alpha-Chlordane	1.6	J
5103-74-2	gamma-Chlordane	1.3	J P
72-54-8	4,4'-DDD	71	
72-55-9	4,4'-DDE	57	
50-29-3	4,4'-DDT	58	
60-57-1	Dieldrin	1.7	J
959-98-8	Endosulfan I	1.1	J P
33213-65-9	Endosulfan II	0.94	J P
53494-70-5	Endrin ketone	8.2	U
1031-07-8	Endosulfan sulfate	8.2	U
72-20-8	Endrin	8.2	U
7421-93-4	Endrin aldehyde	8.2	U
76-44-8	Heptachlor	8.2	U
1024-57-3	Heptachlor epoxide	8.2	U
8001-35-2	Toxaphene	320	U
72-43-5	Methoxychlor	82	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 019
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ5CT1AN Date Extracted:09/12/01
Dilution factor: 20 Date Analyzed: 09/21/01
Moisture %:26

QC Batch: 1255374

Client Sample Id: NTC17BBSD5403

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	46	U
319-84-6	alpha-BHC	46	U
319-85-7	beta-BHC	46	U
319-86-8	delta-BHC	46	U
58-89-9	gamma-BHC (Lindane)	46	U
5103-71-9	**alpha-Chlordane**	**5.9**	**J**
5103-74-2	gamma-Chlordane	46	U
72-54-8	**4,4'-DDD**	**190**	
72-55-9	**4,4'-DDE**	**160**	
50-29-3	**4,4'-DDT**	**51**	
60-57-1	**Dieldrin**	**6.6**	**J**
959-98-8	**Endosulfan I**	**8.0**	**J P**
33213-65-9	Endosulfan II	46	U
53494-70-5	Endrin ketone	46	U
1031-07-8	Endosulfan sulfate	46	U
72-20-8	Endrin	46	U
7421-93-4	Endrin aldehyde	46	U
76-44-8	Heptachlor	46	U
1024-57-3	Heptachlor epoxide	46	U
8001-35-2	Toxaphene	1800	U
72-43-5	Methoxychlor	460	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) WATER Lab Sample ID:C1I060230 020
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 1000 / mL Date Received: 09/06/01
Work Order: EJ5CV1A5 Date Extracted:09/10/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:NA

QC Batch: 1253509

Client Sample Id: NTC17RB09050101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.050	U
72-55-9	4,4'-DDE	0.050	U
72-20-8	Endrin	0.050	U
53494-70-5	Endrin ketone	0.050	U
7421-93-4	Endrin aldehyde	0.050	U
33213-65-9	Endosulfan II	0.050	U
72-54-8	4,4'-DDD	0.050	U
1031-07-8	Endosulfan sulfate	0.050	U
50-29-3	4,4'-DDT	0.050	U
72-43-5	Methoxychlor	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.0	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 001
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ46M1AE Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:30

QC Batch: 1255378

Client Sample Id: NTC17BBSD5601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	47	U
11104-28-2	Aroclor 1221	47	U
11141-16-5	Aroclor 1232	47	U
53469-21-9	Aroclor 1242	47	U
12672-29-6	Aroclor 1248	47	U
11097-69-1	**Aroclor 1254**	**79**	
11096-82-5	Aroclor 1260	47	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I060230 002

Sample WT/Vol: 30 / g
Work Order: EJ48D1AP
Dilution factor: 1
Moisture %:25

Date Received: 09/06/01
Date Extracted:09/12/01
Date Analyzed: 09/19/01

QC Batch: 1255378

Client Sample Id: NTC17BBSD5603

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	44	U
11104-28-2	Aroclor 1221	44	U
11141-16-5	Aroclor 1232	44	U
53469-21-9	Aroclor 1242	44	U
12672-29-6	Aroclor 1248	44	U
11097-69-1	**Aroclor 1254**	**340**	
11096-82-5	Aroclor 1260	44	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 003
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48F1AP Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:23

QC Batch: 1255378

Client Sample Id: NTC17BBSD5604

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	43	U
11104-28-2	Aroclor 1221	43	U
11141-16-5	Aroclor 1232	43	U
53469-21-9	Aroclor 1242	43	U
12672-29-6	Aroclor 1248	43	U
11097-69-1	**Aroclor 1254**	**1100**	
11096-82-5	**Aroclor 1260**	**420**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I060230 004

Sample WT/Vol: 30 / g
Work Order: EJ48G1AP
Dilution factor: 1
Moisture %:21

Date Received: 09/06/01
Date Extracted:09/12/01
Date Analyzed: 09/19/01

QC Batch: 1255378

Client Sample Id: NTC17BBSD5605

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	42	U
11104-28-2	Aroclor 1221	42	U
11141-16-5	Aroclor 1232	42	U
53469-21-9	Aroclor 1242	42	U
12672-29-6	Aroclor 1248	42	U
11097-69-1	**Aroclor 1254**	**130**	
11096-82-5	**Aroclor 1260**	**47**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 005
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48H1AP Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:25

QC Batch: 1255378

Client Sample Id: NTC17BBSD5501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	44	U
11104-28-2	Aroclor 1221	44	U
11141-16-5	Aroclor 1232	44	U
53469-21-9	Aroclor 1242	44	U
12672-29-6	Aroclor 1248	44	U
11097-69-1	**Aroclor 1254**	**400**	
11096-82-5	**Aroclor 1260**	**170**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I060230 006

Sample WT/Vol: 30 / g
Work Order: EJ48J1AP
Dilution factor: 1
Moisture %:26

Date Received: 09/06/01
Date Extracted:09/12/01
Date Analyzed: 09/19/01

QC Batch: 1255378

Client Sample Id: NTC17BBSD5503

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	45	U
11104-28-2	Aroclor 1221	45	U
11141-16-5	Aroclor 1232	45	U
53469-21-9	Aroclor 1242	45	U
12672-29-6	Aroclor 1248	45	U
11097-69-1	**Aroclor 1254**	**260**	
11096-82-5	**Aroclor 1260**	**84**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 007
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48M1AP Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:30

QC Batch: 1255378

Client Sample Id: NTC17BBSD5504

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	47	U
11104-28-2	Aroclor 1221	47	U
11141-16-5	Aroclor 1232	47	U
53469-21-9	Aroclor 1242	47	U
12672-29-6	**Aroclor 1248**	**290**	
11097-69-1	**Aroclor 1254**	**810**	
11096-82-5	**Aroclor 1260**	**420**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 008
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48R1AP Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:27

QC Batch: 1255378

Client Sample Id: NTC17BBSD5505

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	45	U
11104-28-2	Aroclor 1221	45	U
11141-16-5	Aroclor 1232	45	U
53469-21-9	Aroclor 1242	45	U
12672-29-6	Aroclor 1248	45	U
11097-69-1	**Aroclor 1254**	**310**	
11096-82-5	**Aroclor 1260**	**140**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 009
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48W1AP Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:34

QC Batch: 1255378

Client Sample Id: NTC17BBSD4801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	50	U
11104-28-2	Aroclor 1221	50	U
11141-16-5	Aroclor 1232	50	U
53469-21-9	Aroclor 1242	50	U
12672-29-6	Aroclor 1248	50	U
11097-69-1	**Aroclor 1254**	**660**	
11096-82-5	**Aroclor 1260**	**270**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 010
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ4801AP Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:33

QC Batch: 1255378

Client Sample Id: NTC17BBSD4803

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	50	U
11104-28-2	Aroclor 1221	50	U
11141-16-5	Aroclor 1232	50	U
53469-21-9	Aroclor 1242	50	U
12672-29-6	**Aroclor 1248**	**540**	
11097-69-1	**Aroclor 1254**	**1300**	
11096-82-5	**Aroclor 1260**	**1100**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 011
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ4811A1 Date Extracted:09/12/01
Dilution factor: 2 Date Analyzed: 09/20/01
Moisture %:34

QC Batch: 1255378

Client Sample Id: NTC17BBSD4804

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	99	U
11104-28-2	Aroclor 1221	99	U
11141-16-5	Aroclor 1232	99	U
53469-21-9	Aroclor 1242	99	U
12672-29-6	**Aroclor 1248**	**1500**	
11097-69-1	**Aroclor 1254**	**2800**	
11096-82-5	**Aroclor 1260**	**920**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 012
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ4841AP Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:21

QC Batch: 1255378

Client Sample Id: NTC17BBSD4805

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	42	U
11104-28-2	Aroclor 1221	42	U
11141-16-5	Aroclor 1232	42	U
53469-21-9	Aroclor 1242	42	U
12672-29-6	Aroclor 1248	42	U
11097-69-1	**Aroclor 1254**	**180**	
11096-82-5	Aroclor 1260	42	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I060230 013

Sample WT/Vol: 30 / g
Work Order: EJ4861AP
Dilution factor: 1
Moisture %:26

Date Received: 09/06/01
Date Extracted:09/12/01
Date Analyzed: 09/19/01

QC Batch: 1255378

Client Sample Id: NTC17BBSD5201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	44	U
11104-28-2	Aroclor 1221	44	U
11141-16-5	Aroclor 1232	44	U
53469-21-9	Aroclor 1242	44	U
12672-29-6	Aroclor 1248	44	U
11097-69-1	Aroclor 1254	44	U
11096-82-5	Aroclor 1260	44	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 014
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ49N1AP Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:36

QC Batch: 1255378

Client Sample Id: NTC17BBSD5203

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	51	U
11104-28-2	Aroclor 1221	51	U
11141-16-5	Aroclor 1232	51	U
53469-21-9	Aroclor 1242	51	U
12672-29-6	Aroclor 1248	51	U
11097-69-1	**Aroclor 1254**	**1400**	
11096-82-5	**Aroclor 1260**	**560**	

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I060230 015

Sample WT/Vol: 30 / g
Work Order: EJ49T1AP
Dilution factor: 1
Moisture %:27

Date Received: 09/06/01
Date Extracted:09/12/01
Date Analyzed: 09/19/01

QC Batch: 1255378

Client Sample Id: NTC17BBSD5204

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	45	U
11104-28-2	Aroclor 1221	45	U
11141-16-5	Aroclor 1232	45	U
53469-21-9	Aroclor 1242	45	U
12672-29-6	**Aroclor 1248**	**600**	
11097-69-1	**Aroclor 1254**	**1200**	
11096-82-5	**Aroclor 1260**	**530**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 016
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ4921AP Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:36

QC Batch: 1255378

Client Sample Id: NTC17BBSD5205

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	51	U
11104-28-2	Aroclor 1221	51	U
11141-16-5	Aroclor 1232	51	U
53469-21-9	Aroclor 1242	51	U
12672-29-6	Aroclor 1248	51	U
11097-69-1	**Aroclor 1254**	**410**	
11096-82-5	**Aroclor 1260**	**230**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 018
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ5CH1CF Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:17

QC Batch: 1255378

Client Sample Id: NTC17BBSD5401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	40	U
11104-28-2	Aroclor 1221	40	U
11141-16-5	Aroclor 1232	40	U
53469-21-9	Aroclor 1242	40	U
12672-29-6	Aroclor 1248	40	U
11097-69-1	Aroclor 1254	40	U
11096-82-5	Aroclor 1260	40	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 019
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ5CT1AP Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:26

QC Batch: 1255378

Client Sample Id: NTC17BBSD5403

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	44	U
11104-28-2	Aroclor 1221	44	U
11141-16-5	Aroclor 1232	44	U
53469-21-9	Aroclor 1242	44	U
12672-29-6	Aroclor 1248	44	U
11097-69-1	**Aroclor 1254**	**330**	
11096-82-5	**Aroclor 1260**	**170**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) WATER Lab Sample ID:C1I060230 020
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 1000 / mL Date Received: 09/06/01
Work Order: EJ5CV1A6 Date Extracted:09/10/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:NA

QC Batch: 1253510

Client Sample Id: NTC17RB09050101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
12674-11-2	Aroclor 1016	1.0	U
11104-28-2	Aroclor 1221	1.0	U
11141-16-5	Aroclor 1232	1.0	U
53469-21-9	Aroclor 1242	1.0	U
12672-29-6	Aroclor 1248	1.0	U
11097-69-1	Aroclor 1254	1.0	U
11096-82-5	Aroclor 1260	1.0	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 001
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ46M1AA Date Extracted:09/07/01
Dilution factor: 50 Date Analyzed: 09/29/01
Moisture %:30

QC Batch: 1250480

Client Sample Id: NTC17BBSD5601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	2400	U
208-96-8	Acenaphthylene	200	J
83-32-9	Acenaphthene	2400	U
86-73-7	Fluorene	330	J
85-01-8	Phenanthrene	2300	
120-12-7	Anthracene	360	J
206-44-0	Fluoranthene	3200	
129-00-0	Pyrene	2300	
56-55-3	Benzo(a)anthracene	1000	
218-01-9	Chrysene	1100	
205-99-2	Benzo(b)fluoranthene	1100	
207-08-9	Benzo(k)fluoranthene	600	
50-32-8	Benzo(a)pyrene	900	
193-39-5	Indeno(1,2,3-cd)pyrene	330	J P
53-70-3	Dibenzo(a,h)anthracene	480	U
191-24-2	Benzo(ghi)perylene	700	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 002
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48D1AL Date Extracted:09/07/01
Dilution factor: 20 Date Analyzed: 09/13/01
Moisture %:25

QC Batch: 1250480

Client Sample Id: NTC17BBSD5603

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	880	U
208-96-8	Acenaphthylene	880	U
83-32-9	Acenaphthene	880	U
86-73-7	Fluorene	80	J
85-01-8	Phenanthrene	790	
120-12-7	Anthracene	140	J
206-44-0	Fluoranthene	1300	
129-00-0	Pyrene	930	
56-55-3	Benzo(a)anthracene	440	
218-01-9	Chrysene	460	
205-99-2	Benzo(b)fluoranthene	460	
207-08-9	Benzo(k)fluoranthene	250	P
50-32-8	Benzo(a)pyrene	450	
193-39-5	Indeno(1,2,3-cd)pyrene	230	P
53-70-3	Dibenzo(a,h)anthracene	180	U
191-24-2	Benzo(ghi)perylene	290	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 003
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48F1AL Date Extracted:09/07/01
Dilution factor: 20 Date Analyzed: 09/13/01
Moisture %:23

QC Batch: 1250480

Client Sample Id: NTC17BBSD5604

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	850		U
208-96-8	Acenaphthylene	850		U
83-32-9	Acenaphthene	850		U
86-73-7	Fluorene	66	J	
85-01-8	Phenanthrene	540		
120-12-7	Anthracene	100	J	
206-44-0	Fluoranthene	860		
129-00-0	Pyrene	640		
56-55-3	Benzo(a)anthracene	320		
218-01-9	Chrysene	330		
205-99-2	Benzo(b)fluoranthene	320		
207-08-9	Benzo(k)fluoranthene	160	J	
50-32-8	Benzo(a)pyrene	310		
193-39-5	Indeno(1,2,3-cd)pyrene	120	J	P
53-70-3	Dibenzo(a,h)anthracene	170		U
191-24-2	Benzo(ghi)perylene	210		P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 004
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48G1AL Date Extracted:09/07/01
Dilution factor: 5 Date Analyzed: 09/29/01
Moisture %:21

QC Batch: 1250480

Client Sample Id: NTC17BBSD5605

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	210	U
208-96-8	Acenaphthylene	14	J
83-32-9	Acenaphthene	210	U
86-73-7	Fluorene	33	J P
85-01-8	Phenanthrene	140	
120-12-7	Anthracene	40	J
206-44-0	Fluoranthene	300	
129-00-0	Pyrene	210	
56-55-3	Benzo(a)anthracene	180	
218-01-9	Chrysene	160	
205-99-2	Benzo(b)fluoranthene	140	
207-08-9	Benzo(k)fluoranthene	80	P
50-32-8	Benzo(a)pyrene	170	P
193-39-5	Indeno(1,2,3-cd)pyrene	67	P
53-70-3	Dibenzo(a,h)anthracene	42	U
191-24-2	Benzo(ghi)perylene	170	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 005
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48H1AL Date Extracted:09/07/01
Dilution factor: 20 Date Analyzed: 09/13/01
Moisture %:25

QC Batch: 1250480

Client Sample Id: NTC17BBSD5501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	880	U
208-96-8	Acenaphthylene	880	U
83-32-9	Acenaphthene	880	U
86-73-7	Fluorene	170	J
85-01-8	Phenanthrene	1400	
120-12-7	Anthracene	360	
206-44-0	Fluoranthene	2200	
129-00-0	Pyrene	1500	
56-55-3	Benzo(a)anthracene	770	
218-01-9	Chrysene	720	
205-99-2	Benzo(b)fluoranthene	700	
207-08-9	Benzo(k)fluoranthene	400	P
50-32-8	Benzo(a)pyrene	690	
193-39-5	Indeno(1,2,3-cd)pyrene	320	P
53-70-3	Dibenzo(a,h)anthracene	180	U
191-24-2	Benzo(ghi)perylene	410	P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 006
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48J1AL Date Extracted:09/07/01
Dilution factor: 20 Date Analyzed: 09/13/01
Moisture %:26

QC Batch: 1250480

Client Sample Id: NTC17BBSD5503

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	900	U
208-96-8	Acenaphthylene	900	U
83-32-9	Acenaphthene	900	U
86-73-7	Fluorene	190	
85-01-8	Phenanthrene	1900	
120-12-7	Anthracene	360	
206-44-0	Fluoranthene	3100	
129-00-0	Pyrene	2100	
56-55-3	Benzo(a)anthracene	1000	
218-01-9	Chrysene	1000	
205-99-2	Benzo(b)fluoranthene	970	
207-08-9	Benzo(k)fluoranthene	560	P
50-32-8	Benzo(a)pyrene	980	
193-39-5	Indeno(1,2,3-cd)pyrene	450	P
53-70-3	Dibenzo(a,h)anthracene	180	U
191-24-2	Benzo(ghi)perylene	590	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 007
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48M1AL Date Extracted:09/07/01
Dilution factor: 20 Date Analyzed: 09/13/01
Moisture %:30

QC Batch: 1250480

Client Sample Id: NTC17BBSD5504

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	940		U
208-96-8	Acenaphthylene	940		U
83-32-9	Acenaphthene	940		U
86-73-7	Fluorene	260		
85-01-8	Phenanthrene	1600		
120-12-7	Anthracene	360		
206-44-0	Fluoranthene	2100		
129-00-0	Pyrene	1300		
56-55-3	Benzo(a)anthracene	700		
218-01-9	Chrysene	660		
205-99-2	Benzo(b)fluoranthene	640		
207-08-9	Benzo(k)fluoranthene	360		
50-32-8	Benzo(a)pyrene	590		
193-39-5	Indeno(1,2,3-cd)pyrene	270		P
53-70-3	Dibenzo(a,h)anthracene	57	J	P
191-24-2	Benzo(ghi)perylene	300		P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 008
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48R1AL Date Extracted:09/07/01
Dilution factor: 20 Date Analyzed: 09/13/01
Moisture %:27

QC Batch: 1250480

Client Sample Id: NTC17BBSD5505

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	200	J
208-96-8	Acenaphthylene	900	U
83-32-9	Acenaphthene	900	U
86-73-7	Fluorene	230	
85-01-8	Phenanthrene	1800	
120-12-7	Anthracene	370	
206-44-0	Fluoranthene	2700	
129-00-0	Pyrene	1800	
56-55-3	Benzo(a)anthracene	850	
218-01-9	Chrysene	880	
205-99-2	Benzo(b)fluoranthene	870	
207-08-9	Benzo(k)fluoranthene	500	P
50-32-8	Benzo(a)pyrene	830	
193-39-5	Indeno(1,2,3-cd)pyrene	390	P
53-70-3	Dibenzo(a,h)anthracene	180	U
191-24-2	Benzo(ghi)perylene	570	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 009
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ48W1AL Date Extracted:09/07/01
Dilution factor: 20 Date Analyzed: 09/13/01
Moisture %:34

QC Batch: 1250480

Client Sample Id: NTC17BBSD4801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	1000	U
208-96-8	Acenaphthylene	1000	U
83-32-9	Acenaphthene	1000	U
86-73-7	Fluorene	120	J
85-01-8	Phenanthrene	1000	
120-12-7	Anthracene	190	J
206-44-0	Fluoranthene	1900	
129-00-0	Pyrene	1300	
56-55-3	Benzo(a)anthracene	680	
218-01-9	Chrysene	670	
205-99-2	Benzo(b)fluoranthene	680	
207-08-9	Benzo(k)fluoranthene	400	P
50-32-8	Benzo(a)pyrene	680	P
193-39-5	Indeno(1,2,3-cd)pyrene	340	P
53-70-3	Dibenzo(a,h)anthracene	200	U
191-24-2	Benzo(ghi)perylene	630	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 010
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ4801AL Date Extracted:09/07/01
Dilution factor: 5 Date Analyzed: 09/30/01
Moisture %:33

QC Batch: 1250480

Client Sample Id: NTC17BBSD4803

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	250	U
208-96-8	Acenaphthylene	49	J
83-32-9	Acenaphthene	250	U
86-73-7	Fluorene	79	
85-01-8	Phenanthrene	460	
120-12-7	Anthracene	64	
206-44-0	Fluoranthene	770	
129-00-0	Pyrene	590	
56-55-3	Benzo(a)anthracene	280	
218-01-9	Chrysene	290	
205-99-2	Benzo(b)fluoranthene	280	
207-08-9	Benzo(k)fluoranthene	170	P
50-32-8	Benzo(a)pyrene	250	
193-39-5	Indeno(1,2,3-cd)pyrene	120	P
53-70-3	Dibenzo(a,h)anthracene	50	U
191-24-2	Benzo(ghi)perylene	210	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 011
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ4811AW Date Extracted:09/07/01
Dilution factor: 5 Date Analyzed: 09/30/01
Moisture %:34

QC Batch: 1250480

Client Sample Id: NTC17BBSD4804

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	250	U
208-96-8	Acenaphthylene	58	J
83-32-9	Acenaphthene	250	U
86-73-7	Fluorene	70	
85-01-8	Phenanthrene	400	
120-12-7	Anthracene	50	U
206-44-0	Fluoranthene	630	
129-00-0	Pyrene	480	
56-55-3	Benzo(a)anthracene	230	
218-01-9	Chrysene	240	
205-99-2	Benzo(b)fluoranthene	220	
207-08-9	Benzo(k)fluoranthene	140	P
50-32-8	Benzo(a)pyrene	200	P
193-39-5	Indeno(1,2,3-cd)pyrene	91	P
53-70-3	Dibenzo(a,h)anthracene	50	U
191-24-2	Benzo(ghi)perylene	140	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 012
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ4841AL Date Extracted:09/07/01
Dilution factor: 10 Date Analyzed: 09/13/01
Moisture %:21

QC Batch: 1250480

Client Sample Id: NTC17BBSD4805

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	420		U
208-96-8	Acenaphthylene	42	J	
83-32-9	Acenaphthene	420		U
86-73-7	Fluorene	38	J	P
85-01-8	Phenanthrene	450		
120-12-7	Anthracene	93		
206-44-0	Fluoranthene	760		
129-00-0	Pyrene	540		
56-55-3	Benzo(a)anthracene	260		
218-01-9	Chrysene	260		
205-99-2	Benzo(b)fluoranthene	260		
207-08-9	Benzo(k)fluoranthene	140		
50-32-8	Benzo(a)pyrene	290		
193-39-5	Indeno(1,2,3-cd)pyrene	120		P
53-70-3	Dibenzo(a,h)anthracene	84		U
191-24-2	Benzo(ghi)perylene	170		P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 013
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ4861AL Date Extracted:09/07/01
Dilution factor: 50 Date Analyzed: 09/30/01
Moisture %:26

QC Batch: 1250480

Client Sample Id: NTC17BBSD5201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	2200	U
208-96-8	Acenaphthylene	160	J
83-32-9	Acenaphthene	2200	U
86-73-7	Fluorene	270	J
85-01-8	Phenanthrene	2600	
120-12-7	Anthracene	620	
206-44-0	Fluoranthene	4500	
129-00-0	Pyrene	3600	
56-55-3	Benzo(a)anthracene	1900	
218-01-9	Chrysene	1800	
205-99-2	Benzo(b)fluoranthene	1600	
207-08-9	Benzo(k)fluoranthene	1000	
50-32-8	Benzo(a)pyrene	1700	
193-39-5	Indeno(1,2,3-cd)pyrene	610	P
53-70-3	Dibenzo(a,h)anthracene	450	U
191-24-2	Benzo(ghi)perylene	450	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 014
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ49N1AL Date Extracted:09/07/01
Dilution factor: 20 Date Analyzed: 09/13/01
Moisture %:36

QC Batch: 1250480

Client Sample Id: NTC17BBSD5203

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	1000	U
208-96-8	Acenaphthylene	42	J
83-32-9	Acenaphthene	1000	U
86-73-7	Fluorene	150	J
85-01-8	Phenanthrene	1100	
120-12-7	Anthracene	160	J
206-44-0	Fluoranthene	1800	
129-00-0	Pyrene	1300	
56-55-3	Benzo(a)anthracene	540	
218-01-9	Chrysene	620	
205-99-2	Benzo(b)fluoranthene	580	
207-08-9	Benzo(k)fluoranthene	320	
50-32-8	Benzo(a)pyrene	520	
193-39-5	Indeno(1,2,3-cd)pyrene	270	
53-70-3	Dibenzo(a,h)anthracene	210	U
191-24-2	Benzo(ghi)perylene	210	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 015
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ49T1AL Date Extracted:09/07/01
Dilution factor: 20 Date Analyzed: 09/13/01
Moisture %:27

QC Batch: 1250480

Client Sample Id: NTC17BBSD5204

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	910		U
208-96-8	Acenaphthylene	910		U
83-32-9	Acenaphthene	910		U
86-73-7	Fluorene	100	J	
85-01-8	Phenanthrene	900		
120-12-7	Anthracene	120	J	
206-44-0	Fluoranthene	1400		
129-00-0	Pyrene	1000		
56-55-3	Benzo(a)anthracene	490		
218-01-9	Chrysene	540		
205-99-2	Benzo(b)fluoranthene	520		
207-08-9	Benzo(k)fluoranthene	270		
50-32-8	Benzo(a)pyrene	500		
193-39-5	Indeno(1,2,3-cd)pyrene	230		P
53-70-3	Dibenzo(a,h)anthracene	42	J	P
191-24-2	Benzo(ghi)perylene	180		U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 016
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ4921AL Date Extracted:09/07/01
Dilution factor: 20 Date Analyzed: 09/14/01
Moisture %:36

QC Batch: 1250480

Client Sample Id: NTC17BBSD5205

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	1000	U
208-96-8	Acenaphthylene	1000	U
83-32-9	Acenaphthene	1000	U
86-73-7	Fluorene	120	J
85-01-8	Phenanthrene	980	
120-12-7	Anthracene	180	J
206-44-0	Fluoranthene	1800	
129-00-0	Pyrene	1300	
56-55-3	Benzo(a)anthracene	680	
218-01-9	Chrysene	670	
205-99-2	Benzo(b)fluoranthene	690	
207-08-9	Benzo(k)fluoranthene	430	P
50-32-8	Benzo(a)pyrene	650	P
193-39-5	Indeno(1,2,3-cd)pyrene	210	U
53-70-3	Dibenzo(a,h)anthracene	210	U
191-24-2	Benzo(ghi)perylene	210	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 018
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ5CH1A5 Date Extracted:09/07/01
Dilution factor: 20 Date Analyzed: 09/14/01
Moisture %:17

QC Batch: 1250480

Client Sample Id: NTC17BBSD5401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	800	U
208-96-8	Acenaphthylene	800	U
83-32-9	Acenaphthene	800	U
86-73-7	Fluorene	76	J
85-01-8	Phenanthrene	700	
120-12-7	Anthracene	180	
206-44-0	Fluoranthene	1100	
129-00-0	Pyrene	740	
56-55-3	Benzo(a)anthracene	380	
218-01-9	Chrysene	380	
205-99-2	Benzo(b)fluoranthene	370	
207-08-9	Benzo(k)fluoranthene	210	
50-32-8	Benzo(a)pyrene	400	
193-39-5	Indeno(1,2,3-cd)pyrene	190	
53-70-3	Dibenzo(a,h)anthracene	160	U
191-24-2	Benzo(ghi)perylene	160	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL001

Matrix: (soil/water) SOLID Lab Sample ID:C1I060230 019
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ5CT1AL Date Extracted:09/07/01
Dilution factor: 20 Date Analyzed: 09/14/01
Moisture %:26

QC Batch: 1250480

Client Sample Id: NTC17BBSD5403

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	890	U
208-96-8	Acenaphthylene	890	U
83-32-9	Acenaphthene	890	U
86-73-7	Fluorene	130	J
85-01-8	Phenanthrene	1100	
120-12-7	Anthracene	230	
206-44-0	Fluoranthene	1600	
129-00-0	Pyrene	1100	
56-55-3	Benzo(a)anthracene	550	
218-01-9	Chrysene	550	
205-99-2	Benzo(b)fluoranthene	520	
207-08-9	Benzo(k)fluoranthene	290	P
50-32-8	Benzo(a)pyrene	480	
193-39-5	Indeno(1,2,3-cd)pyrene	200	P
53-70-3	Dibenzo(a,h)anthracene	180	U
191-24-2	Benzo(ghi)perylene	180	U

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ46M **Client ID:** NTC17BBSD5601

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 30.22

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.048	0.16		1	CVAA	9/17/01	9:37

Comments: Lot #: C1I060230 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48D **Client ID:** NTC17BBSD5603

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 25.10

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.045	0.19		1	CVAA	9/17/01	9:39

Comments: Lot #: C1I060230 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48F **Client ID:** NTC17BBSD5604

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 22.77

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.043	1.1		1	CVAA	9/17/01	9:40

Comments: Lot #: C1I060230 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48G **Client ID:** NTC17BBSD5605

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 20.60

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0099	0.042	0.15		1	CVAA	9/17/01	9:42

Comments: Lot #: C1I060230 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48H **Client ID:** NTC17BBSD5501

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 24.86

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.044	0.24		1	CVAA	9/17/01	9:43

Comments: Lot #: C1I060230 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48J **Client ID:** NTC17BBSD5503

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 26.36

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.045	0.31		1	CVAA	9/17/01	9:48

Comments: Lot #: C1I060230 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48M **Client ID:** NTC17BBSD5504

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 29.66

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.047	1.3		1	CVAA	9/17/01	9:50

Comments: Lot #: C1I060230 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48R **Client ID:** NTC17BBSD5505

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 26.81

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.046	0.59		1	CVAA	9/17/01	9:51

Comments: Lot #: C1I060230 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48W **Client ID:** NTC17BBSD4801

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 33.76

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.012	0.050	0.95		1	CVAA	9/17/01	9:53

Comments: Lot #: C1I060230 Sample #: 9

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ480 **Client ID:** NTC17BBSD4803

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 33.34

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.012	0.050	1.8		1	CVAA	9/17/01	9:54

Comments: Lot #: C1I060230 Sample #: 10

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ481 **Client ID:** NTC17BBSD4804

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 33.51

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.024	0.10	3.1		2	CVAA	9/17/01	10:19

Comments: Lot #: C1I060230 Sample #: 11

Version 4.10.2

U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ484 **Client ID:** NTC17BBSD4805

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 20.71

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0099	0.042	0.20		1	CVAA	9/17/01	9:57

Comments: Lot #: C1I060230 Sample #: 12

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ486 **Client ID:** NTC17BBSD5201

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 25.70

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.045	0.34		1	CVAA	9/17/01	9:59

Comments: Lot #: C1I060230 Sample #: 13

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ49N **Client ID:** NTC17BBSD5203

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 35.61

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.024	0.10	4.0		2	CVAA	9/17/01	10:21

Comments: Lot #: C1I060230 Sample #: 14

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ49T **Client ID:** NTC17BBSD5204

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 27.35

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.046	1.6		1	CVAA	9/17/01	10:02

Comments: Lot #: C1I060230 Sample #: 15

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ492 **Client ID:** NTC17BBSD5205

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 35.92

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.012	0.052	0.91		1	CVAA	9/17/01	10:06

Comments: Lot #: C1I060230 Sample #: 16

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ5CH **Client ID:** NTC17BBSD5401

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.47

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0095	0.040	0.13		1	CVAA	9/17/01	10:09

Comments: Lot #: C1I060230 Sample #: 18

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ5CT **Client ID:** NTC17BBSD5403

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/17/01 **Prep Batch:** 1260093

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 25.74

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.045	0.38		1	CVAA	9/17/01	10:14

Comments: Lot #: C1I060230 Sample #: 19

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ5CV **Client ID:** NTC17RB09050101

Matrix: Water **Units:** ug/L **Prep Date:** 9/18/01 **Prep Batch:** 1260274

Weight: NA **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.047	0.20	0.047	U	1	CVAA	9/18/01	10:19

Comments: Lot #: C1I060230 Sample #: 20

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ46M **Client ID:** NTC17BBSD5601

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 30.22

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**3.0**	**28.7**	**1780**		**1**	**ICP**	**9/28/01**	**7:53**
Antimony	**220.35**	**0.43**	**8.6**	**0.58**	**B**	**1**	**ICPST**	**9/26/01**	**17:12**
Arsenic	**189.04**	**0.37**	**1.4**	**4.1**		**1**	**ICPST**	**9/26/01**	**17:12**
Barium	**493.41**	**0.053**	**28.7**	**17.4**	**B**	**1**	**ICP**	**9/28/01**	**7:53**
Beryllium	**313.04**	**0.024**	**0.72**	**0.26**	**B**	**1**	**ICP**	**9/28/01**	**7:53**
Cadmium	**226.50**	**0.056**	**0.72**	**0.43**	**B**	**1**	**ICPST**	**9/26/01**	**17:12**
Calcium	**317.93**	**1.9**	**717**	**36800**	*****	**1**	**ICP**	**9/28/01**	**7:53**
Chromium	**267.72**	**0.14**	**1.4**	**8.4**		**1**	**ICPST**	**9/26/01**	**17:12**
Cobalt	**228.62**	**0.42**	**7.2**	**5.5**	**B**	**1**	**ICP**	**9/28/01**	**7:53**
Copper	**324.75**	**0.34**	**3.6**	**73.2**	*****	**1**	**ICP**	**9/28/01**	**7:53**
Iron	**259.94**	**0.70**	**143**	**9180**		**1**	**ICP**	**9/28/01**	**7:53**
Lead	**220.35**	**0.26**	**0.43**	**61.9**	**N***	**1**	**ICPST**	**9/26/01**	**17:12**
Magnesium	**279.08**	**3.1**	**717**	**18700**	*****	**1**	**ICP**	**9/28/01**	**7:53**
Manganese	**257.61**	**0.13**	**2.2**	**226**		**1**	**ICP**	**9/28/01**	**7:53**
Nickel	**231.60**	**1.5**	**5.7**	**8.9**	**N**	**1**	**ICP**	**9/28/01**	**7:53**
Potassium	**766.49**	**62.8**	**717**	**261**	**B**	**1**	**ICP**	**9/28/01**	**7:53**
Selenium	220.35	0.65	0.72	0.65	U	1	ICPST	9/26/01	17:12
Silver	**328.07**	**0.13**	**1.4**	**0.29**	**B**	**1**	**ICPST**	**9/26/01**	**17:12**
Sodium	**589**	**1.7**	**717**	**144**	**B**	**1**	**ICP**	**9/28/01**	**7:53**
Thallium	190.86	1.1	1.4	1.1	U	1	ICPST	9/26/01	17:12
Vanadium	**292.40**	**0.36**	**7.2**	**13.3**		**1**	**ICP**	**9/28/01**	**7:53**
Zinc	**213.86**	**0.34**	**2.9**	**247**	*****	**1**	**ICP**	**9/28/01**	**7:53**

Comments: Lot #: C1I060230 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48D **Client ID:** NTC17BBSD5603

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 25.10

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.8	26.7	3790		1	ICP	9/28/01	7:56
Antimony	220.35	0.40	8.0	0.79	B	1	ICPST	9/26/01	17:16
Arsenic	189.04	0.35	1.3	7.0		1	ICPST	9/26/01	17:16
Barium	493.41	0.049	26.7	37.2		1	ICP	9/28/01	7:56
Beryllium	313.04	0.023	0.67	0.49	B	1	ICP	9/28/01	7:56
Cadmium	226.50	0.052	0.67	1.6		1	ICPST	9/26/01	17:16
Calcium	317.93	1.8	668	55700	*	1	ICP	9/28/01	7:56
Chromium	267.72	0.13	1.3	16.6		1	ICPST	9/26/01	17:16
Cobalt	228.62	0.39	6.7	8.7		1	ICP	9/28/01	7:56
Copper	324.75	0.32	3.3	156	*	1	ICP	9/28/01	7:56
Iron	259.94	0.65	134	13200		1	ICP	9/28/01	7:56
Lead	220.35	0.24	0.40	134	N*	1	ICPST	9/26/01	17:16
Magnesium	279.08	2.9	668	28600	*	1	ICP	9/28/01	7:56
Manganese	257.61	0.12	2.0	433		1	ICP	9/28/01	7:56
Nickel	231.60	1.4	5.3	41.2	N	1	ICP	9/28/01	7:56
Potassium	766.49	58.5	668	572	B	1	ICP	9/28/01	7:56
Selenium	220.35	0.60	0.67	0.65	B	1	ICPST	9/26/01	17:16
Silver	328.07	0.12	1.3	8.3		1	ICPST	9/26/01	17:16
Sodium	589	1.6	668	147	B	1	ICP	9/28/01	7:56
Thallium	190.86	1.1	1.3	1.6		1	ICPST	9/26/01	17:16
Vanadium	292.40	0.33	6.7	12.7		1	ICP	9/28/01	7:56
Zinc	213.86	0.32	2.7	449	*	1	ICP	9/28/01	7:56

Comments: Lot #: C1I060230 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48F **Client ID:** NTC17BBSD5604

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 22.77

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.7	25.9	3300		1	ICP	9/28/01	7:59
Antimony	220.35	0.39	7.8	0.93	B	1	ICPST	9/26/01	17:21
Arsenic	189.04	0.34	1.3	8.9		1	ICPST	9/26/01	17:21
Barium	493.41	0.048	25.9	47.4		1	ICP	9/28/01	7:59
Beryllium	313.04	0.022	0.65	0.51	B	1	ICP	9/28/01	7:59
Cadmium	226.50	0.051	0.65	3.5		1	ICPST	9/26/01	17:21
Calcium	317.93	1.7	647	50700	*	1	ICP	9/28/01	7:59
Chromium	267.72	0.12	1.3	34.0		1	ICPST	9/26/01	17:21
Cobalt	228.62	0.38	6.5	7.0		1	ICP	9/28/01	7:59
Copper	324.75	0.31	3.2	267	*	1	ICP	9/28/01	7:59
Iron	259.94	0.63	130	11500		1	ICP	9/28/01	7:59
Lead	220.35	0.23	0.39	189	N*	1	ICPST	9/26/01	17:21
Magnesium	279.08	2.8	647	25700	*	1	ICP	9/28/01	7:59
Manganese	257.61	0.12	1.9	414		1	ICP	9/28/01	7:59
Nickel	231.60	1.4	5.2	51.3	N	1	ICP	9/28/01	7:59
Potassium	766.49	56.7	647	423	B	1	ICP	9/28/01	7:59
Selenium	220.35	0.58	0.65	2.4		1	ICPST	9/26/01	17:21
Silver	328.07	0.11	1.3	18.9		1	ICPST	9/26/01	17:21
Sodium	589	1.5	647	149	B	1	ICP	9/28/01	7:59
Thallium	190.86	1.0	1.3	1.0	U	1	ICPST	9/26/01	17:21
Vanadium	292.40	0.32	6.5	11.3		1	ICP	9/28/01	7:59
Zinc	213.86	0.31	2.6	574	*	1	ICP	9/28/01	7:59

Comments: Lot #: C1I060230 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48G **Client ID:** NTC17BBSD5605

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 20.60

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.7	25.2	1340		1	ICP	9/28/01	8:02
Antimony	220.35	0.38	7.6	1.0	B	1	ICPST	9/26/01	17:25
Arsenic	189.04	0.33	1.3	3.9		1	ICPST	9/26/01	17:25
Barium	493.41	0.047	25.2	15.4	B	1	ICP	9/28/01	8:02
Beryllium	313.04	0.021	0.63	0.18	B	1	ICP	9/28/01	8:02
Cadmium	226.50	0.049	0.63	0.81		1	ICPST	9/26/01	17:25
Calcium	317.93	1.7	630	47700	*	1	ICP	9/28/01	8:02
Chromium	267.72	0.12	1.3	7.8		1	ICPST	9/26/01	17:25
Cobalt	228.62	0.37	6.3	3.4	B	1	ICP	9/28/01	8:02
Copper	324.75	0.30	3.2	135	*	1	ICP	9/28/01	8:02
Iron	259.94	0.62	126	7750		1	ICP	9/28/01	8:02
Lead	220.35	0.23	0.38	72.9	N*	1	ICPST	9/26/01	17:25
Magnesium	279.08	2.7	630	23000	*	1	ICP	9/28/01	8:02
Manganese	257.61	0.11	1.9	234		1	ICP	9/28/01	8:02
Nickel	231.60	1.3	5.0	11.5	N	1	ICP	9/28/01	8:02
Potassium	766.49	55.2	630	180	B	1	ICP	9/28/01	8:02
Selenium	220.35	0.57	0.63	0.57	U	1	ICPST	9/26/01	17:25
Silver	328.07	0.11	1.3	1.2	B	1	ICPST	9/26/01	17:25
Sodium	589	1.5	630	103	B	1	ICP	9/28/01	8:02
Thallium	190.86	1.0	1.3	1.0	U	1	ICPST	9/26/01	17:25
Vanadium	292.40	0.32	6.3	7.2		1	ICP	9/28/01	8:02
Zinc	213.86	0.30	2.5	257	*	1	ICP	9/28/01	8:02

Comments: Lot #: C1I060230 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48H **Client ID:** NTC17BBSD5501

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 24.86

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.8	26.6	2220		1	ICP	9/28/01	8:11
Antimony	220.35	0.40	8.0	0.55	B	1	ICPST	9/26/01	17:30
Arsenic	189.04	0.35	1.3	5.8		1	ICPST	9/26/01	17:30
Barium	493.41	0.049	26.6	26.3	B	1	ICP	9/28/01	8:11
Beryllium	313.04	0.023	0.67	1.1		1	ICP	9/28/01	8:11
Cadmium	226.50	0.052	0.67	0.65	B	1	ICPST	9/26/01	17:30
Calcium	317.93	1.7	665	65700	*	1	ICP	9/28/01	8:11
Chromium	267.72	0.13	1.3	15.4		1	ICPST	9/26/01	17:30
Cobalt	228.62	0.39	6.7	5.9	B	1	ICP	9/28/01	8:11
Copper	324.75	0.32	3.3	125	*	1	ICP	9/28/01	8:11
Iron	259.94	0.65	133	10300		1	ICP	9/28/01	8:11
Lead	220.35	0.24	0.40	88.1	N*	1	ICPST	9/26/01	17:30
Magnesium	279.08	2.9	665	35400	*	1	ICP	9/28/01	8:11
Manganese	257.61	0.12	2.0	411		1	ICP	9/28/01	8:11
Nickel	231.60	1.4	5.3	17.0	N	1	ICP	9/28/01	8:11
Potassium	766.49	58.3	665	281	B	1	ICP	9/28/01	8:11
Selenium	220.35	0.60	0.67	0.60	U	1	ICPST	9/26/01	17:30
Silver	328.07	0.12	1.3	1.0	B	1	ICPST	9/26/01	17:30
Sodium	589	1.6	665	182	B	1	ICP	9/28/01	8:11
Thallium	190.86	1.1	1.3	1.1	U	1	ICPST	9/26/01	17:30
Vanadium	292.40	0.33	6.7	8.2		1	ICP	9/28/01	8:11
Zinc	213.86	0.32	2.7	378	*	1	ICP	9/28/01	8:11

Comments: Lot #: C1I060230 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48J **Client ID:** NTC17BBSD5503

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 26.36

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.9	27.2	3230		1	ICP	9/28/01	8:15
Antimony	220.35	0.41	8.2	0.72	B	1	ICPST	9/26/01	17:34
Arsenic	189.04	0.35	1.4	5.7		1	ICPST	9/26/01	17:34
Barium	493.41	0.050	27.2	30.6		1	ICP	9/28/01	8:15
Beryllium	313.04	0.023	0.68	0.36	B	1	ICP	9/28/01	8:15
Cadmium	226.50	0.053	0.68	0.77		1	ICPST	9/26/01	17:34
Calcium	317.93	1.8	679	48400	*	1	ICP	9/28/01	8:15
Chromium	267.72	0.13	1.4	19.5		1	ICPST	9/26/01	17:34
Cobalt	228.62	0.39	6.8	6.7	B	1	ICP	9/28/01	8:15
Copper	324.75	0.33	3.4	101	*	1	ICP	9/28/01	8:15
Iron	259.94	0.67	136	10600		1	ICP	9/28/01	8:15
Lead	220.35	0.24	0.41	101	N*	1	ICPST	9/26/01	17:34
Magnesium	279.08	2.9	679	24500	*	1	ICP	9/28/01	8:15
Manganese	257.61	0.12	2.0	333		1	ICP	9/28/01	8:15
Nickel	231.60	1.4	5.4	18.0	N	1	ICP	9/28/01	8:15
Potassium	766.49	59.5	679	431	B	1	ICP	9/28/01	8:15
Selenium	220.35	0.61	0.68	0.61	U	1	ICPST	9/26/01	17:34
Silver	328.07	0.12	1.4	1.1	B	1	ICPST	9/26/01	17:34
Sodium	589	1.6	679	181	B	1	ICP	9/28/01	8:15
Thallium	190.86	1.1	1.4	1.1	B	1	ICPST	9/26/01	17:34
Vanadium	292.40	0.34	6.8	11.1		1	ICP	9/28/01	8:15
Zinc	213.86	0.33	2.7	366	*	1	ICP	9/28/01	8:15

Comments: Lot #: C1I060230 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48M **Client ID:** NTC17BBSD5504

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 29.66

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.0	28.4	6980		1	ICP	9/28/01	8:18
Antimony	220.35	0.43	8.5	0.81	B	1	ICPST	9/26/01	17:38
Arsenic	189.04	0.37	1.4	11.7		1	ICPST	9/26/01	17:38
Barium	493.41	0.053	28.4	69.2		1	ICP	9/28/01	8:18
Beryllium	313.04	0.024	0.71	0.83		1	ICP	9/28/01	8:18
Cadmium	226.50	0.055	0.71	4.9		1	ICPST	9/26/01	17:38
Calcium	317.93	1.9	711	76500	*	1	ICP	9/28/01	8:18
Chromium	267.72	0.14	1.4	44.8		1	ICPST	9/26/01	17:38
Cobalt	228.62	0.41	7.1	11.0		1	ICP	9/28/01	8:18
Copper	324.75	0.34	3.6	453	*	1	ICP	9/28/01	8:18
Iron	259.94	0.70	142	18800		1	ICP	9/28/01	8:18
Lead	220.35	0.26	0.43	304	N*	1	ICPST	9/26/01	17:38
Magnesium	279.08	3.0	711	34600	*	1	ICP	9/28/01	8:18
Manganese	257.61	0.13	2.1	599		1	ICP	9/28/01	8:18
Nickel	231.60	1.5	5.7	98.3	N	1	ICP	9/28/01	8:18
Potassium	766.49	62.3	711	1130		1	ICP	9/28/01	8:18
Selenium	220.35	0.64	0.71	3.2		1	ICPST	9/26/01	17:38
Silver	328.07	0.12	1.4	41.6		1	ICPST	9/26/01	17:38
Sodium	589	1.7	711	221	B	1	ICP	9/28/01	8:18
Thallium	190.86	1.1	1.4	1.8		1	ICPST	9/26/01	17:38
Vanadium	292.40	0.36	7.1	19.1		1	ICP	9/28/01	8:18
Zinc	213.86	0.34	2.8	1000	*	1	ICP	9/28/01	8:18

Comments: Lot #: C1I060230 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48R **Client ID:** NTC17BBSD5505

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 26.81

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.9	27.3	3470		1	ICP	9/28/01	8:21
Antimony	220.35	0.41	8.2	0.78	B	1	ICPST	9/26/01	17:43
Arsenic	189.04	0.36	1.4	6.7		1	ICPST	9/26/01	17:43
Barium	493.41	0.051	27.3	31.8		1	ICP	9/28/01	8:21
Beryllium	313.04	0.023	0.68	0.37	B	1	ICP	9/28/01	8:21
Cadmium	226.50	0.053	0.68	1.3		1	ICPST	9/26/01	17:43
Calcium	317.93	3.6	1370	94400	*	2	ICP	9/28/01	9:35
Chromium	267.72	0.13	1.4	23.4		1	ICPST	9/26/01	17:43
Cobalt	228.62	0.40	6.8	6.2	B	1	ICP	9/28/01	8:21
Copper	324.75	0.33	3.4	125	*	1	ICP	9/28/01	8:21
Iron	259.94	0.67	137	16400		1	ICP	9/28/01	8:21
Lead	220.35	0.25	0.41	104	N*	1	ICPST	9/26/01	17:43
Magnesium	279.08	2.9	683	45500	*	1	ICP	9/28/01	8:21
Manganese	257.61	0.12	2.1	743		1	ICP	9/28/01	8:21
Nickel	231.60	1.4	5.5	19.6	N	1	ICP	9/28/01	8:21
Potassium	766.49	59.8	683	574	B	1	ICP	9/28/01	8:21
Selenium	220.35	0.62	0.68	0.62	U	1	ICPST	9/26/01	17:43
Silver	328.07	0.12	1.4	2.3		1	ICPST	9/26/01	17:43
Sodium	589	1.6	683	254	B	1	ICP	9/28/01	8:21
Thallium	190.86	1.1	1.4	2.4		1	ICPST	9/26/01	17:43
Vanadium	292.40	0.34	6.8	11.8		1	ICP	9/28/01	8:21
Zinc	213.86	0.33	2.7	457	*	1	ICP	9/28/01	8:21

Comments: Lot #: C1I060230 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ48W **Client ID:** NTC17BBSD4801

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 33.76

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.2	30.2	6860		1	ICP	9/28/01	8:24
Antimony	220.35	0.45	9.1	0.74	B	1	ICPST	9/26/01	17:47
Arsenic	189.04	0.39	1.5	9.9		1	ICPST	9/26/01	17:47
Barium	493.41	0.056	30.2	57.8		1	ICP	9/28/01	8:24
Beryllium	313.04	0.026	0.76	0.94		1	ICP	9/28/01	8:24
Cadmium	226.50	0.059	0.76	2.2		1	ICPST	9/26/01	17:47
Calcium	317.93	2.0	755	73200	*	1	ICP	9/28/01	8:24
Chromium	267.72	0.15	1.5	28.9		1	ICPST	9/26/01	17:47
Cobalt	228.62	0.44	7.6	10.1		1	ICP	9/28/01	8:24
Copper	324.75	0.36	3.8	283	*	1	ICP	9/28/01	8:24
Iron	259.94	0.74	151	19200		1	ICP	9/28/01	8:24
Lead	220.35	0.27	0.45	289	N*	1	ICPST	9/26/01	17:47
Magnesium	279.08	3.2	755	37600	*	1	ICP	9/28/01	8:24
Manganese	257.61	0.13	2.3	635		1	ICP	9/28/01	8:24
Nickel	231.60	1.6	6.0	29.4	N	1	ICP	9/28/01	8:24
Potassium	766.49	66.1	755	1150		1	ICP	9/28/01	8:24
Selenium	220.35	0.68	0.76	1.2		1	ICPST	9/26/01	17:47
Silver	328.07	0.13	1.5	4.2		1	ICPST	9/26/01	17:47
Sodium	589	1.8	755	272	B	1	ICP	9/28/01	8:24
Thallium	190.86	1.2	1.5	2.8		1	ICPST	9/26/01	17:47
Vanadium	292.40	0.38	7.6	18.9		1	ICP	9/28/01	8:24
Zinc	213.86	0.36	3.0	1050	*	1	ICP	9/28/01	8:24

Comments: Lot #: C1I060230 Sample #: 9

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ480 **Client ID:** NTC17BBSD4803

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 33.34

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.2	30.0	6970		1	ICP	9/28/01	8:27
Antimony	220.35	0.45	9.0	0.84	B	1	ICPST	9/26/01	18:00
Arsenic	189.04	0.39	1.5	10.3		1	ICPST	9/26/01	18:00
Barium	493.41	0.056	30.0	57.2		1	ICP	9/28/01	8:27
Beryllium	313.04	0.026	0.75	0.59	B	1	ICP	9/28/01	8:27
Cadmium	226.50	0.059	0.75	2.6		1	ICPST	9/26/01	18:00
Calcium	317.93	2.0	750	72900	*	1	ICP	9/28/01	8:27
Chromium	267.72	0.14	1.5	25.8		1	ICPST	9/26/01	18:00
Cobalt	228.62	0.44	7.5	9.6		1	ICP	9/28/01	8:27
Copper	324.75	0.36	3.8	265	*	1	ICP	9/28/01	8:27
Iron	259.94	0.74	150	18000		1	ICP	9/28/01	8:27
Lead	220.35	0.27	0.45	298	N*	1	ICPST	9/27/01	15:08
Magnesium	279.08	3.2	750	37400	*	1	ICP	9/28/01	8:27
Manganese	257.61	0.13	2.3	598		1	ICP	9/28/01	8:27
Nickel	231.60	1.6	6.0	30.5	N	1	ICP	9/28/01	8:27
Potassium	766.49	65.7	750	1180		1	ICP	9/28/01	8:27
Selenium	220.35	0.68	0.75	3.1		1	ICPST	9/26/01	18:00
Silver	328.07	0.13	1.5	3.9		1	ICPST	9/26/01	18:00
Sodium	589	1.8	750	243	B	1	ICP	9/28/01	8:27
Thallium	190.86	1.2	1.5	3.6		1	ICPST	9/26/01	18:00
Vanadium	292.40	0.38	7.5	18.4		1	ICP	9/28/01	8:27
Zinc	213.86	0.36	3.0	911	*	1	ICP	9/28/01	8:27

Comments: Lot #: C1I060230 Sample #: 10

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ481 **Client ID:** NTC17BBSD4804

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 33.51

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.2	30.1	9050		1	ICP	9/28/01	8:30
Antimony	220.35	0.45	9.0	1.0	B	1	ICPST	9/26/01	18:05
Arsenic	189.04	0.39	1.5	13.1		1	ICPST	9/26/01	18:05
Barium	493.41	0.056	30.1	71.7		1	ICP	9/28/01	8:30
Beryllium	313.04	0.026	0.75	0.82		1	ICP	9/28/01	8:30
Cadmium	226.50	0.059	0.75	3.5		1	ICPST	9/26/01	18:05
Calcium	317.93	2.0	752	66200	*	1	ICP	9/28/01	8:30
Chromium	267.72	0.14	1.5	31.9		1	ICPST	9/26/01	18:05
Cobalt	228.62	0.44	7.5	12.1		1	ICP	9/28/01	8:30
Copper	324.75	0.36	3.8	391	*	1	ICP	9/28/01	8:30
Iron	259.94	0.74	150	21100		1	ICP	9/28/01	8:30
Lead	220.35	0.27	0.45	379	N*	1	ICPST	9/27/01	15:12
Magnesium	279.08	3.2	752	33600	*	1	ICP	9/28/01	8:30
Manganese	257.61	0.13	2.3	588		1	ICP	9/28/01	8:30
Nickel	231.60	1.6	6.0	81.6	N	1	ICP	9/28/01	8:30
Potassium	766.49	65.9	752	1590		1	ICP	9/28/01	8:30
Selenium	220.35	0.68	0.75	1.3		1	ICPST	9/26/01	18:05
Silver	328.07	0.13	1.5	17.1		1	ICPST	9/26/01	18:05
Sodium	589	1.8	752	246	B	1	ICP	9/28/01	8:30
Thallium	190.86	1.2	1.5	2.1		1	ICPST	9/26/01	18:05
Vanadium	292.40	0.38	7.5	22.6		1	ICP	9/28/01	8:30
Zinc	213.86	0.36	3.0	1130	*	1	ICP	9/28/01	8:30

Comments: Lot #: C1I060230 Sample #: 11

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ484 **Client ID:** NTC17BBSD4805

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 20.71

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.7	25.2	8180		1	ICP	9/28/01	8:33
Antimony	220.35	0.38	7.6	1.3	B	1	ICPST	9/26/01	18:09
Arsenic	189.04	0.33	1.3	8.8		1	ICPST	9/26/01	18:09
Barium	493.41	0.047	25.2	66.3		1	ICP	9/28/01	8:33
Beryllium	313.04	0.021	0.63	1.1		1	ICP	9/28/01	8:33
Cadmium	226.50	0.049	0.63	5.3		1	ICPST	9/26/01	18:09
Calcium	317.93	1.7	631	55700	*	1	ICP	9/28/01	8:33
Chromium	267.72	0.12	1.3	35.2		1	ICPST	9/26/01	18:09
Cobalt	228.62	0.37	6.3	10.7		1	ICP	9/28/01	8:33
Copper	324.75	0.30	3.2	871	*	1	ICP	9/28/01	8:33
Iron	259.94	0.62	126	20000		1	ICP	9/28/01	8:33
Lead	220.35	0.23	0.38	395	N*	1	ICPST	9/27/01	15:16
Magnesium	279.08	2.7	631	28400	*	1	ICP	9/28/01	8:33
Manganese	257.61	0.11	1.9	527		1	ICP	9/28/01	8:33
Nickel	231.60	1.3	5.0	118	N	1	ICP	9/28/01	8:33
Potassium	766.49	55.2	631	1210		1	ICP	9/28/01	8:33
Selenium	220.35	0.57	0.63	1.9		1	ICPST	9/26/01	18:09
Silver	328.07	0.11	1.3	44.8		1	ICPST	9/26/01	18:09
Sodium	589	1.5	631	234	B	1	ICP	9/28/01	8:33
Thallium	190.86	1.0	1.3	1.8		1	ICPST	9/26/01	18:09
Vanadium	292.40	0.32	6.3	19.4		1	ICP	9/28/01	8:33
Zinc	213.86	0.30	2.5	1580	*	1	ICP	9/28/01	8:33

Comments: Lot #: C1I060230 Sample #: 12

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ486 **Client ID:** NTC17BBSD5201

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 25.70

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.8	26.9	2470		1	ICP	9/28/01	8:37
Antimony	220.35	0.40	8.1	0.40	U	1	ICPST	9/26/01	18:14
Arsenic	189.04	0.35	1.4	4.3		1	ICPST	9/26/01	18:14
Barium	493.41	0.050	26.9	19.3	B	1	ICP	9/28/01	8:37
Beryllium	313.04	0.023	0.67	0.57	B	1	ICP	9/28/01	8:37
Cadmium	226.50	0.053	0.67	0.23	B	1	ICPST	9/26/01	18:14
Calcium	317.93	1.8	673	50800	*	1	ICP	9/28/01	8:37
Chromium	267.72	0.13	1.4	9.4		1	ICPST	9/26/01	18:14
Cobalt	228.62	0.39	6.7	4.5	B	1	ICP	9/28/01	8:37
Copper	324.75	0.32	3.4	78.8	*	1	ICP	9/28/01	8:37
Iron	259.94	0.66	135	10500		1	ICP	9/28/01	8:37
Lead	220.35	0.24	0.40	56.4	N*	1	ICPST	9/27/01	15:21
Magnesium	279.08	2.9	673	25300	*	1	ICP	9/28/01	8:37
Manganese	257.61	0.12	2.0	308		1	ICP	9/28/01	8:37
Nickel	231.60	1.4	5.4	12.4	N	1	ICP	9/28/01	8:37
Potassium	766.49	59.0	673	408	B	1	ICP	9/28/01	8:37
Selenium	220.35	0.61	0.67	0.61	U	1	ICPST	9/26/01	18:14
Silver	328.07	0.12	1.4	0.36	B	1	ICPST	9/26/01	18:14
Sodium	589	1.6	673	255	B	1	ICP	9/28/01	8:37
Thallium	190.86	1.1	1.4	2.5		1	ICPST	9/26/01	18:14
Vanadium	292.40	0.34	6.7	9.8		1	ICP	9/28/01	8:37
Zinc	213.86	0.32	2.7	531	*	1	ICP	9/28/01	8:37

Comments: Lot #: C1I060230 Sample #: 13

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ49N **Client ID:** NTC17BBSD5203

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 35.61

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.3	31.1	11000		1	ICP	9/28/01	8:40
Antimony	220.35	0.47	9.3	1.6	B	1	ICPST	9/26/01	18:18
Arsenic	189.04	0.40	1.6	20.3		1	ICPST	9/26/01	18:18
Barium	493.41	0.058	31.1	141		1	ICP	9/28/01	8:40
Beryllium	313.04	0.026	0.78	1.4		1	ICP	9/28/01	8:40
Cadmium	226.50	0.061	0.78	15.7		1	ICPST	9/26/01	18:18
Calcium	317.93	2.0	777	60600	*	1	ICP	9/28/01	8:40
Chromium	267.72	0.15	1.6	95.9		1	ICPST	9/26/01	18:18
Cobalt	228.62	0.45	7.8	43.2		1	ICP	9/28/01	8:40
Copper	324.75	0.37	3.9	497	*	1	ICP	9/28/01	8:40
Iron	259.94	0.76	155	23900		1	ICP	9/28/01	8:40
Lead	220.35	0.28	0.47	330	N*	1	ICPST	9/27/01	15:25
Magnesium	279.08	3.3	777	27300	*	1	ICP	9/28/01	8:40
Manganese	257.61	0.14	2.3	993		1	ICP	9/28/01	8:40
Nickel	231.60	1.6	6.2	92.2	N	1	ICP	9/28/01	8:40
Potassium	766.49	68.0	777	1880		1	ICP	9/28/01	8:40
Selenium	220.35	0.70	0.78	2.5		1	ICPST	9/26/01	18:18
Silver	328.07	0.14	1.6	29.0		1	ICPST	9/26/01	18:18
Sodium	589	1.9	777	352	B	1	ICP	9/28/01	8:40
Thallium	190.86	1.2	1.6	3.0		1	ICPST	9/26/01	18:18
Vanadium	292.40	0.39	7.8	25.8		1	ICP	9/28/01	8:40
Zinc	213.86	0.37	3.1	1020	*	1	ICP	9/28/01	8:40

Comments: Lot #: C1I060230 Sample #: 14

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ49T **Client ID:** NTC17BBSD5204

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 27.35

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.9	27.5	6750		1	ICP	9/28/01	8:49
Antimony	220.35	0.41	8.3	1.2	B	1	ICPST	9/26/01	18:22
Arsenic	189.04	0.36	1.4	13.2		1	ICPST	9/26/01	18:22
Barium	493.41	0.051	27.5	88.1		1	ICP	9/28/01	8:49
Beryllium	313.04	0.023	0.69	1.1		1	ICP	9/28/01	8:49
Cadmium	226.50	0.054	0.69	6.2		1	ICPST	9/26/01	18:22
Calcium	317.93	1.8	688	58200	*	1	ICP	9/28/01	8:49
Chromium	267.72	0.13	1.4	55.9		1	ICPST	9/26/01	18:22
Cobalt	228.62	0.40	6.9	21.4		1	ICP	9/28/01	8:49
Copper	324.75	0.33	3.4	393	*	1	ICP	9/28/01	8:49
Iron	259.94	0.67	138	18700		1	ICP	9/28/01	8:49
Lead	220.35	0.25	0.41	281	N*	1	ICPST	9/27/01	15:30
Magnesium	279.08	3.0	688	28100	*	1	ICP	9/28/01	8:49
Manganese	257.61	0.12	2.1	784		1	ICP	9/28/01	8:49
Nickel	231.60	1.4	5.5	74.2	N	1	ICP	9/28/01	8:49
Potassium	766.49	60.3	688	915		1	ICP	9/28/01	8:49
Selenium	220.35	0.62	0.69	3.1		1	ICPST	9/26/01	18:22
Silver	328.07	0.12	1.4	28.9		1	ICPST	9/26/01	18:22
Sodium	589	1.6	688	265	B	1	ICP	9/28/01	8:49
Thallium	190.86	1.1	1.4	1.3	B	1	ICPST	9/26/01	18:22
Vanadium	292.40	0.34	6.9	18.7		1	ICP	9/28/01	8:49
Zinc	213.86	0.33	2.8	904	*	1	ICP	9/28/01	8:49

Comments: Lot #: C1I060230 Sample #: 15

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ492 **Client ID:** NTC17BBSD5205

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 35.92

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.3	31.2	6530		1	ICP	9/28/01	8:52
Antimony	220.35	0.47	9.4	0.87	B	1	ICPST	9/26/01	18:27
Arsenic	189.04	0.41	1.6	12.3		1	ICPST	9/26/01	18:27
Barium	493.41	0.058	31.2	78.0		1	ICP	9/28/01	8:52
Beryllium	313.04	0.027	0.78	0.87		1	ICP	9/28/01	8:52
Cadmium	226.50	0.061	0.78	6.3		1	ICPST	9/26/01	18:27
Calcium	317.93	2.0	780	68300	*	1	ICP	9/28/01	8:52
Chromium	267.72	0.15	1.6	50.4		1	ICPST	9/26/01	18:27
Cobalt	228.62	0.45	7.8	12.8		1	ICP	9/28/01	8:52
Copper	324.75	0.38	3.9	545	*	1	ICP	9/28/01	8:52
Iron	259.94	0.77	156	19000		1	ICP	9/28/01	8:52
Lead	220.35	0.28	0.47	317	N*	1	ICPST	9/27/01	15:34
Magnesium	279.08	3.3	780	34500	*	1	ICP	9/28/01	8:52
Manganese	257.61	0.14	2.3	600		1	ICP	9/28/01	8:52
Nickel	231.60	1.6	6.2	117	N	1	ICP	9/28/01	8:52
Potassium	766.49	68.4	780	956		1	ICP	9/28/01	8:52
Selenium	220.35	0.70	0.78	3.7		1	ICPST	9/26/01	18:27
Silver	328.07	0.14	1.6	59.6		1	ICPST	9/26/01	18:27
Sodium	589	1.9	780	240	B	1	ICP	9/28/01	8:52
Thallium	190.86	1.2	1.6	1.4	B	1	ICPST	9/26/01	18:27
Vanadium	292.40	0.39	7.8	18.4		1	ICP	9/28/01	8:52
Zinc	213.86	0.38	3.1	949	*	1	ICP	9/28/01	8:52

Comments: Lot #: C1I060230 Sample #: 16

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ5CH **Client ID:** NTC17BBSD5401

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 17.47

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	24.2	3690		1	ICP	9/28/01	8:59
Antimony	220.35	0.36	7.3	0.36	U	1	ICPST	9/26/01	18:36
Arsenic	189.04	0.32	1.2	5.2		1	ICPST	9/26/01	18:36
Barium	493.41	0.045	24.2	34.0		1	ICP	9/28/01	8:59
Beryllium	313.04	0.021	0.61	0.79		1	ICP	9/28/01	8:59
Cadmium	226.50	0.047	0.61	0.86		1	ICPST	9/26/01	18:36
Calcium	317.93	1.6	606	69200	*	1	ICP	9/28/01	8:59
Chromium	267.72	0.12	1.2	12.7		1	ICPST	9/26/01	18:36
Cobalt	228.62	0.35	6.1	8.6		1	ICP	9/28/01	8:59
Copper	324.75	0.29	3.0	150	*	1	ICP	9/28/01	8:59
Iron	259.94	0.59	121	15400		1	ICP	9/28/01	8:59
Lead	220.35	0.22	0.36	130	N*	1	ICPST	9/27/01	15:58
Magnesium	279.08	2.6	606	37000	*	1	ICP	9/28/01	8:59
Manganese	257.61	0.11	1.8	458		1	ICP	9/28/01	8:59
Nickel	231.60	1.3	4.9	31.5	N	1	ICP	9/28/01	8:59
Potassium	766.49	53.1	606	366	B	1	ICP	9/28/01	8:59
Selenium	220.35	0.55	0.61	0.55	U	1	ICPST	9/26/01	18:36
Silver	328.07	0.11	1.2	0.52	B	1	ICPST	9/26/01	18:36
Sodium	589	1.4	606	351	B	1	ICP	9/28/01	8:59
Thallium	190.86	0.96	1.2	2.1		1	ICPST	9/26/01	18:36
Vanadium	292.40	0.30	6.1	12.3		1	ICP	9/28/01	8:59
Zinc	213.86	0.29	2.4	976	*	1	ICP	9/28/01	8:59

Comments: Lot #: C1I060230 Sample #: 18

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ5CT **Client ID:** NTC17BBSD5403

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268133

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 25.74

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.8	26.9	3060		1	ICP	9/28/01	9:11
Antimony	220.35	0.40	8.1	0.64	B	1	ICPST	9/26/01	19:02
Arsenic	189.04	0.35	1.4	6.2		1	ICPST	9/26/01	19:02
Barium	493.41	0.050	26.9	34.2		1	ICP	9/28/01	9:11
Beryllium	313.04	0.023	0.67	0.38	B	1	ICP	9/28/01	9:11
Cadmium	226.50	0.053	0.67	0.83		1	ICPST	9/26/01	19:02
Calcium	317.93	1.8	673	60900	*	1	ICP	9/28/01	9:11
Chromium	267.72	0.13	1.4	17.7		1	ICPST	9/26/01	19:02
Cobalt	228.62	0.39	6.7	5.8	B	1	ICP	9/28/01	9:11
Copper	324.75	0.32	3.4	109	*	1	ICP	9/28/01	9:11
Iron	259.94	0.66	135	11600		1	ICP	9/28/01	9:11
Lead	220.35	0.24	0.40	104	N*	1	ICPST	9/27/01	16:16
Magnesium	279.08	2.9	673	30900	*	1	ICP	9/28/01	9:11
Manganese	257.61	0.12	2.0	393		1	ICP	9/28/01	9:11
Nickel	231.60	1.4	5.4	17.7	N	1	ICP	9/28/01	9:11
Potassium	766.49	59.0	673	436	B	1	ICP	9/28/01	9:11
Selenium	220.35	0.61	0.67	2.4		1	ICPST	9/26/01	19:02
Silver	328.07	0.12	1.4	1.7		1	ICPST	9/26/01	19:02
Sodium	589	1.6	673	190	B	1	ICP	9/28/01	9:11
Thallium	190.86	1.1	1.4	1.6		1	ICPST	9/26/01	19:02
Vanadium	292.40	0.34	6.7	11.2		1	ICP	9/28/01	9:11
Zinc	213.86	0.32	2.7	373	*	1	ICP	9/28/01	9:11

Comments: Lot #: C1I060230 Sample #: 19

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ5CV **Client ID:** NTC17RB09050101

Matrix: Water **Units:** ug/L **Prep Date:** 9/25/01 **Prep Batch:** 1268134

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	21.1	200	21.1	U	1	ICP	9/28/01	9:32
Antimony	220.35	3.0	60.0	3.0	U	1	ICPST	9/26/01	19:20
Arsenic	189.04	2.6	10.0	2.6	U	1	ICPST	9/26/01	19:20
Barium	493.41	0.37	200	0.37	U	1	ICP	9/28/01	9:32
Beryllium	313.04	0.17	5.0	0.17	U	1	ICP	9/28/01	9:32
Cadmium	226.50	0.39	5.0	0.39	U	1	ICPST	9/26/01	19:20
Calcium	**317.93**	**13.1**	**5000**	**89.9**	**B**	**1**	**ICP**	**9/28/01**	**9:32**
Chromium	**267.72**	**0.96**	**10.0**	**4.8**	**B**	**1**	**ICPST**	**9/26/01**	**19:20**
Cobalt	228.62	2.9	50.0	2.9	U	1	ICP	9/28/01	9:32
Copper	324.75	2.4	25.0	2.4	U	1	ICP	9/28/01	9:32
Iron	**259.94**	**4.9**	**1000**	**30.3**	**B**	**1**	**ICP**	**9/28/01**	**9:32**
Lead	**220.35**	**1.8**	**3.0**	**4.4**		**1**	**ICPST**	**9/27/01**	**16:48**
Magnesium	279.08	21.4	5000	21.4	U	1	ICP	9/28/01	9:32
Manganese	**257.61**	**0.89**	**15.0**	**1.8**	**B**	**1**	**ICP**	**9/28/01**	**9:32**
Nickel	231.60	10.4	40.0	10.4	U	1	ICP	9/28/01	9:32
Potassium	766.49	438	5000	438	U	1	ICP	9/28/01	9:32
Selenium	220.35	4.5	5.0	4.5	U	1	ICPST	9/26/01	19:20
Silver	328.07	0.87	10.0	0.87	U	1	ICPST	9/26/01	19:20
Sodium	**589**	**11.9**	**5000**	**19.8**	**B**	**1**	**ICP**	**9/28/01**	**9:32**
Thallium	190.86	7.9	10.0	7.9	U	1	ICPST	9/26/01	19:20
Vanadium	292.40	2.5	50.0	2.5	U	1	ICP	9/28/01	9:32
Zinc	213.86	2.4	20.0	2.4	U	1	ICP	9/28/01	9:32

Comments: Lot #: C1I060230 Sample #: 20

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

NTC Great Lakes, Illinois

Total Organic Carbon

Lab Name:	STL PITTSBURGH	**Method:**	SW846 9060
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I060230
Matrix:	WATER	**Date/Time Received:**	9/6/01 10:15:00AM
		SDG Number:	GL001

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17RB09050101	020	EJ5CV1AA	ND	mg/L	1.0	1	9/12/01 - 9/12/01	1257164

NTC Great Lakes, Illinois

Total Organic Carbon

Lab Name:	STL PITTSBURGH	**Method:**	MSA WALKLEY-B
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I060230
Matrix:	SOLID	**Date/Time Received:**	9/6/01 10:15:00AM
		SDG Number:	GL001

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17BBSD5601	001	EJ46M1A8	13200	mg/kg	71.7	1	9/11/01 -9/11/01	1255163
NTC17BBSD5603	002	EJ48D1AK	11200	mg/kg	66.8	1	9/11/01 -9/11/01	1255163
NTC17BBSD5604	003	EJ48F1AK	12700	mg/kg	64.7	1	9/11/01 -9/11/01	1255163
NTC17BBSD5605	004	EJ48G1AK	9630	mg/kg	63.0	1	9/11/01 -9/11/01	1255163
NTC17BBSD5501	005	EJ48H1AK	3500	mg/kg	66.5	1	9/11/01 -9/11/01	1255163
NTC17BBSD5503	006	EJ48J1AK	11500	mg/kg	67.9	1	9/11/01 -9/11/01	1255163
NTC17BBSD5504	007	EJ48M1AK	21000	mg/kg	71.1	1	9/11/01 -9/11/01	1255163
NTC17BBSD5505	008	EJ48R1AK	17300	mg/kg	68.3	1	9/11/01 -9/11/01	1255163
NTC17BBSD4801	009	EJ48W1AK	21800	mg/kg	75.5	1	9/11/01 -9/11/01	1255163
NTC17BBSD4803	010	EJ4801AK	20700	mg/kg	75.0	1	9/11/01 -9/11/01	1255163
NTC17BBSD4804	011	EJ4811AV	25500	mg/kg	75.2	1	9/11/01 -9/11/01	1255163
NTC17BBSD4805	012	EJ4841AK	2110	mg/kg	63.1	1	9/11/01 -9/11/01	1255163
NTC17BBSD5201	013	EJ4861AK	7030	mg/kg	67.3	1	9/11/01 -9/11/01	1255163
NTC17BBSD5203	014	EJ49N1AK	17600	mg/kg	77.7	1	9/11/01 -9/11/01	1255163
NTC17BBSD5204	015	EJ49T1AK	18300	mg/kg	68.8	1	9/11/01 -9/11/01	1255163
NTC17BBSD5205	016	EJ4921AK	23000	mg/kg	78.0	1	9/11/01 -9/11/01	1255163
NTCFD09050101	017	EJ4961AK	2780	mg/kg	62.7	1	9/11/01 -9/11/01	1255163
NTC17BBSD5401	018	EJ5CH1A2	ND	mg/kg	60.6	1	9/11/01 -9/11/01	1255163
NTC17BBSD5403	019	EJ5CT1AK	11600	mg/kg	67.3	1	9/11/01 -9/11/01	1255163

NTC Great Lakes, Illinois

pH

Lab Name:	STL PITTSBURGH	**Method:**	SW846 9045C
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I060230
Matrix:	SOLID	**Date/Time Received:**	9/6/01 10:15:00AM
		SDG Number:	GL001

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17BBSD5601	001	EJ46M1AC	7.5	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD5603	002	EJ48D1AM	7.2	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD5604	003	EJ48F1AM	7.1	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD5605	004	EJ48G1AM	7.9	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD5501	005	EJ48H1AM	7.6	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD5503	006	EJ48J1AM	7.6	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD5504	007	EJ48M1AM	7.3	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD5505	008	EJ48R1AM	7.2	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD4801	009	EJ48W1AM	7.2	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD4803	010	EJ4801AM	7.1	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD4804	011	EJ4811AX	7.2	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD4805	012	EJ4841AM	7.2	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD5201	013	EJ4861AM	7.9	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD5203	014	EJ49N1AM	7.5	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD5204	015	EJ49T1AM	7.2	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD5205	016	EJ4921AM	7.1	No Units		1	9/6/01 -9/6/01	1249406
NTCFD09050101	017	EJ4961AM	7.1	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD5401	018	EJ5CH1A8	7.8	No Units		1	9/6/01 -9/6/01	1249406
NTC17BBSD5403	019	EJ5CT1AM	7.2	No Units		1	9/6/01 -9/6/01	1249406

NTC Great Lakes, Illinois

Percent Solids

Lab Name:	STL PITTSBURGH	**Method:**	MCAWW 160.3 MOD
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I060230
Matrix:	SOLID	**Date/Time Received:**	9/6/01 10:15:00AM
		SDG Number:	GL001

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17BBSD5601	001	EJ46M1A7	69.8	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD5603	002	EJ48D1AJ	74.9	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD5604	003	EJ48F1AJ	77.2	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD5605	004	EJ48G1AJ	79.4	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD5501	005	EJ48H1AJ	75.1	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD5503	006	EJ48J1AJ	73.6	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD5504	007	EJ48M1AJ	70.3	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD5505	008	EJ48R1AJ	73.2	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD4801	009	EJ48W1AJ	66.2	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD4803	010	EJ4801AJ	66.7	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD4804	011	EJ4811AU	66.5	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD4805	012	EJ4841AJ	79.3	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD5201	013	EJ4861AJ	74.3	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD5203	014	EJ49N1AJ	64.4	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD5204	015	EJ49T1AJ	72.6	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD5205	016	EJ4921AJ	64.1	%	1.0	1	9/11/01 -9/12/01	1254189
NTCFD09050101	017	EJ4961AJ	79.8	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD5401	018	EJ5CH1A1	82.5	%	1.0	1	9/11/01 -9/12/01	1254189
NTC17BBSD5403	019	EJ5CT1AJ	74.3	%	1.0	1	9/11/01 -9/12/01	1254189

NTC Great Lakes, Illinois

Total Organic Carbon

Lab Name:	STL PITTSBURGH	**Method:**	SW846 9060
Client Name:	TETRA TECH NUS, INC.	**Report ID:**	GL001
Matrix:	WATER	**Date/Time Received:**	9/7/01 9:20:00AM
		SDG Number:	GL001

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Prep/ Analysis Date	QC Batch	RPD / Limit (%)
BLK - A1I140000164B	164 MB	EKGW21AA	0.41 B	mg/L	1.0	9/12/01 - 9/12/01	1257164	

B Estimated result. Result is less than RL and greater than or equal to the IDL.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 001
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/07/01
Work Order: EJ74D1CC Date Extracted:09/11/01
Dilution factor: 1 Date Analyzed: 09/11/01
Moisture %:17

QC Batch: 1254211

Client Sample Id: NTC17BBSD4701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
67-64-1	**Acetone**	**11**	**J B**
71-43-2	Benzene	6.0	U
75-27-4	Bromodichloromethane	6.0	U
75-25-2	Bromoform	6.0	U
74-83-9	Bromomethane	12	U
78-93-3	2-Butanone	24	U
75-15-0	Carbon disulfide	6.0	U
56-23-5	Carbon tetrachloride	6.0	U
108-90-7	Chlorobenzene	6.0	U
75-00-3	Chloroethane	12	U
67-66-3	Chloroform	6.0	U
74-87-3	Chloromethane	12	U
110-82-7	Cyclohexane	6.0	U
124-48-1	Dibromochloromethane	6.0	U
96-12-8	1,2-Dibromo-3-chloropropane	12	U
106-93-4	1,2-Dibromoethane	6.0	U
541-73-1	1,3-Dichlorobenzene	6.0	U
106-46-7	1,4-Dichlorobenzene	6.0	U
95-50-1	1,2-Dichlorobenzene	6.0	U
75-71-8	Dichlorodifluoromethane	12	U
75-34-3	1,1-Dichloroethane	6.0	U
107-06-2	1,2-Dichloroethane	6.0	U
75-35-4	1,1-Dichloroethene	6.0	U
156-59-2	cis-1,2-Dichloroethene	6.0	U
156-60-5	trans-1,2-Dichloroethene	6.0	U
78-87-5	1,2-Dichloropropane	6.0	U
10061-01-5	cis-1,3-Dichloropropene	6.0	U
10061-02-6	trans-1,3-Dichloropropene	6.0	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 001
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/07/01
Work Order: EJ74D1CC Date Extracted:09/11/01
Dilution factor: 1 Date Analyzed: 09/11/01
Moisture %:17

QC Batch: 1254211

Client Sample Id: NTC17BBSD4701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-41-4	Ethylbenzene	6.0	U
591-78-6	2-Hexanone	24	U
98-82-8	Isopropylbenzene	6.0	U
79-20-9	Methyl acetate	6.0	U
75-09-2	**Methylene chloride**	**6.6**	
108-87-2	Methylcyclohexane	6.0	U
108-10-1	4-Methyl-2-pentanone	24	U
1634-04-4	Methyl tert-butyl ether	6.0	U
100-42-5	Styrene	6.0	U
79-34-5	1,1,2,2-Tetrachloroethane	6.0	U
120-82-1	1,2,4-Trichlorobenzene	6.0	U
127-18-4	Tetrachloroethene	6.0	U
71-55-6	1,1,1-Trichloroethane	6.0	U
79-00-5	1,1,2-Trichloroethane	6.0	U
79-01-6	Trichloroethene	6.0	U
75-69-4	Trichlorofluoromethane	12	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	6.0	U
108-88-3	Toluene	6.0	U
75-01-4	Vinyl chloride	12	U
1330-20-7	Xylenes (total)	18	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 010
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/07/01
Work Order: EJ75C1CC Date Extracted:09/11/01
Dilution factor: 1 Date Analyzed: 09/11/01
Moisture %:31

QC Batch: 1254211

Client Sample Id: NTC17BBSD5303

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
67-64-1	Acetone	19	J B
71-43-2	Benzene	7.2	U
75-27-4	Bromodichloromethane	7.2	U
75-25-2	Bromoform	7.2	U
74-83-9	Bromomethane	14	U
78-93-3	2-Butanone	29	U
75-15-0	Carbon disulfide	7.2	U
56-23-5	Carbon tetrachloride	7.2	U
108-90-7	Chlorobenzene	7.2	U
75-00-3	Chloroethane	14	U
67-66-3	Chloroform	7.2	U
74-87-3	Chloromethane	14	U
110-82-7	Cyclohexane	7.2	U
124-48-1	Dibromochloromethane	7.2	U
96-12-8	1,2-Dibromo-3-chloropropane	14	U
106-93-4	1,2-Dibromoethane	7.2	U
541-73-1	1,3-Dichlorobenzene	7.2	U
106-46-7	1,4-Dichlorobenzene	7.2	U
95-50-1	1,2-Dichlorobenzene	7.2	U
75-71-8	Dichlorodifluoromethane	14	U
75-34-3	1,1-Dichloroethane	7.2	U
107-06-2	1,2-Dichloroethane	7.2	U
75-35-4	1,1-Dichloroethene	7.2	U
156-59-2	cis-1,2-Dichloroethene	7.2	U
156-60-5	trans-1,2-Dichloroethene	7.2	U
78-87-5	1,2-Dichloropropane	7.2	U
10061-01-5	cis-1,3-Dichloropropene	7.2	U
10061-02-6	trans-1,3-Dichloropropene	7.2	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 010
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/07/01
Work Order: EJ75C1CC Date Extracted:09/11/01
Dilution factor: 1 Date Analyzed: 09/11/01
Moisture %:31

QC Batch: 1254211

Client Sample Id: NTC17BBSD5303

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-41-4	Ethylbenzene	7.2	U
591-78-6	2-Hexanone	29	U
98-82-8	Isopropylbenzene	7.2	U
79-20-9	Methyl acetate	7.2	U
75-09-2	**Methylene chloride**	11	
108-87-2	Methylcyclohexane	7.2	U
108-10-1	4-Methyl-2-pentanone	29	U
1634-04-4	Methyl tert-butyl ether	7.2	U
100-42-5	Styrene	7.2	U
79-34-5	1,1,2,2-Tetrachloroethane	7.2	U
120-82-1	1,2,4-Trichlorobenzene	7.2	U
127-18-4	Tetrachloroethene	7.2	U
71-55-6	1,1,1-Trichloroethane	7.2	U
79-00-5	1,1,2-Trichloroethane	7.2	U
79-01-6	Trichloroethene	7.2	U
75-69-4	Trichlorofluoromethane	14	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	7.2	U
108-88-3	Toluene	7.2	U
75-01-4	Vinyl chloride	14	U
1330-20-7	Xylenes (total)	22	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 001
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74D1A9 Date Extracted:09/17/01
Dilution factor: 2 Date Analyzed: 09/26/01
Moisture %:17

QC Batch: 1260107

Client Sample Id: NTC17BBSD4701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
83-32-9	Acenaphthene	800	U
208-96-8	Acenaphthylene	800	U
98-86-2	Acetophenone	800	U
120-12-7	Anthracene	800	U
1912-24-9	Atrazine	800	U
56-55-3	**Benzo(a)anthracene**	**160**	**J**
50-32-8	**Benzo(a)pyrene**	**140**	**J**
205-99-2	**Benzo(b)fluoranthene**	**140**	**J**
191-24-2	**Benzo(ghi)perylene**	**98**	**J**
207-08-9	**Benzo(k)fluoranthene**	**130**	**J**
100-52-7	Benzaldehyde	800	U
92-52-4	1,1'-Biphenyl	800	U
111-91-1	bis(2-Chloroethoxy)methane	800	U
111-44-4	bis(2-Chloroethyl) ether	800	U
117-81-7	**bis(2-Ethylhexyl) phthalate**	**610**	**J**
101-55-3	4-Bromophenyl phenyl ether	800	U
85-68-7	Butyl benzyl phthalate	800	U
105-60-2	Caprolactam	800	U
86-74-8	Carbazole	800	U
106-47-8	4-Chloroaniline	800	U
59-50-7	4-Chloro-3-methylphenol	800	U
91-58-7	2-Chloronaphthalene	800	U
95-57-8	2-Chlorophenol	800	U
7005-72-3	4-Chlorophenyl phenyl ether	800	U
218-01-9	**Chrysene**	**180**	**J**
53-70-3	Dibenz(a,h)anthracene	800	U
132-64-9	Dibenzofuran	800	U
91-94-1	3,3'-Dichlorobenzidine	3900	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 001
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74D1A9 Date Extracted:09/17/01
Dilution factor: 2 Date Analyzed: 09/26/01
Moisture %:17

QC Batch: 1260107

Client Sample Id: NTC17BBSD4701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
120-83-2	2,4-Dichlorophenol	800	U
84-66-2	Diethyl phthalate	800	U
105-67-9	2,4-Dimethylphenol	800	U
131-11-3	Dimethyl phthalate	800	U
84-74-2	Di-n-butyl phthalate	800	U
534-52-1	4,6-Dinitro-2-methylphenol	3900	U
51-28-5	2,4-Dinitrophenol	3900	U
121-14-2	2,4-Dinitrotoluene	800	U
606-20-2	2,6-Dinitrotoluene	800	U
117-84-0	Di-n-octyl phthalate	800	U
206-44-0	**Fluoranthene**	**360**	**J**
86-73-7	Fluorene	800	U
118-74-1	Hexachlorobenzene	800	U
87-68-3	Hexachlorobutadiene	800	U
77-47-4	Hexachlorocyclopentadiene	3900	U
67-72-1	Hexachloroethane	800	U
193-39-5	**Indeno(1,2,3-cd)pyrene**	**84**	**J**
78-59-1	Isophorone	800	U
91-57-6	2-Methylnaphthalene	800	U
95-48-7	2-Methylphenol	800	U
106-44-5	4-Methylphenol	800	U
91-20-3	Naphthalene	800	U
88-74-4	2-Nitroaniline	3900	U
99-09-2	3-Nitroaniline	3900	U
100-01-6	4-Nitroaniline	3900	U
98-95-3	Nitrobenzene	800	U
88-75-5	2-Nitrophenol	800	U
100-02-7	4-Nitrophenol	3900	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 001
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74D1A9 Date Extracted:09/17/01
Dilution factor: 2 Date Analyzed: 09/26/01
Moisture %:17

QC Batch: 1260107

Client Sample Id: NTC17BBSD4701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
621-64-7	N-Nitrosodi-n-propylamine	800	U
86-30-6	N-Nitrosodiphenylamine	800	U
108-60-1	2,2'-oxybis(1-Chloropropane)	800	U
87-86-5	Pentachlorophenol	3900	U
85-01-8	Phenanthrene	220	J
108-95-2	Phenol	800	U
129-00-0	Pyrene	310	J
95-95-4	2,4,5-Trichlorophenol	800	U
88-06-2	2,4,6-Trichlorophenol	800	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 010
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ75C1AA Date Extracted:09/17/01
Dilution factor: 5 Date Analyzed: 09/25/01
Moisture %:31

QC Batch: 1260107

Client Sample Id: NTC17BBSD5303

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
83-32-9	Acenaphthene	2400	U
208-96-8	Acenaphthylene	2400	U
98-86-2	Acetophenone	2400	U
120-12-7	Anthracene	2400	U
1912-24-9	Atrazine	2400	U
56-55-3	**Benzo(a)anthracene**	**880**	**J**
50-32-8	**Benzo(a)pyrene**	**880**	**J**
205-99-2	**Benzo(b)fluoranthene**	**970**	**J**
191-24-2	**Benzo(ghi)perylene**	**450**	**J**
207-08-9	**Benzo(k)fluoranthene**	**700**	**J**
100-52-7	Benzaldehyde	2400	U
92-52-4	1,1'-Biphenyl	2400	U
111-91-1	bis(2-Chloroethoxy)methane	2400	U
111-44-4	bis(2-Chloroethyl) ether	2400	U
117-81-7	**bis(2-Ethylhexyl) phthalate**	**6300**	
101-55-3	4-Bromophenyl phenyl ether	2400	U
85-68-7	Butyl benzyl phthalate	2400	U
105-60-2	Caprolactam	2400	U
86-74-8	Carbazole	2400	U
106-47-8	4-Chloroaniline	2400	U
59-50-7	4-Chloro-3-methylphenol	2400	U
91-58-7	2-Chloronaphthalene	2400	U
95-57-8	2-Chlorophenol	2400	U
7005-72-3	4-Chlorophenyl phenyl ether	2400	U
218-01-9	**Chrysene**	**1100**	**J**
53-70-3	Dibenz(a,h)anthracene	2400	U
132-64-9	Dibenzofuran	2400	U
91-94-1	3,3'-Dichlorobenzidine	12000	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 010
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ75C1AA Date Extracted:09/17/01
Dilution factor: 5 Date Analyzed: 09/25/01
Moisture %:31

QC Batch: 1260107

Client Sample Id: NTC17BBSD5303

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
120-83-2	2,4-Dichlorophenol	2400	U
84-66-2	Diethyl phthalate	2400	U
105-67-9	2,4-Dimethylphenol	2400	U
131-11-3	Dimethyl phthalate	2400	U
84-74-2	Di-n-butyl phthalate	2400	U
534-52-1	4,6-Dinitro-2-methylphenol	12000	U
51-28-5	2,4-Dinitrophenol	12000	U
121-14-2	2,4-Dinitrotoluene	2400	U
606-20-2	2,6-Dinitrotoluene	2400	U
117-84-0	Di-n-octyl phthalate	2400	U
206-44-0	**Fluoranthene**	**2300**	**J**
86-73-7	Fluorene	2400	U
118-74-1	Hexachlorobenzene	2400	U
87-68-3	Hexachlorobutadiene	2400	U
77-47-4	Hexachlorocyclopentadiene	12000	U
67-72-1	Hexachloroethane	2400	U
193-39-5	**Indeno(1,2,3-cd)pyrene**	**470**	**J**
78-59-1	Isophorone	2400	U
91-57-6	2-Methylnaphthalene	2400	U
95-48-7	2-Methylphenol	2400	U
106-44-5	4-Methylphenol	2400	U
91-20-3	Naphthalene	2400	U
88-74-4	2-Nitroaniline	12000	U
99-09-2	3-Nitroaniline	12000	U
100-01-6	4-Nitroaniline	12000	U
98-95-3	Nitrobenzene	2400	U
88-75-5	2-Nitrophenol	2400	U
100-02-7	4-Nitrophenol	12000	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 010
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ75C1AA Date Extracted:09/17/01
Dilution factor: 5 Date Analyzed: 09/25/01
Moisture %:31

QC Batch: 1260107

Client Sample Id: NTC17BBSD5303

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
621-64-7	N-Nitrosodi-n-propylamine	2400	U
86-30-6	N-Nitrosodiphenylamine	2400	U
108-60-1	2,2'-oxybis(1-Chloropropane)	2400	U
87-86-5	Pentachlorophenol	12000	U
85-01-8	**Phenanthrene**	**1400**	**J**
108-95-2	Phenol	2400	U
129-00-0	**Pyrene**	**1700**	**J**
95-95-4	2,4,5-Trichlorophenol	2400	U
88-06-2	2,4,6-Trichlorophenol	2400	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I060259 001

Sample WT/Vol: 30 / g
Work Order: EJ5EW1AD
Dilution factor: 20
Moisture %:29

Date Received: 09/06/01
Date Extracted:09/15/01
Date Analyzed: 09/22/01

QC Batch: 1258093

Client Sample Id: NTC17BBSD5404

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	48	U
319-84-6	alpha-BHC	48	U
319-85-7	beta-BHC	48	U
319-86-8	delta-BHC	48	U
58-89-9	gamma-BHC (Lindane)	48	U
5103-71-9	alpha-Chlordane	19	J
5103-74-2	gamma-Chlordane	12	J P
72-54-8	4,4'-DDD	440	
72-55-9	4,4'-DDE	200	
50-29-3	4,4'-DDT	110	
60-57-1	Dieldrin	22	J
959-98-8	Endosulfan I	11	J P
33213-65-9	Endosulfan II	13	J P
53494-70-5	Endrin ketone	48	U
1031-07-8	Endosulfan sulfate	48	U
72-20-8	Endrin	18	J
7421-93-4	Endrin aldehyde	48	U
76-44-8	Heptachlor	48	U
1024-57-3	Heptachlor epoxide	48	U
8001-35-2	Toxaphene	1900	U
72-43-5	Methoxychlor	480	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I060259 002
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ5FL1AN Date Extracted:09/15/01
Dilution factor: 10 Date Analyzed: 09/22/01
Moisture %:24

QC Batch: 1258093

Client Sample Id: NTC17BBSD5405

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	22	U
319-84-6	alpha-BHC	22	U
319-85-7	beta-BHC	22	U
319-86-8	delta-BHC	22	U
58-89-9	gamma-BHC (Lindane)	22	U
5103-71-9	alpha-Chlordane	8.1	J
5103-74-2	gamma-Chlordane	4.0	J P
72-54-8	4,4'-DDD	180	
72-55-9	4,4'-DDE	42	
50-29-3	4,4'-DDT	11	J P
60-57-1	Dieldrin	8.7	J P
959-98-8	Endosulfan I	4.8	J P
33213-65-9	Endosulfan II	5.9	J P
53494-70-5	Endrin ketone	22	U
1031-07-8	Endosulfan sulfate	22	U
72-20-8	Endrin	10	J
7421-93-4	Endrin aldehyde	22	U
76-44-8	Heptachlor	22	U
1024-57-3	Heptachlor epoxide	22	U
8001-35-2	Toxaphene	880	U
72-43-5	Methoxychlor	220	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I070323 001

Sample WT/Vol: 30 / g
Work Order: EJ74D1AD
Dilution factor: 10
Moisture %:17

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/21/01

QC Batch: 1253494

Client Sample Id: NTC17BBSD4701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	**Aldrin**	**4.1**	**J**
319-84-6	alpha-BHC	21	U
319-85-7	beta-BHC	21	U
319-86-8	delta-BHC	21	U
58-89-9	gamma-BHC (Lindane)	21	U
5103-71-9	**alpha-Chlordane**	**2.3**	**JP**
5103-74-2	gamma-Chlordane	21	U
72-54-8	**4,4'-DDD**	**100**	
72-55-9	**4,4'-DDE**	**68**	
50-29-3	**4,4'-DDT**	**120**	
60-57-1	Dieldrin	21	U
959-98-8	**Endosulfan I**	**4.6**	**J**
33213-65-9	Endosulfan II	21	U
53494-70-5	Endrin ketone	21	U
1031-07-8	Endosulfan sulfate	21	U
72-20-8	Endrin	21	U
7421-93-4	Endrin aldehyde	21	U
76-44-8	Heptachlor	21	U
1024-57-3	Heptachlor epoxide	21	U
8001-35-2	Toxaphene	810	U
72-43-5	Methoxychlor	210	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 002
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74P1AN Date Extracted:09/10/01
Dilution factor: 10 Date Analyzed: 09/22/01
Moisture %:29

QC Batch: 1253494

Client Sample Id: NTC17BBSD4703

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	24	U
319-84-6	alpha-BHC	24	U
319-85-7	beta-BHC	24	U
319-86-8	delta-BHC	24	U
58-89-9	gamma-BHC (Lindane)	24	U
5103-71-9	alpha-Chlordane	8.3	J
5103-74-2	gamma-Chlordane	5.2	J P
72-54-8	4,4'-DDD	240	
72-55-9	4,4'-DDE	170	
50-29-3	4,4'-DDT	85	
60-57-1	Dieldrin	7.1	J
959-98-8	Endosulfan I	3.7	J P
33213-65-9	Endosulfan II	8.1	J
53494-70-5	Endrin ketone	24	U
1031-07-8	Endosulfan sulfate	24	U
72-20-8	Endrin	5.6	J
7421-93-4	Endrin aldehyde	24	U
76-44-8	Heptachlor	24	U
1024-57-3	Heptachlor epoxide	24	U
8001-35-2	Toxaphene	940	U
72-43-5	Methoxychlor	240	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I070323 003

Sample WT/Vol: 30 / g
Work Order: EJ74Q1AN
Dilution factor: 30
Moisture %:30

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/22/01

QC Batch: 1253494

Client Sample Id: NTC17BBSD4704

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	73	U
319-84-6	alpha-BHC	73	U
319-85-7	beta-BHC	73	U
319-86-8	delta-BHC	73	U
58-89-9	gamma-BHC (Lindane)	73	U
5103-71-9	alpha-Chlordane	31	J
5103-74-2	gamma-Chlordane	18	J P
72-54-8	4,4'-DDD	740	
72-55-9	4,4'-DDE	250	
50-29-3	4,4'-DDT	43	J P
60-57-1	Dieldrin	31	J
959-98-8	Endosulfan I	24	J
33213-65-9	Endosulfan II	14	J P
53494-70-5	Endrin ketone	73	U
1031-07-8	Endosulfan sulfate	73	U
72-20-8	Endrin	19	J
7421-93-4	Endrin aldehyde	73	U
76-44-8	Heptachlor	73	U
1024-57-3	Heptachlor epoxide	73	U
8001-35-2	Toxaphene	2900	U
72-43-5	Methoxychlor	730	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I070323 004

Sample WT/Vol: 30 / g
Work Order: EJ74V1AD
Dilution factor: 20
Moisture %:30

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/22/01

QC Batch: 1253494

Client Sample Id: NTC17BBSD4705

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	48	U
319-84-6	alpha-BHC	48	U
319-85-7	beta-BHC	48	U
319-86-8	delta-BHC	48	U
58-89-9	gamma-BHC (Lindane)	48	U
5103-71-9	alpha-Chlordane	16	J
5103-74-2	gamma-Chlordane	4.9	J P
72-54-8	4,4'-DDD	390	
72-55-9	4,4'-DDE	60	
50-29-3	4,4'-DDT	11	J P
60-57-1	Dieldrin	15	J
959-98-8	Endosulfan I	8.6	J P
33213-65-9	Endosulfan II	48	U
53494-70-5	Endrin ketone	48	U
1031-07-8	Endosulfan sulfate	48	U
72-20-8	Endrin	8.9	J
7421-93-4	Endrin aldehyde	48	U
76-44-8	Heptachlor	48	U
1024-57-3	Heptachlor epoxide	48	U
8001-35-2	Toxaphene	1900	U
72-43-5	Methoxychlor	480	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 005
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7411A0 Date Extracted:09/10/01
Dilution factor: 5 Date Analyzed: 09/22/01
Moisture %:21

QC Batch: 1253494

Client Sample Id: NTC17BBSD5101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	11	U
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	11	U
319-86-8	delta-BHC	11	U
58-89-9	gamma-BHC (Lindane)	11	U
5103-71-9	alpha-Chlordane	2.0	J
5103-74-2	gamma-Chlordane	1.6	J P
72-54-8	4,4'-DDD	73	
72-55-9	4,4'-DDE	62	
50-29-3	4,4'-DDT	90	
60-57-1	Dieldrin	1.9	J
959-98-8	Endosulfan I	1.2	J P
33213-65-9	Endosulfan II	1.9	J
53494-70-5	Endrin ketone	11	U
1031-07-8	Endosulfan sulfate	11	U
72-20-8	Endrin	11	U
7421-93-4	Endrin aldehyde	11	U
76-44-8	Heptachlor	11	U
1024-57-3	Heptachlor epoxide	11	U
8001-35-2	Toxaphene	430	U
72-43-5	Methoxychlor	110	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I070323 006

Sample WT/Vol: 30 / g
Work Order: EJ7431A0
Dilution factor: 10
Moisture %:25

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/22/01

QC Batch: 1253494

Client Sample Id: NTC17BBSD5103

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	23	U
319-84-6	alpha-BHC	23	U
319-85-7	beta-BHC	23	U
319-86-8	delta-BHC	23	U
58-89-9	gamma-BHC (Lindane)	23	U
5103-71-9	alpha-Chlordane	3.1	J P
5103-74-2	gamma-Chlordane	3.0	J P
72-54-8	4,4'-DDD	170	
72-55-9	4,4'-DDE	100	
50-29-3	4,4'-DDT	36	
60-57-1	Dieldrin	4.0	J
959-98-8	Endosulfan I	3.5	J P
33213-65-9	Endosulfan II	2.8	J P
53494-70-5	Endrin ketone	23	U
1031-07-8	Endosulfan sulfate	23	U
72-20-8	Endrin	3.7	J
7421-93-4	Endrin aldehyde	23	U
76-44-8	Heptachlor	23	U
1024-57-3	Heptachlor epoxide	23	U
8001-35-2	Toxaphene	900	U
72-43-5	Methoxychlor	230	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I070323 007

Sample WT/Vol: 30 / g
Work Order: EJ7441AD
Dilution factor: 20
Moisture %:30

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/22/01

QC Batch: 1253494

Client Sample Id: NTC17BBSD5104

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	48	U
319-84-6	alpha-BHC	48	U
319-85-7	beta-BHC	48	U
319-86-8	delta-BHC	48	U
58-89-9	gamma-BHC (Lindane)	48	U
5103-71-9	alpha-Chlordane	20	J
5103-74-2	gamma-Chlordane	12	J P
72-54-8	4,4'-DDD	400	
72-55-9	4,4'-DDE	180	
50-29-3	4,4'-DDT	93	
60-57-1	Dieldrin	11	J P
959-98-8	Endosulfan I	6.3	J P
33213-65-9	Endosulfan II	16	J
53494-70-5	Endrin ketone	48	U
1031-07-8	Endosulfan sulfate	48	U
72-20-8	Endrin	48	U
7421-93-4	Endrin aldehyde	48	U
76-44-8	Heptachlor	48	U
1024-57-3	Heptachlor epoxide	48	U
8001-35-2	Toxaphene	1900	U
72-43-5	Methoxychlor	480	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I070323 008

Sample WT/Vol: 30 / g
Work Order: EJ7461A0
Dilution factor: 50
Moisture %:30

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/22/01

QC Batch: 1253494

Client Sample Id: NTC17BBSD5105

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	120	U
319-84-6	alpha-BHC	120	U
319-85-7	beta-BHC	120	U
319-86-8	delta-BHC	120	U
58-89-9	gamma-BHC (Lindane)	120	U
5103-71-9	alpha-Chlordane	41	J
5103-74-2	gamma-Chlordane	18	J P
72-54-8	4,4'-DDD	1100	
72-55-9	4,4'-DDE	310	
50-29-3	4,4'-DDT	220	
60-57-1	Dieldrin	31	J
959-98-8	Endosulfan I	31	J
33213-65-9	Endosulfan II	28	J
53494-70-5	Endrin ketone	120	U
1031-07-8	Endosulfan sulfate	120	U
72-20-8	Endrin	20	J P
7421-93-4	Endrin aldehyde	120	U
76-44-8	Heptachlor	120	U
1024-57-3	Heptachlor epoxide	120	U
8001-35-2	Toxaphene	4800	U
72-43-5	Methoxychlor	1200	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 009
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7491AP Date Extracted:09/10/01
Dilution factor: 5 Date Analyzed: 09/22/01
Moisture %:21

QC Batch: 1253494

Client Sample Id: NTC17BBSD5301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	11	U
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	11	U
319-86-8	delta-BHC	11	U
58-89-9	gamma-BHC (Lindane)	11	U
5103-71-9	**alpha-Chlordane**	**2.5**	**J P**
5103-74-2	**gamma-Chlordane**	**1.6**	**J P**
72-54-8	**4,4'-DDD**	**80**	
72-55-9	**4,4'-DDE**	**59**	
50-29-3	**4,4'-DDT**	**34**	
60-57-1	**Dieldrin**	**2.6**	**J P**
959-98-8	**Endosulfan I**	**1.8**	**J P**
33213-65-9	**Endosulfan II**	**1.6**	**J P**
53494-70-5	Endrin ketone	11	U
1031-07-8	Endosulfan sulfate	11	U
72-20-8	Endrin	11	U
7421-93-4	Endrin aldehyde	11	U
76-44-8	Heptachlor	11	U
1024-57-3	Heptachlor epoxide	11	U
8001-35-2	Toxaphene	430	U
72-43-5	Methoxychlor	110	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I070323 010

Sample WT/Vol: 30 / g
Work Order: EJ75C1AE
Dilution factor: 10
Moisture %:31

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/22/01

QC Batch: 1253494

Client Sample Id: NTC17BBSD5303

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	**Aldrin**	**1.6**	**J P**
319-84-6	alpha-BHC	25	U
319-85-7	beta-BHC	25	U
319-86-8	delta-BHC	25	U
58-89-9	gamma-BHC (Lindane)	25	U
5103-71-9	**alpha-Chlordane**	**9.7**	**J**
5103-74-2	**gamma-Chlordane**	**5.0**	**J P**
72-54-8	**4,4'-DDD**	**180**	
72-55-9	**4,4'-DDE**	**120**	
50-29-3	**4,4'-DDT**	**46**	
60-57-1	**Dieldrin**	**10**	**J**
959-98-8	**Endosulfan I**	**6.1**	**J P**
33213-65-9	**Endosulfan II**	**6.1**	**J P**
53494-70-5	Endrin ketone	25	U
1031-07-8	Endosulfan sulfate	25	U
72-20-8	**Endrin**	**7.8**	**J**
7421-93-4	Endrin aldehyde	25	U
76-44-8	Heptachlor	25	U
1024-57-3	Heptachlor epoxide	25	U
8001-35-2	Toxaphene	970	U
72-43-5	Methoxychlor	250	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 011
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ75G1A0 Date Extracted:09/10/01
Dilution factor: 10 Date Analyzed: 09/22/01
Moisture %:30

QC Batch: 1253494

Client Sample Id: NTC17BBSD5304

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	24	U
319-84-6	alpha-BHC	24	U
319-85-7	beta-BHC	24	U
319-86-8	delta-BHC	24	U
58-89-9	gamma-BHC (Lindane)	24	U
5103-71-9	alpha-Chlordane	20	J
5103-74-2	gamma-Chlordane	11	J P
72-54-8	4,4'-DDD	320	
72-55-9	4,4'-DDE	190	
50-29-3	4,4'-DDT	61	P
60-57-1	Dieldrin	25	
959-98-8	Endosulfan I	9.1	J P
33213-65-9	Endosulfan II	21	J P
53494-70-5	Endrin ketone	16	J P
1031-07-8	Endosulfan sulfate	~~25~~ 24	U
72-20-8	Endrin	24	U
7421-93-4	Endrin aldehyde	24	U
76-44-8	Heptachlor	24	U
1024-57-3	Heptachlor epoxide	24	U
8001-35-2	Toxaphene	960	U
72-43-5	Methoxychlor	14	J P

lm 10/2/01

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I070323 012

Sample WT/Vol: 30 / g
Work Order: EJ75J1A0
Dilution factor: 20
Moisture %:34

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/22/01

QC Batch: 1253494

Client Sample Id: NTC17BBSD5305

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	51	U
319-84-6	alpha-BHC	51	U
319-85-7	beta-BHC	51	U
319-86-8	delta-BHC	51	U
58-89-9	gamma-BHC (Lindane)	51	U
5103-71-9	alpha-Chlordane	55	P
5103-74-2	gamma-Chlordane	18	J P
72-54-8	4,4'-DDD	510	
72-55-9	4,4'-DDE	150	
50-29-3	4,4'-DDT	36	J P
60-57-1	Dieldrin	26	J P
959-98-8	Endosulfan I	19	J
33213-65-9	Endosulfan II	51	U
53494-70-5	Endrin ketone	51	U
1031-07-8	Endosulfan sulfate	51	U
72-20-8	Endrin	51	U
7421-93-4	Endrin aldehyde	12	J P
76-44-8	Heptachlor	51	U
1024-57-3	Heptachlor epoxide	51	U
8001-35-2	Toxaphene	2000	U
72-43-5	Methoxychlor	510	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 014
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ75R1C8 Date Extracted:09/10/01
Dilution factor: 8 Date Analyzed: 09/22/01
Moisture %:9.1

QC Batch: 1253494

Client Sample Id: NTC17BBSD05001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	15	U
319-84-6	alpha-BHC	15	U
319-85-7	beta-BHC	15	U
319-86-8	delta-BHC	15	U
58-89-9	gamma-BHC (Lindane)	15	U
5103-71-9	alpha-Chlordane	1.8	J P
5103-74-2	gamma-Chlordane	2.0	J P
72-54-8	4,4'-DDD	110	
72-55-9	4,4'-DDE	55	
50-29-3	4,4'-DDT	86	
60-57-1	Dieldrin	2.2	J P
959-98-8	Endosulfan I	2.5	J P
33213-65-9	Endosulfan II	15	U
53494-70-5	Endrin ketone	15	U
1031-07-8	Endosulfan sulfate	15	U
72-20-8	Endrin	15	U
7421-93-4	Endrin aldehyde	15	U
76-44-8	Heptachlor	15	U
1024-57-3	Heptachlor epoxide	15	U
8001-35-2	Toxaphene	590	U
72-43-5	Methoxychlor	150	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I070323 015

Sample WT/Vol: 30 / g
Work Order: EJ7541A0
Dilution factor: 8
Moisture %:19

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/22/01

QC Batch: 1253494

Client Sample Id: NTC17BBSD05003

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	17	U
319-84-6	alpha-BHC	17	U
319-85-7	beta-BHC	17	U
319-86-8	delta-BHC	17	U
58-89-9	gamma-BHC (Lindane)	17	U
5103-71-9	alpha-Chlordane	3.2	J
5103-74-2	gamma-Chlordane	2.4	J P
72-54-8	4,4'-DDD	130	
72-55-9	4,4'-DDE	95	
50-29-3	4,4'-DDT	110	
60-57-1	Dieldrin	2.5	J P
959-98-8	Endosulfan I	3.2	J P
33213-65-9	Endosulfan II	2.9	J P
53494-70-5	Endrin ketone	17	U
1031-07-8	Endosulfan sulfate	17	U
72-20-8	Endrin	17	U
7421-93-4	Endrin aldehyde	17	U
76-44-8	Heptachlor	17	U
1024-57-3	Heptachlor epoxide	17	U
8001-35-2	Toxaphene	660	U
72-43-5	Methoxychlor	170	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I070323 016

Sample WT/Vol: 30 / g
Work Order: EJ7581A0
Dilution factor: 30
Moisture %:21

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/22/01

QC Batch: 1253494

Client Sample Id: NTC17BBSD05004

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	64	U
319-84-6	alpha-BHC	64	U
319-85-7	beta-BHC	64	U
319-86-8	delta-BHC	64	U
58-89-9	gamma-BHC (Lindane)	64	U
5103-71-9	alpha-Chlordane	30	J
5103-74-2	gamma-Chlordane	12	J P
72-54-8	4,4'-DDD	750	
72-55-9	4,4'-DDE	260	
50-29-3	4,4'-DDT	120	
60-57-1	Dieldrin	24	J P
959-98-8	Endosulfan I	19	J P
33213-65-9	Endosulfan II	16	J P
53494-70-5	Endrin ketone	64	U
1031-07-8	Endosulfan sulfate	64	U
72-20-8	Endrin	64	U
7421-93-4	Endrin aldehyde	64	U
76-44-8	Heptachlor	64	U
1024-57-3	Heptachlor epoxide	64	U
8001-35-2	Toxaphene	2500	U
72-43-5	Methoxychlor	640	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 001
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74D1AE Date Extracted:09/10/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:17

QC Batch: 1253498

Client Sample Id: NTC17BBSD4701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	40	U
11104-28-2	Aroclor 1221	40	U
11141-16-5	Aroclor 1232	40	U
53469-21-9	Aroclor 1242	40	U
12672-29-6	Aroclor 1248	40	U
11097-69-1	Aroclor 1254	40	U
11096-82-5	Aroclor 1260	40	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I070323 002

Sample WT/Vol: 30 / g
Work Order: EJ74P1AP
Dilution factor: 1
Moisture %:29

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/19/01

QC Batch: 1253498

Client Sample Id: NTC17BBSD4703

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	46	U
11104-28-2	Aroclor 1221	46	U
11141-16-5	Aroclor 1232	46	U
53469-21-9	Aroclor 1242	46	U
12672-29-6	Aroclor 1248	46	U
11097-69-1	Aroclor 1254	46	U
11096-82-5	**Aroclor 1260**	**99**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I070323 003

Sample WT/Vol: 30 / g
Work Order: EJ74Q1AP
Dilution factor: 1
Moisture %:30

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/19/01

QC Batch: 1253498

Client Sample Id: NTC17BBSD4704

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	47	U
11104-28-2	Aroclor 1221	47	U
11141-16-5	Aroclor 1232	47	U
53469-21-9	Aroclor 1242	47	U
12672-29-6	Aroclor 1248	47	U
11097-69-1	**Aroclor 1254**	**1200**	
11096-82-5	**Aroclor 1260**	**540**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 004
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74V1AE Date Extracted:09/10/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:30

QC Batch: 1253498

Client Sample Id: NTC17BBSD4705

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	47	U
11104-28-2	Aroclor 1221	47	U
11141-16-5	Aroclor 1232	47	U
53469-21-9	Aroclor 1242	47	U
12672-29-6	Aroclor 1248	47	U
11097-69-1	**Aroclor 1254**	**840**	
11096-82-5	Aroclor 1260	47	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 005
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7411A1 Date Extracted:09/10/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:21

QC Batch: 1253498

Client Sample Id: NTC17BBSD5101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	42	U
11104-28-2	Aroclor 1221	42	U
11141-16-5	Aroclor 1232	42	U
53469-21-9	Aroclor 1242	42	U
12672-29-6	Aroclor 1248	42	U
11097-69-1	Aroclor 1254	42	U
11096-82-5	Aroclor 1260	42	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 006
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7431A1 Date Extracted:09/10/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:25

QC Batch: 1253498

Client Sample Id: NTC17BBSD5103

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	44	U
11104-28-2	Aroclor 1221	44	U
11141-16-5	Aroclor 1232	44	U
53469-21-9	Aroclor 1242	44	U
12672-29-6	Aroclor 1248	44	U
11097-69-1	**Aroclor 1254**	**230**	
11096-82-5	Aroclor 1260	44	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 007
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7441AE Date Extracted:09/10/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:30

QC Batch: 1253498

Client Sample Id: NTC17BBSD5104

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	47	U
11104-28-2	Aroclor 1221	47	U
11141-16-5	Aroclor 1232	47	U
53469-21-9	Aroclor 1242	47	U
12672-29-6	Aroclor 1248	47	U
11097-69-1	**Aroclor 1254**	**1100**	
11096-82-5	**Aroclor 1260**	**320**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I070323 008

Sample WT/Vol: 30 / g
Work Order: EJ7461A1
Dilution factor: 2
Moisture %:30

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/20/01

QC Batch: 1253498

Client Sample Id: NTC17BBSD5105

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	95	U
11104-28-2	Aroclor 1221	95	U
11141-16-5	Aroclor 1232	95	U
53469-21-9	Aroclor 1242	95	U
12672-29-6	**Aroclor 1248**	**920**	
11097-69-1	**Aroclor 1254**	**2600**	
11096-82-5	**Aroclor 1260**	**810**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 009
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7491AQ Date Extracted:09/10/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:21

QC Batch: 1253498

Client Sample Id: NTC17BBSD5301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	42	U
11104-28-2	Aroclor 1221	42	U
11141-16-5	Aroclor 1232	42	U
53469-21-9	Aroclor 1242	42	U
12672-29-6	Aroclor 1248	42	U
11097-69-1	Aroclor 1254	42	U
11096-82-5	Aroclor 1260	42	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 010
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ75C1AF Date Extracted:09/10/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:31

QC Batch: 1253498

Client Sample Id: NTC17BBSD5303

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	48	U
11104-28-2	Aroclor 1221	48	U
11141-16-5	Aroclor 1232	48	U
53469-21-9	Aroclor 1242	48	U
12672-29-6	Aroclor 1248	48	U
11097-69-1	**Aroclor 1254**	**350**	
11096-82-5	**Aroclor 1260**	**170**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I070323 011

Sample WT/Vol: 30 / g
Work Order: EJ75G1A1
Dilution factor: 1
Moisture %:30

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/19/01

QC Batch: 1253498

Client Sample Id: NTC17BBSD5304

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	47	U
11104-28-2	Aroclor 1221	47	U
11141-16-5	Aroclor 1232	47	U
53469-21-9	Aroclor 1242	47	U
12672-29-6	**Aroclor 1248**	**800**	
11097-69-1	**Aroclor 1254**	**1000**	
11096-82-5	**Aroclor 1260**	**500**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 012
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ75J1A1 Date Extracted:09/10/01
Dilution factor: 5 Date Analyzed: 09/19/01
Moisture %:34

QC Batch: 1253498

Client Sample Id: NTC17BBSD5305

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	250	U
11104-28-2	Aroclor 1221	250	U
11141-16-5	Aroclor 1232	250	U
53469-21-9	Aroclor 1242	250	U
12672-29-6	Aroclor 1248	250	U
11097-69-1	**Aroclor 1254**	**3500**	
11096-82-5	Aroclor 1260	250	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I070323 014

Sample WT/Vol: 30 / g
Work Order: EJ75R1DC
Dilution factor: 1
Moisture %:9.1

Date Received: 09/07/01
Date Extracted:09/10/01
Date Analyzed: 09/19/01

QC Batch: 1253498

Client Sample Id: NTC17BBSD05001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg		Q
12674-11-2	Aroclor 1016		36	U
11104-28-2	Aroclor 1221		36	U
11141-16-5	Aroclor 1232		36	U
53469-21-9	Aroclor 1242		36	U
12672-29-6	Aroclor 1248		36	U
11097-69-1	Aroclor 1254		36	U
11096-82-5	Aroclor 1260		36	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 015
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7541A1 Date Extracted:09/10/01
Dilution factor: 1 Date Analyzed: 09/19/01
Moisture %:19

QC Batch: 1253498

Client Sample Id: NTC17BBSD05003

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	41	U
11104-28-2	Aroclor 1221	41	U
11141-16-5	Aroclor 1232	41	U
53469-21-9	Aroclor 1242	41	U
12672-29-6	**Aroclor 1248**	**130**	
11097-69-1	Aroclor 1254	41	U
11096-82-5	**Aroclor 1260**	**54**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 016
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7581A1 Date Extracted:09/10/01
Dilution factor: 2 Date Analyzed: 09/20/01
Moisture %:21

QC Batch: 1253498

Client Sample Id: NTC17BBSD05004

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	83	U
11104-28-2	Aroclor 1221	83	U
11141-16-5	Aroclor 1232	83	U
53469-21-9	Aroclor 1242	83	U
12672-29-6	**Aroclor 1248**	**1500**	
11097-69-1	**Aroclor 1254**	**1900**	
11096-82-5	**Aroclor 1260**	**490**	

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I060259 001

Sample WT/Vol: 30 / g
Work Order: EJ5EW1AE
Dilution factor: 1
Moisture %:29

Date Received: 09/06/01
Date Extracted:09/15/01
Date Analyzed: 09/25/01

QC Batch: 1258094

Client Sample Id: NTC17BBSD5404

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	46	U
11104-28-2	Aroclor 1221	46	U
11141-16-5	Aroclor 1232	46	U
53469-21-9	Aroclor 1242	46	U
12672-29-6	**Aroclor 1248**	**420**	
11097-69-1	**Aroclor 1254**	**890**	
11096-82-5	**Aroclor 1260**	**360**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I060259 002
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ5FL1AP Date Extracted:09/15/01
Dilution factor: 1 Date Analyzed: 09/25/01
Moisture %:24

QC Batch: 1258094

Client Sample Id: NTC17BBSD5405

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	43	U
11104-28-2	Aroclor 1221	43	U
11141-16-5	Aroclor 1232	43	U
53469-21-9	Aroclor 1242	43	U
12672-29-6	Aroclor 1248	43	U
11097-69-1	**Aroclor 1254**	**360**	
11096-82-5	**Aroclor 1260**	**150**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 001
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74D1AA Date Extracted:09/12/01
Dilution factor: 25 Date Analyzed: 10/02/01
Moisture %:17

QC Batch: 1255466

Client Sample Id: NTC17BBSD4701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	1000	U
208-96-8	Acenaphthylene	36	J
83-32-9	Acenaphthene	1000	U
86-73-7	Fluorene	220	
85-01-8	Phenanthrene	2000	
120-12-7	Anthracene	240	
206-44-0	Fluoranthene	2400	
129-00-0	Pyrene	1800	
56-55-3	Benzo(a)anthracene	670	
218-01-9	Chrysene	730	
205-99-2	Benzo(b)fluoranthene	590	
207-08-9	Benzo(k)fluoranthene	340	
50-32-8	Benzo(a)pyrene	550	
193-39-5	Indeno(1,2,3-cd)pyrene	260	
53-70-3	Dibenzo(a,h)anthracene	200	U
191-24-2	Benzo(ghi)perylene	330	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 002
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74P1AL Date Extracted:09/12/01
Dilution factor: 10 Date Analyzed: 09/15/01
Moisture %:29

QC Batch: 1255466

Client Sample Id: NTC17BBSD4703

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	460	U
208-96-8	Acenaphthylene	460	U
83-32-9	Acenaphthene	460	U
86-73-7	**Fluorene**	**100**	
85-01-8	**Phenanthrene**	**940**	
120-12-7	**Anthracene**	**180**	
206-44-0	**Fluoranthene**	**1600**	
129-00-0	**Pyrene**	**1100**	
56-55-3	Benzo(a)anthracene	94	U
218-01-9	**Chrysene**	**580**	
205-99-2	**Benzo(b)fluoranthene**	**560**	
207-08-9	Benzo(k)fluoranthene	94	U
50-32-8	**Benzo(a)pyrene**	**480**	
193-39-5	**Indeno(1,2,3-cd)pyrene**	**270**	P
53-70-3	Dibenzo(a,h)anthracene	94	U
191-24-2	Benzo(ghi)perylene	94	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 003
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74Q1AL Date Extracted:09/12/01
Dilution factor: 10 Date Analyzed: 09/15/01
Moisture %:30

QC Batch: 1255466

Client Sample Id: NTC17BBSD4704

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	470	U
208-96-8	Acenaphthylene	470	U
83-32-9	Acenaphthene	470	U
86-73-7	Fluorene	82	J
85-01-8	Phenanthrene	540	
120-12-7	Anthracene	86	J
206-44-0	Fluoranthene	770	P
129-00-0	Pyrene	570	P
56-55-3	Benzo(a)anthracene	300	
218-01-9	Chrysene	310	
205-99-2	Benzo(b)fluoranthene	310	
207-08-9	Benzo(k)fluoranthene	180	P
50-32-8	Benzo(a)pyrene	280	
193-39-5	Indeno(1,2,3-cd)pyrene	150	
53-70-3	Dibenzo(a,h)anthracene	96	U
191-24-2	Benzo(ghi)perylene	120	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 004
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74V1AA Date Extracted:09/12/01
Dilution factor: 10 Date Analyzed: 09/15/01
Moisture %:30

QC Batch: 1255466

Client Sample Id: NTC17BBSD4705

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	470	U
208-96-8	Acenaphthylene	470	U
83-32-9	Acenaphthene	470	U
86-73-7	Fluorene	120	
85-01-8	Phenanthrene	770	
120-12-7	Anthracene	100	
206-44-0	Fluoranthene	1200	P
129-00-0	Pyrene	830	P
56-55-3	Benzo(a)anthracene	400	
218-01-9	Chrysene	440	
205-99-2	Benzo(b)fluoranthene	440	
207-08-9	Benzo(k)fluoranthene	240	
50-32-8	Benzo(a)pyrene	360	P
193-39-5	Indeno(1,2,3-cd)pyrene	170	P
53-70-3	Dibenzo(a,h)anthracene	95	U
191-24-2	Benzo(ghi)perylene	240	P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 005
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7411AW Date Extracted:09/12/01
Dilution factor: 20 Date Analyzed: 09/15/01
Moisture %:21

QC Batch: 1255466

Client Sample Id: NTC17BBSD5101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	840		U
208-96-8	Acenaphthylene	840		U
83-32-9	Acenaphthene	840		U
86-73-7	Fluorene	54	J	P
85-01-8	Phenanthrene	710		
120-12-7	Anthracene	110	J	
206-44-0	Fluoranthene	1100		
129-00-0	Pyrene	720		
56-55-3	Benzo(a)anthracene	350		
218-01-9	Chrysene	390		
205-99-2	Benzo(b)fluoranthene	410		
207-08-9	Benzo(k)fluoranthene	220		
50-32-8	Benzo(a)pyrene	370		
193-39-5	Indeno(1,2,3-cd)pyrene	230		
53-70-3	Dibenzo(a,h)anthracene	170		U
191-24-2	Benzo(ghi)perylene	270		P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 006
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7431AW Date Extracted:09/12/01
Dilution factor: 25 Date Analyzed: 10/02/01
Moisture %:25

QC Batch: 1255466

Client Sample Id: NTC17BBSD5103

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	1100	U
208-96-8	Acenaphthylene	1100	U
83-32-9	Acenaphthene	1100	U
86-73-7	Fluorene	170	J
85-01-8	Phenanthrene	1200	
120-12-7	Anthracene	240	
206-44-0	Fluoranthene	2000	
129-00-0	Pyrene	1500	
56-55-3	Benzo(a)anthracene	690	
218-01-9	Chrysene	690	
205-99-2	Benzo(b)fluoranthene	670	
207-08-9	Benzo(k)fluoranthene	360	
50-32-8	Benzo(a)pyrene	710	
193-39-5	Indeno(1,2,3-cd)pyrene	370	
53-70-3	Dibenzo(a,h)anthracene	220	U
191-24-2	Benzo(ghi)perylene	390	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 007
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7441AA Date Extracted:09/12/01
Dilution factor: 50 Date Analyzed: 10/02/01
Moisture %:30

QC Batch: 1255466

Client Sample Id: NTC17BBSD5104

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	2300	U
208-96-8	Acenaphthylene	220	J
83-32-9	Acenaphthene	2300	U
86-73-7	Fluorene	640	
85-01-8	Phenanthrene	5000	
120-12-7	Anthracene	650	
206-44-0	Fluoranthene	5900	
129-00-0	Pyrene	4500	
56-55-3	Benzo(a)anthracene	1800	
218-01-9	Chrysene	2000	
205-99-2	Benzo(b)fluoranthene	1700	
207-08-9	Benzo(k)fluoranthene	920	
50-32-8	Benzo(a)pyrene	1600	
193-39-5	Indeno(1,2,3-cd)pyrene	790	
53-70-3	Dibenzo(a,h)anthracene	480	U
191-24-2	Benzo(ghi)perylene	860	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 008
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7461AW Date Extracted:09/12/01
Dilution factor: 10 Date Analyzed: 10/02/01
Moisture %:30

QC Batch: 1255466

Client Sample Id: NTC17BBSD5105

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	470		U
208-96-8	Acenaphthylene	22	J	
83-32-9	Acenaphthene	470		U
86-73-7	Fluorene	82	J	
85-01-8	Phenanthrene	500		
120-12-7	Anthracene	69	J	P
206-44-0	Fluoranthene	670		P
129-00-0	Pyrene	570		
56-55-3	Benzo(a)anthracene	260		
218-01-9	Chrysene	260		
205-99-2	Benzo(b)fluoranthene	250		
207-08-9	Benzo(k)fluoranthene	120		
50-32-8	Benzo(a)pyrene	270		
193-39-5	Indeno(1,2,3-cd)pyrene	160		
53-70-3	Dibenzo(a,h)anthracene	96		U
191-24-2	Benzo(ghi)perylene	120		P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 009
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7491AM Date Extracted:09/12/01
Dilution factor: 10 Date Analyzed: 09/15/01
Moisture %:21

QC Batch: 1255466

Client Sample Id: NTC17BBSD5301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	420	U
208-96-8	Acenaphthylene	420	U
83-32-9	Acenaphthene	420	U
86-73-7	Fluorene	53	J
85-01-8	Phenanthrene	540	
120-12-7	Anthracene	110	
206-44-0	Fluoranthene	1000	
129-00-0	Pyrene	640	
56-55-3	Benzo(a)anthracene	390	
218-01-9	Chrysene	380	
205-99-2	Benzo(b)fluoranthene	400	
207-08-9	Benzo(k)fluoranthene	220	
50-32-8	Benzo(a)pyrene	430	
193-39-5	Indeno(1,2,3-cd)pyrene	200	
53-70-3	Dibenzo(a,h)anthracene	85	U
191-24-2	Benzo(ghi)perylene	210	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 010
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ75C1AC Date Extracted:09/12/01
Dilution factor: 20 Date Analyzed: 10/02/01
Moisture %:31

QC Batch: 1255466

Client Sample Id: NTC17BBSD5303

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	950	U
208-96-8	Acenaphthylene	66	J
83-32-9	Acenaphthene	950	U
86-73-7	Fluorene	330	
85-01-8	Phenanthrene	2500	
120-12-7	Anthracene	460	
206-44-0	Fluoranthene	3300	
129-00-0	Pyrene	2500	
56-55-3	Benzo(a)anthracene	1100	
218-01-9	Chrysene	1100	
205-99-2	Benzo(b)fluoranthene	1000	
207-08-9	Benzo(k)fluoranthene	550	
50-32-8	Benzo(a)pyrene	1000	
193-39-5	Indeno(1,2,3-cd)pyrene	470	P
53-70-3	Dibenzo(a,h)anthracene	190	U
191-24-2	Benzo(ghi)perylene	500	P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 011
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ75G1AW Date Extracted:09/12/01
Dilution factor: 10 Date Analyzed: 10/02/01
Moisture %:30

QC Batch: 1255466

Client Sample Id: NTC17BBSD5304

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	470	U
208-96-8	Acenaphthylene	46	J
83-32-9	Acenaphthene	470	U
86-73-7	Fluorene	85	J
85-01-8	Phenanthrene	490	
120-12-7	Anthracene	56	J
206-44-0	Fluoranthene	810	P
129-00-0	Pyrene	730	
56-55-3	Benzo(a)anthracene	320	
218-01-9	Chrysene	360	
205-99-2	Benzo(b)fluoranthene	370	
207-08-9	Benzo(k)fluoranthene	200	
50-32-8	Benzo(a)pyrene	400	
193-39-5	Indeno(1,2,3-cd)pyrene	200	
53-70-3	Dibenzo(a,h)anthracene	96	U
191-24-2	Benzo(ghi)perylene	160	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 012
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ75J1AW Date Extracted:09/12/01
Dilution factor: 10 Date Analyzed: 10/02/01
Moisture %:34

QC Batch: 1255466

Client Sample Id: NTC17BBSD5305

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	500	U
208-96-8	Acenaphthylene	64	J
83-32-9	Acenaphthene	500	U
86-73-7	Fluorene	180	
85-01-8	Phenanthrene	940	
120-12-7	Anthracene	130	
206-44-0	Fluoranthene	1200	P
129-00-0	Pyrene	1100	
56-55-3	Benzo(a)anthracene	500	
218-01-9	Chrysene	530	
205-99-2	Benzo(b)fluoranthene	460	
207-08-9	Benzo(k)fluoranthene	210	
50-32-8	Benzo(a)pyrene	430	
193-39-5	Indeno(1,2,3-cd)pyrene	240	
53-70-3	Dibenzo(a,h)anthracene	100	U
191-24-2	Benzo(ghi)perylene	200	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 014
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ75R1C2 Date Extracted:09/12/01
Dilution factor: 10 Date Analyzed: 10/02/01
Moisture %:9.1

QC Batch: 1255466

Client Sample Id: NTC17BBSD05001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	360	U
208-96-8	Acenaphthylene	36	J
83-32-9	Acenaphthene	360	U
86-73-7	Fluorene	40	J p
85-01-8	Phenanthrene	510	
120-12-7	Anthracene	89	
206-44-0	Fluoranthene	960	
129-00-0	Pyrene	850	
56-55-3	Benzo(a)anthracene	380	
218-01-9	Chrysene	390	
205-99-2	Benzo(b)fluoranthene	370	
207-08-9	Benzo(k)fluoranthene	200	
50-32-8	Benzo(a)pyrene	360	
193-39-5	Indeno(1,2,3-cd)pyrene	200	
53-70-3	Dibenzo(a,h)anthracene	74	U
191-24-2	Benzo(ghi)perylene	250	p

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 015
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7541AW Date Extracted:09/12/01
Dilution factor: 10 Date Analyzed: 10/02/01
Moisture %:19

QC Batch: 1255466

Client Sample Id: NTC17BBSD05003

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	410	U
208-96-8	Acenaphthylene	19	J
83-32-9	Acenaphthene	410	U
86-73-7	Fluorene	74	J
85-01-8	Phenanthrene	610	
120-12-7	Anthracene	130	
206-44-0	Fluoranthene	770	
129-00-0	Pyrene	610	
56-55-3	Benzo(a)anthracene	260	
218-01-9	Chrysene	240	
205-99-2	Benzo(b)fluoranthene	210	
207-08-9	Benzo(k)fluoranthene	120	
50-32-8	Benzo(a)pyrene	220	
193-39-5	Indeno(1,2,3-cd)pyrene	130	
53-70-3	Dibenzo(a,h)anthracene	83	U
191-24-2	Benzo(ghi)perylene	130	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I070323 016
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7581AW Date Extracted:09/12/01
Dilution factor: 20 Date Analyzed: 09/15/01
Moisture %:21

QC Batch: 1255466

Client Sample Id: NTC17BBSD05004

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	830		U
208-96-8	Acenaphthylene	830		U
83-32-9	Acenaphthene	830		U
86-73-7	Fluorene	160	J	P
85-01-8	Phenanthrene	1300		
120-12-7	Anthracene	220		
206-44-0	Fluoranthene	1800		P
129-00-0	Pyrene	1300		P
56-55-3	Benzo(a)anthracene	660		
218-01-9	Chrysene	670		
205-99-2	Benzo(b)fluoranthene	660		
207-08-9	Benzo(k)fluoranthene	370		
50-32-8	Benzo(a)pyrene	710		
193-39-5	Indeno(1,2,3-cd)pyrene	320		
53-70-3	Dibenzo(a,h)anthracene	170		U
191-24-2	Benzo(ghi)perylene	410		P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I060259 001
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ5EW1AA Date Extracted:09/10/01
Dilution factor: 10 Date Analyzed: 09/18/01
Moisture %:29

QC Batch: 1253486

Client Sample Id: NTC17BBSD5404

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	460	U
208-96-8	Acenaphthylene	460	U
83-32-9	Acenaphthene	460	U
86-73-7	Fluorene	140	
85-01-8	Phenanthrene	1100	
120-12-7	Anthracene	210	
206-44-0	Fluoranthene	1800	
129-00-0	Pyrene	1400	
56-55-3	Benzo(a)anthracene	700	
218-01-9	Chrysene	710	
205-99-2	Benzo(b)fluoranthene	690	
207-08-9	Benzo(k)fluoranthene	370	
50-32-8	Benzo(a)pyrene	610	P
193-39-5	Indeno(1,2,3-cd)pyrene	250	P
53-70-3	Dibenzo(a,h)anthracene	94	U
191-24-2	Benzo(ghi)perylene	380	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL002

Matrix: (soil/water) SOLID Lab Sample ID:C1I060259 002
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/06/01
Work Order: EJ5FL1AL Date Extracted:09/10/01
Dilution factor: 10 Date Analyzed: 09/18/01
Moisture %:24

QC Batch: 1253486

Client Sample Id: NTC17BBSD5405

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	430	U
208-96-8	Acenaphthylene	430	U
83-32-9	Acenaphthene	430	U
86-73-7	Fluorene	120	
85-01-8	Phenanthrene	750	
120-12-7	Anthracene	140	
206-44-0	Fluoranthene	860	P
129-00-0	Pyrene	730	
56-55-3	Benzo(a)anthracene	370	
218-01-9	Chrysene	370	
205-99-2	Benzo(b)fluoranthene	310	
207-08-9	Benzo(k)fluoranthene	160	
50-32-8	Benzo(a)pyrene	310	
193-39-5	Indeno(1,2,3-cd)pyrene	110	P
53-70-3	Dibenzo(a,h)anthracene	88	U
191-24-2	Benzo(ghi)perylene	210	P

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ5EW **Client ID:** NTC17BBSD5404

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 28.68

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.047	1.0		1	CVAA	9/20/01	15:22

Comments: Lot #: C1I060259 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ5FL **Client ID:** NTC17BBSD5405

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 23.50

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.044	0.75		1	CVAA	9/20/01	15:24

Comments: Lot #: C1I060259 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ741 **Client ID:** NTC17BBSD5101

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 21.25

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.042	0.090		1	CVAA	9/20/01	15:36

Comments: Lot #: C1I070323 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ743 **Client ID:** NTC17BBSD5103

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 25.27

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.045	0.25		1	CVAA	9/20/01	15:37

Comments: Lot #: C1I070323 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ744 **Client ID:** NTC17BBSD5104

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 29.76

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.048	2.1		1	CVAA	9/20/01	15:39

Comments: Lot #: C1I070323 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ746 **Client ID:** NTC17BBSD5105

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 30.23

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.048	1.3		1	CVAA	9/20/01	15:41

Comments: Lot #: C1I070323 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ749 **Client ID:** NTC17BBSD5301

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 21.27

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.042	0.13		1	CVAA	9/20/01	15:42

Comments: Lot #: C1I070323 Sample #: 9

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74D **Client ID:** NTC17BBSD4701

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.18

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0095	0.040	0.094		1	CVAA	9/20/01	15:30

Comments: Lot #: C1I070323 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74P **Client ID:** NTC17BBSD4703

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 28.73

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.047	0.78		1	CVAA	9/20/01	15:32

Comments: Lot #: C1I070323 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74Q **Client ID:** NTC17BBSD4704

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 30.25

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.023	0.096	4.2		2	CVAA	9/20/01	16:50

Comments: Lot #: C1I070323 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74V **Client ID:** NTC17BBSD4705

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 29.51

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.047	1.5		1	CVAA	9/20/01	15:35

Comments: Lot #: C1I070323 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ754 **Client ID:** NTC17BBSD05003

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 19.03

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0097	0.041	0.71		1	CVAA	9/20/01	15:58

Comments: Lot #: C1I070323 Sample #: 15

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ758 **Client ID:** NTC17BBSD05004

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 20.72

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0099	0.042	0.86		1	CVAA	9/20/01	16:00

Comments: Lot #: C1I070323 Sample #: 16

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ75C **Client ID:** NTC17BBSD5303

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 30.76

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.048	0.57		1	CVAA	9/20/01	15:44

Comments: Lot #: C11070323 Sample #: 10

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ75J **Client ID:** NTC17BBSD5305

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 33.61

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.024	0.10	3.2		2	CVAA	9/20/01	16:52

Comments: Lot #: C1I070323 Sample #: 12

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ75G **Client ID:** NTC17BBSD5304

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 30.04

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.048	1.7		1	CVAA	9/20/01	15:49

Comments: Lot #: C11070323 Sample #: 11

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ75R **Client ID:** NTC17BBSD05001

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263188

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 9.13

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0086	0.037	0.11		1	CVAA	9/20/01	15:53

Comments: Lot #: C1I070323 Sample #: 14

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ5EW **Client ID:** NTC17BBSD5404

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 28.68

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.0	28.0	3550		1	ICP	9/28/01	11:29
Antimony	220.35	0.42	1.4	1.2	BN	1	ICPST	9/28/01	17:31
Arsenic	189.04	0.37	1.4	7.9		1	ICPST	9/28/01	17:31
Barium	493.41	0.052	28.0	47.7		1	ICP	9/28/01	11:29
Beryllium	313.04	0.024	0.70	0.60	B	1	ICP	9/28/01	11:29
Cadmium	226.50	0.055	0.70	2.8	N*	1	ICPST	9/28/01	17:31
Calcium	317.93	1.8	701	57800		1	ICP	9/28/01	11:29
Chromium	267.72	0.14	0.70	25.2		1	ICPST	9/28/01	17:31
Cobalt	228.62	0.41	7.0	7.3		1	ICP	9/28/01	11:29
Copper	324.75	0.34	3.5	288	N*	1	ICP	9/28/01	11:29
Iron	259.94	0.69	140	12400		1	ICP	9/28/01	11:29
Lead	220.35	0.25	0.42	209	N*	1	ICPST	9/28/01	17:31
Magnesium	279.08	3.0	701	28500	N*	1	ICP	9/28/01	11:29
Manganese	257.61	0.13	2.1	447	*	1	ICP	9/28/01	11:29
Nickel	231.60	1.5	5.6	48.1		1	ICP	9/28/01	11:29
Potassium	766.49	61.4	701	432	B	1	ICP	9/28/01	11:29
Selenium	220.35	0.63	0.70	1.4		1	ICPST	9/28/01	17:31
Silver	328.07	0.12	0.70	15.2	N*	1	ICPST	9/28/01	17:31
Sodium	589	1.7	701	168	B	1	ICP	9/28/01	11:29
Thallium	190.86	1.1	1.4	1.1	U	1	ICPST	10/2/01	15:29
Vanadium	292.40	0.35	7.0	11.0		1	ICP	9/28/01	11:29
Zinc	213.86	0.34	2.8	745	*	1	ICP	9/28/01	11:29

Comments: Lot #: C1I060259 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ5FL **Client ID:** NTC17BBSD5405

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 23.50

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.8	26.1	5110		1	ICP	9/28/01	11:32
Antimony	220.35	0.39	1.3	2.3	N	1	ICPST	9/28/01	17:45
Arsenic	189.04	0.34	1.3	9.7		1	ICPST	9/28/01	17:45
Barium	493.41	0.048	26.1	61.5		1	ICP	9/28/01	11:32
Beryllium	313.04	0.022	0.65	0.75		1	ICP	9/28/01	11:32
Cadmium	226.50	0.051	0.65	4.2	N*	1	ICPST	9/28/01	17:45
Calcium	317.93	1.7	654	61900		1	ICP	9/28/01	11:32
Chromium	267.72	0.13	0.65	32.8		1	ICPST	9/28/01	17:45
Cobalt	228.62	0.38	6.5	9.3		1	ICP	9/28/01	11:32
Copper	324.75	0.31	3.3	737	N*	1	ICP	9/28/01	11:32
Iron	259.94	0.64	131	18500		1	ICP	9/28/01	11:32
Lead	220.35	0.24	0.39	334	N*	1	ICPST	9/28/01	17:45
Magnesium	279.08	2.8	654	31200	N*	1	ICP	9/28/01	11:32
Manganese	257.61	0.12	2.0	532	*	1	ICP	9/28/01	11:32
Nickel	231.60	1.4	5.2	61.0		1	ICP	9/28/01	11:32
Potassium	766.49	57.3	654	793		1	ICP	9/28/01	11:32
Selenium	220.35	0.59	0.65	1.7		1	ICPST	9/28/01	17:45
Silver	328.07	0.11	0.65	20.1	N*	1	ICPST	9/28/01	17:45
Sodium	589	1.6	654	199	B	1	ICP	9/28/01	11:32
Thallium	190.86	1.0	1.3	1.0	U	1	ICPST	10/2/01	15:34
Vanadium	292.40	0.33	6.5	16.3		1	ICP	9/28/01	11:32
Zinc	213.86	0.31	2.6	1320	*	1	ICP	9/28/01	11:32

Comments: Lot #: C1I060259 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ741 **Client ID:** NTC17BBSD5101

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 21.25

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**2.7**	**25.4**	**2280**		**1**	**ICP**	**9/28/01**	**11:57**
Antimony	220.35	0.38	1.3	0.38	UN	1	ICPST	9/28/01	18:11
Arsenic	**189.04**	**0.33**	**1.3**	**5.1**		**1**	**ICPST**	**9/28/01**	**18:11**
Barium	**493.41**	**0.047**	**25.4**	**25.0**	**B**	**1**	**ICP**	**9/28/01**	**11:57**
Beryllium	**313.04**	**0.022**	**0.64**	**1.7**		**1**	**ICP**	**9/28/01**	**11:57**
Cadmium	**226.50**	**0.050**	**0.64**	**0.57**	**BN***	**1**	**ICPST**	**9/28/01**	**18:11**
Calcium	**317.93**	**1.7**	**635**	**60900**		**1**	**ICP**	**9/28/01**	**11:57**
Chromium	**267.72**	**0.12**	**0.64**	**12.4**		**1**	**ICPST**	**9/28/01**	**18:11**
Cobalt	**228.62**	**0.37**	**6.4**	**4.5**	**B**	**1**	**ICP**	**9/28/01**	**11:57**
Copper	**324.75**	**0.31**	**3.2**	**83.1**	**N***	**1**	**ICP**	**9/28/01**	**11:57**
Iron	**259.94**	**0.62**	**127**	**11500**		**1**	**ICP**	**9/28/01**	**11:57**
Lead	**220.35**	**0.23**	**0.38**	**77.3**	**N***	**1**	**ICPST**	**9/28/01**	**18:11**
Magnesium	**279.08**	**2.7**	**635**	**24900**	**N***	**1**	**ICP**	**9/28/01**	**11:57**
Manganese	**257.61**	**0.11**	**1.9**	**368**	*	**1**	**ICP**	**9/28/01**	**11:57**
Nickel	**231.60**	**1.3**	**5.1**	**15.6**		**1**	**ICP**	**9/28/01**	**11:57**
Potassium	**766.49**	**55.6**	**635**	**304**	**B**	**1**	**ICP**	**9/28/01**	**11:57**
Selenium	220.35	0.57	0.64	0.57	U	1	ICPST	9/28/01	18:11
Silver	**328.07**	**0.11**	**0.64**	**0.56**	**BN***	**1**	**ICPST**	**9/28/01**	**18:11**
Sodium	**589**	**1.5**	**635**	**217**	**B**	**1**	**ICP**	**9/28/01**	**11:57**
Thallium	190.86	1.0	1.3	1.0	U	1	ICPST	10/2/01	16:09
Vanadium	**292.40**	**0.32**	**6.4**	**9.8**		**1**	**ICP**	**9/28/01**	**11:57**
Zinc	**213.86**	**0.31**	**2.5**	**623**	*	**1**	**ICP**	**9/28/01**	**11:57**

Comments: Lot #: C1I070323 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ743 **Client ID:** NTC17BBSD5103

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 25.27

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.8	26.8	2310		1	ICP	9/28/01	12:00
Antimony	220.35	0.40	1.3	0.55	BN	1	ICPST	9/28/01	18:15
Arsenic	189.04	0.35	1.3	5.8		1	ICPST	9/28/01	18:15
Barium	493.41	0.050	26.8	20.2	B	1	ICP	9/28/01	12:00
Beryllium	313.04	0.023	0.67	0.35	B	1	ICP	9/28/01	12:00
Cadmium	226.50	0.052	0.67	0.81	N*	1	ICPST	9/28/01	18:15
Calcium	317.93	1.8	669	67800		1	ICP	9/28/01	12:00
Chromium	267.72	0.13	0.67	14.1		1	ICPST	9/28/01	18:15
Cobalt	228.62	0.39	6.7	5.4	B	1	ICP	9/28/01	12:00
Copper	324.75	0.32	3.4	86.4	N*	1	ICP	9/28/01	12:00
Iron	259.94	0.66	134	11000		1	ICP	9/28/01	12:00
Lead	220.35	0.24	0.40	78.9	N*	1	ICPST	9/28/01	18:15
Magnesium	279.08	2.9	669	33900	N*	1	ICP	9/28/01	12:00
Manganese	257.61	0.12	2.0	463	*	1	ICP	9/28/01	12:00
Nickel	231.60	1.4	5.4	16.3		1	ICP	9/28/01	12:00
Potassium	766.49	58.6	669	325	B	1	ICP	9/28/01	12:00
Selenium	220.35	0.60	0.67	0.60	U	1	ICPST	9/28/01	18:15
Silver	328.07	0.12	0.67	2.3	N*	1	ICPST	9/28/01	18:15
Sodium	589	1.6	669	183	B	1	ICP	9/28/01	12:00
Thallium	190.86	1.1	1.3	1.1	U	1	ICPST	10/2/01	16:13
Vanadium	292.40	0.34	6.7	10.2		1	ICP	9/28/01	12:00
Zinc	213.86	0.32	2.7	319	*	1	ICP	9/28/01	12:00

Comments: Lot #: C1I070323 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ744 **Client ID:** NTC17BBSD5104

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 29.76

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.0	28.5	3560		1	ICP	9/28/01	12:03
Antimony	220.35	0.43	1.4	0.82	BN	1	ICPST	9/28/01	18:20
Arsenic	189.04	0.37	1.4	7.9		1	ICPST	9/28/01	18:20
Barium	493.41	0.053	28.5	69.8		1	ICP	9/28/01	12:03
Beryllium	313.04	0.024	0.71	0.44	B	1	ICP	9/28/01	12:03
Cadmium	226.50	0.056	0.71	1.9	N*	1	ICPST	9/28/01	18:20
Calcium	317.93	1.9	712	69600		1	ICP	9/28/01	12:03
Chromium	267.72	0.14	0.71	16.3		1	ICPST	9/28/01	18:20
Cobalt	228.62	0.41	7.1	7.3		1	ICP	9/28/01	12:03
Copper	324.75	0.34	3.6	181	N*	1	ICP	9/28/01	12:03
Iron	259.94	0.70	142	12900		1	ICP	9/28/01	12:03
Lead	220.35	0.26	0.43	226	N*	1	ICPST	9/28/01	18:20
Magnesium	279.08	3.1	712	34800	N*	1	ICP	9/28/01	12:03
Manganese	257.61	0.13	2.1	525	*	1	ICP	9/28/01	12:03
Nickel	231.60	1.5	5.7	60.3		1	ICP	9/28/01	12:03
Potassium	766.49	62.4	712	484	B	1	ICP	9/28/01	12:03
Selenium	220.35	0.64	0.71	0.64	U	1	ICPST	9/28/01	18:20
Silver	328.07	0.12	0.71	3.2	N*	1	ICPST	9/28/01	18:20
Sodium	589	1.7	712	191	B	1	ICP	9/28/01	12:03
Thallium	190.86	1.1	1.4	1.1	U	1	ICPST	10/2/01	16:18
Vanadium	292.40	0.36	7.1	12.4		1	ICP	9/28/01	12:03
Zinc	213.86	0.34	2.9	590	*	1	ICP	9/28/01	12:03

Comments: Lot #: C1I070323 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ746 **Client ID:** NTC17BBSD5105

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 30.23

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.0	28.7	5530		1	ICP	9/28/01	12:06
Antimony	220.35	0.43	1.4	0.74	BN	1	ICPST	9/28/01	18:24
Arsenic	189.04	0.37	1.4	12.6		1	ICPST	9/28/01	18:24
Barium	493.41	0.053	28.7	79.4		1	ICP	9/28/01	12:06
Beryllium	313.04	0.024	0.72	0.78		1	ICP	9/28/01	12:06
Cadmium	226.50	0.056	0.72	7.7	N*	1	ICPST	9/28/01	18:24
Calcium	317.93	1.9	717	64700		1	ICP	9/28/01	12:06
Chromium	267.72	0.14	0.72	51.7		1	ICPST	9/28/01	18:24
Cobalt	228.62	0.42	7.2	10.4		1	ICP	9/28/01	12:06
Copper	324.75	0.34	3.6	592	N*	1	ICP	9/28/01	12:06
Iron	259.94	0.70	143	16500		1	ICP	9/28/01	12:06
Lead	220.35	0.26	0.43	328	N*	1	ICPST	9/28/01	18:24
Magnesium	279.08	3.1	717	31700	N*	1	ICP	9/28/01	12:06
Manganese	257.61	0.13	2.2	538	*	1	ICP	9/28/01	12:06
Nickel	231.60	1.5	5.7	158		1	ICP	9/28/01	12:06
Potassium	766.49	62.8	717	741		1	ICP	9/28/01	12:06
Selenium	220.35	0.65	0.72	2.8		1	ICPST	9/28/01	18:24
Silver	328.07	0.13	0.72	62.5	N*	1	ICPST	9/28/01	18:24
Sodium	589	1.7	717	215	B	1	ICP	9/28/01	12:06
Thallium	190.86	1.1	1.4	1.1	U	1	ICPST	10/2/01	16:22
Vanadium	292.40	0.36	7.2	16.5		1	ICP	9/28/01	12:06
Zinc	213.86	0.34	2.9	967	*	1	ICP	9/28/01	12:06

Comments: Lot #: C1I070323 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ749 **Client ID:** NTC17BBSD5301

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 21.27

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.7	25.4	1300		1	ICP	9/28/01	12:10
Antimony	220.35	0.38	1.3	0.47	BN	1	ICPST	9/28/01	18:37
Arsenic	189.04	0.33	1.3	3.4		1	ICPST	9/28/01	18:37
Barium	493.41	0.047	25.4	16.6	B	1	ICP	9/28/01	12:10
Beryllium	313.04	0.022	0.64	0.33	B	1	ICP	9/28/01	12:10
Cadmium	226.50	0.050	0.64	0.40	BN*	1	ICPST	9/28/01	18:37
Calcium	317.93	1.7	635	46600		1	ICP	9/28/01	12:10
Chromium	267.72	0.12	0.64	9.7		1	ICPST	9/28/01	18:37
Cobalt	228.62	0.37	6.4	3.7	B	1	ICP	9/28/01	12:10
Copper	324.75	0.31	3.2	55.5	N*	1	ICP	9/28/01	12:10
Iron	259.94	0.62	127	7410		1	ICP	9/28/01	12:10
Lead	220.35	0.23	0.38	47.6	N*	1	ICPST	9/28/01	18:37
Magnesium	279.08	2.7	635	24000	N*	1	ICP	9/28/01	12:10
Manganese	257.61	0.11	1.9	279	*	1	ICP	9/28/01	12:10
Nickel	231.60	1.3	5.1	10.4		1	ICP	9/28/01	12:10
Potassium	766.49	55.6	635	180	B	1	ICP	9/28/01	12:10
Selenium	220.35	0.57	0.64	0.57	U	1	ICPST	9/28/01	18:37
Silver	328.07	0.11	0.64	0.58	BN*	1	ICPST	9/28/01	18:37
Sodium	589	1.5	635	136	B	1	ICP	9/28/01	12:10
Thallium	190.86	1.0	1.3	1.0	U	1	ICPST	10/2/01	16:26
Vanadium	292.40	0.32	6.4	6.0	B	1	ICP	9/28/01	12:10
Zinc	213.86	0.31	2.5	255	*	1	ICP	9/28/01	12:10

Comments: Lot #: C1I070323 Sample #: 9

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74D **Client ID:** NTC17BBSD4701

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 17.18

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**2.6**	**24.2**	**2730**		**1**	**ICP**	**9/28/01**	**11:38**
Antimony	220.35	0.36	1.2	0.36	UN	1	ICPST	9/28/01	17:53
Arsenic	**189.04**	**0.31**	**1.2**	**5.5**		**1**	**ICPST**	**9/28/01**	**17:53**
Barium	**493.41**	**0.045**	**24.2**	**17.2**	**B**	**1**	**ICP**	**9/28/01**	**11:38**
Beryllium	**313.04**	**0.021**	**0.60**	**0.41**	**B**	**1**	**ICP**	**9/28/01**	**11:38**
Cadmium	**226.50**	**0.047**	**0.60**	**0.36**	**BN***	**1**	**ICPST**	**9/28/01**	**17:53**
Calcium	**317.93**	**1.6**	**604**	**45300**		**1**	**ICP**	**9/28/01**	**11:38**
Chromium	**267.72**	**0.12**	**0.60**	**10.8**		**1**	**ICPST**	**9/28/01**	**17:53**
Cobalt	**228.62**	**0.35**	**6.0**	**4.8**	**B**	**1**	**ICP**	**9/28/01**	**11:38**
Copper	**324.75**	**0.29**	**3.0**	**90.0**	**N***	**1**	**ICP**	**9/28/01**	**11:38**
Iron	**259.94**	**0.59**	**121**	**10400**		**1**	**ICP**	**9/28/01**	**11:38**
Lead	**220.35**	**0.22**	**0.36**	**66.7**	**N***	**1**	**ICPST**	**9/28/01**	**17:53**
Magnesium	**279.08**	**2.6**	**604**	**22000**	**N***	**1**	**ICP**	**9/28/01**	**11:38**
Manganese	**257.61**	**0.11**	**1.8**	**324**	*	**1**	**ICP**	**9/28/01**	**11:38**
Nickel	**231.60**	**1.3**	**4.8**	**16.8**		**1**	**ICP**	**9/28/01**	**11:38**
Potassium	**766.49**	**52.9**	**604**	**368**	**B**	**1**	**ICP**	**9/28/01**	**11:38**
Selenium	220.35	0.54	0.60	0.54	U	1	ICPST	9/28/01	17:53
Silver	**328.07**	**0.11**	**0.60**	**0.33**	**BN***	**1**	**ICPST**	**9/28/01**	**17:53**
Sodium	**589**	**1.4**	**604**	**196**	**B**	**1**	**ICP**	**9/28/01**	**11:38**
Thallium	190.86	0.95	1.2	0.95	U	1	ICPST	10/2/01	15:42
Vanadium	**292.40**	**0.30**	**6.0**	**7.6**		**1**	**ICP**	**9/28/01**	**11:38**
Zinc	**213.86**	**0.29**	**2.4**	**535**	*	**1**	**ICP**	**9/28/01**	**11:38**

Comments: Lot #: C1I070323 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74P **Client ID:** NTC17BBSD4703

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 28.73

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.0	28.1	3980		1	ICP	9/28/01	11:47
Antimony	220.35	0.42	1.4	0.88	BN	1	ICPST	9/28/01	17:58
Arsenic	189.04	0.37	1.4	7.4		1	ICPST	9/28/01	17:58
Barium	493.41	0.052	28.1	43.0		1	ICP	9/28/01	11:47
Beryllium	313.04	0.024	0.70	0.46	B	1	ICP	9/28/01	11:47
Cadmium	226.50	0.055	0.70	1.7	N*	1	ICPST	9/28/01	17:58
Calcium	317.93	1.8	702	71500		1	ICP	9/28/01	11:47
Chromium	267.72	0.14	0.70	21.6		1	ICPST	9/28/01	17:58
Cobalt	228.62	0.41	7.0	7.1		1	ICP	9/28/01	11:47
Copper	324.75	0.34	3.5	177	N*	1	ICP	9/28/01	11:47
Iron	259.94	0.69	140	13800		1	ICP	9/28/01	11:47
Lead	220.35	0.25	0.42	189	N*	1	ICPST	9/28/01	17:58
Magnesium	279.08	3.0	702	35400	N*	1	ICP	9/28/01	11:47
Manganese	257.61	0.13	2.1	519	*	1	ICP	9/28/01	11:47
Nickel	231.60	1.5	5.6	21.0		1	ICP	9/28/01	11:47
Potassium	766.49	61.5	702	603	B	1	ICP	9/28/01	11:47
Selenium	220.35	0.63	0.70	0.86		1	ICPST	9/28/01	17:58
Silver	328.07	0.12	0.70	3.7	N*	1	ICPST	9/28/01	17:58
Sodium	589	1.7	702	250	B	1	ICP	9/28/01	11:47
Thallium	190.86	1.1	1.4	1.1	U	1	ICPST	10/2/01	15:47
Vanadium	292.40	0.35	7.0	13.8		1	ICP	9/28/01	11:47
Zinc	213.86	0.34	2.8	653	*	1	ICP	9/28/01	11:47

Comments: Lot #: C1I070323 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74Q **Client ID:** NTC17BBSD4704

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 30.25

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.0	28.7	6700		1	ICP	9/28/01	11:51
Antimony	220.35	0.43	1.4	1.3	BN	1	ICPST	9/28/01	18:02
Arsenic	189.04	0.37	1.4	12.6		1	ICPST	9/28/01	18:02
Barium	493.41	0.053	28.7	77.6		1	ICP	9/28/01	11:51
Beryllium	313.04	0.024	0.72	0.97		1	ICP	9/28/01	11:51
Cadmium	226.50	0.056	0.72	7.4	N*	1	ICPST	9/28/01	18:02
Calcium	317.93	1.9	717	81300		1	ICP	9/28/01	11:51
Chromium	267.72	0.14	0.72	43.7		1	ICPST	9/28/01	18:02
Cobalt	228.62	0.42	7.2	12.3		1	ICP	9/28/01	11:51
Copper	324.75	0.34	3.6	573	N*	1	ICP	9/28/01	11:51
Iron	259.94	0.70	143	19700		1	ICP	9/28/01	11:51
Lead	220.35	0.26	0.43	392	N*	1	ICPST	9/28/01	18:02
Magnesium	279.08	3.1	717	40200	N*	1	ICP	9/28/01	11:51
Manganese	257.61	0.13	2.2	625	*	1	ICP	9/28/01	11:51
Nickel	231.60	1.5	5.7	154		1	ICP	9/28/01	11:51
Potassium	766.49	62.8	717	923		1	ICP	9/28/01	11:51
Selenium	220.35	0.65	0.72	2.6		1	ICPST	9/28/01	18:02
Silver	328.07	0.13	0.72	43.8	N*	1	ICPST	9/28/01	18:02
Sodium	589	1.7	717	250	B	1	ICP	9/28/01	11:51
Thallium	190.86	1.1	1.4	1.1	U	1	ICPST	10/2/01	16:00
Vanadium	292.40	0.36	7.2	19.8		1	ICP	9/28/01	11:51
Zinc	213.86	0.34	2.9	1310	*	1	ICP	9/28/01	11:51

Comments: Lot #: C1I070323 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74V **Client ID:** NTC17BBSD4705

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 29.51

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.0	28.4	6920		1	ICP	9/28/01	11:54
Antimony	220.35	0.43	1.4	6.2	N	1	ICPST	9/28/01	18:07
Arsenic	189.04	0.37	1.4	19.9		1	ICPST	9/28/01	18:07
Barium	493.41	0.053	28.4	177		1	ICP	9/28/01	11:54
Beryllium	313.04	0.024	0.71	0.80		1	ICP	9/28/01	11:54
Cadmium	226.50	0.055	0.71	26.0	N*	1	ICPST	9/28/01	18:07
Calcium	317.93	1.9	709	54000		1	ICP	9/28/01	11:54
Chromium	267.72	0.14	0.71	147		1	ICPST	9/28/01	18:07
Cobalt	228.62	0.41	7.1	20.1		1	ICP	9/28/01	11:54
Copper	324.75	0.34	3.6	948	N*	1	ICP	9/28/01	11:54
Iron	259.94	0.70	142	22300		1	ICP	9/28/01	11:54
Lead	220.35	0.26	0.43	451	N*	1	ICPST	9/28/01	18:07
Magnesium	279.08	3.0	709	25400	N*	1	ICP	9/28/01	11:54
Manganese	257.61	0.13	2.1	874	*	1	ICP	9/28/01	11:54
Nickel	231.60	1.5	5.7	139		1	ICP	9/28/01	11:54
Potassium	766.49	62.1	709	881		1	ICP	9/28/01	11:54
Selenium	220.35	0.64	0.71	2.6		1	ICPST	9/28/01	18:07
Silver	328.07	0.12	0.71	11.5	N*	1	ICPST	9/28/01	18:07
Sodium	589	1.7	709	266	B	1	ICP	9/28/01	11:54
Thallium	190.86	1.1	1.4	1.1	U	1	ICPST	10/2/01	16:04
Vanadium	292.40	0.36	7.1	18.7		1	ICP	9/28/01	11:54
Zinc	213.86	0.34	2.8	1290	*	1	ICP	9/28/01	11:54

Comments: Lot #: C1I070323 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ754 **Client ID:** NTC17BBSD05003

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 19.03

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	24.7	3200		1	ICP	9/28/01	12:44
Antimony	220.35	0.37	1.2	0.83	BN	1	ICPST	9/28/01	19:17
Arsenic	189.04	0.32	1.2	7.4		1	ICPST	9/28/01	19:17
Barium	493.41	0.046	24.7	30.9		1	ICP	9/28/01	12:44
Beryllium	313.04	0.021	0.62	1.3		1	ICP	9/28/01	12:44
Cadmium	226.50	0.048	0.62	2.0	N*	1	ICPST	9/28/01	19:17
Calcium	317.93	1.6	618	47000		1	ICP	9/28/01	12:44
Chromium	267.72	0.12	0.62	13.5		1	ICPST	9/28/01	19:17
Cobalt	228.62	0.36	6.2	7.6		1	ICP	9/28/01	12:44
Copper	324.75	0.30	3.1	284	N*	1	ICP	9/28/01	12:44
Iron	259.94	0.61	124	12400		1	ICP	9/28/01	12:44
Lead	220.35	0.22	0.37	173	N*	1	ICPST	9/28/01	19:17
Magnesium	279.08	2.6	618	23300	N*	1	ICP	9/28/01	12:44
Manganese	257.61	0.11	1.9	389	*	1	ICP	9/28/01	12:44
Nickel	231.60	1.3	4.9	48.6		1	ICP	9/28/01	12:44
Potassium	766.49	54.1	618	454	B	1	ICP	9/28/01	12:44
Selenium	220.35	0.56	0.62	0.62		1	ICPST	9/28/01	19:17
Silver	328.07	0.11	0.62	4.7	N*	1	ICPST	9/28/01	19:17
Sodium	589	1.5	618	219	B	1	ICP	9/28/01	12:44
Thallium	190.86	0.98	1.2	0.98	U	1	ICPST	10/2/01	17:30
Vanadium	292.40	0.31	6.2	11.4		1	ICP	9/28/01	12:44
Zinc	213.86	0.30	2.5	1090	*	1	ICP	9/28/01	12:44

Comments: Lot #: C1I070323 Sample #: 15

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ758 **Client ID:** NTC17BBSD05004

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 20.72

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.7	25.2	3760		1	ICP	9/28/01	12:47
Antimony	220.35	0.38	1.3	0.84	BN	1	ICPST	9/28/01	19:30
Arsenic	189.04	0.33	1.3	10.9		1	ICPST	9/28/01	19:30
Barium	493.41	0.047	25.2	49.6		1	ICP	9/28/01	12:47
Beryllium	313.04	0.021	0.63	0.69		1	ICP	9/28/01	12:47
Cadmium	226.50	0.049	0.63	3.2	N*	1	ICPST	9/28/01	19:30
Calcium	317.93	1.7	631	45000		1	ICP	9/28/01	12:47
Chromium	267.72	0.12	0.63	26.3		1	ICPST	9/28/01	19:30
Cobalt	228.62	0.37	6.3	8.2		1	ICP	9/28/01	12:47
Copper	324.75	0.30	3.2	357	N*	1	ICP	9/28/01	12:47
Iron	259.94	0.62	126	12600		1	ICP	9/28/01	12:47
Lead	220.35	0.23	0.38	200	N*	1	ICPST	9/28/01	19:30
Magnesium	279.08	2.7	631	22000	N*	1	ICP	9/28/01	12:47
Manganese	257.61	0.11	1.9	381	*	1	ICP	9/28/01	12:47
Nickel	231.60	1.3	5.1	88.4		1	ICP	9/28/01	12:47
Potassium	766.49	55.3	631	588	B	1	ICP	9/28/01	12:47
Selenium	220.35	0.57	0.63	1.3		1	ICPST	9/28/01	19:30
Silver	328.07	0.11	0.63	25.2	N*	1	ICPST	9/28/01	19:30
Sodium	589	1.5	631	167	B	1	ICP	9/28/01	12:47
Thallium	190.86	1.0	1.3	1.0	U	1	ICPST	10/2/01	17:34
Vanadium	292.40	0.32	6.3	12.1		1	ICP	9/28/01	12:47
Zinc	213.86	0.30	2.5	755	*	1	ICP	9/28/01	12:47

Comments: Lot #: C1I070323 Sample #: 16

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ75C **Client ID:** NTC17BBSD5303

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 30.76

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.1	28.9	4040		1	ICP	9/28/01	12:13
Antimony	220.35	0.43	1.4	1.1	BN	1	ICPST	9/28/01	18:42
Arsenic	189.04	0.38	1.4	8.6		1	ICPST	9/28/01	18:42
Barium	493.41	0.053	28.9	43.9		1	ICP	9/28/01	12:13
Beryllium	313.04	0.025	0.72	0.46	B	1	ICP	9/28/01	12:13
Cadmium	226.50	0.056	0.72	1.9	N*	1	ICPST	9/28/01	18:42
Calcium	317.93	1.9	722	70200		1	ICP	9/28/01	12:13
Chromium	267.72	0.14	0.72	20.8		1	ICPST	9/28/01	18:42
Cobalt	228.62	0.42	7.2	7.2	B	1	ICP	9/28/01	12:13
Copper	324.75	0.35	3.6	199	N*	1	ICP	9/28/01	12:13
Iron	259.94	0.71	144	13800		1	ICP	9/28/01	12:13
Lead	220.35	0.26	0.43	201	N*	1	ICPST	9/28/01	18:42
Magnesium	279.08	3.1	722	34900	N*	1	ICP	9/28/01	12:13
Manganese	257.61	0.13	2.2	515	*	1	ICP	9/28/01	12:13
Nickel	231.60	1.5	5.8	21.6		1	ICP	9/28/01	12:13
Potassium	766.49	63.3	722	573	B	1	ICP	9/28/01	12:13
Selenium	220.35	0.65	0.72	1.0		1	ICPST	9/28/01	18:42
Silver	328.07	0.13	0.72	3.0	N*	1	ICPST	9/28/01	18:42
Sodium	589	1.7	722	211	B	1	ICP	9/28/01	12:13
Thallium	190.86	1.1	1.4	1.1	U	1	ICPST	10/2/01	16:31
Vanadium	292.40	0.36	7.2	13.1		1	ICP	9/28/01	12:13
Zinc	213.86	0.35	2.9	591	*	1	ICP	9/28/01	12:13

Comments: Lot #: C1I070323 Sample #: 10

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ75G **Client ID:** NTC17BBSD5304

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 30.04

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.0	28.6	8160		1	ICP	9/28/01	12:16
Antimony	220.35	0.43	1.4	0.99	BN	1	ICPST	9/28/01	18:46
Arsenic	189.04	0.37	1.4	11.3		1	ICPST	9/28/01	18:46
Barium	493.41	0.053	28.6	72.0		1	ICP	9/28/01	12:16
Beryllium	313.04	0.024	0.72	0.76		1	ICP	9/28/01	12:16
Cadmium	226.50	0.056	0.72	4.0	N*	1	ICPST	9/28/01	18:46
Calcium	317.93	1.9	715	61000		1	ICP	9/28/01	12:16
Chromium	267.72	0.14	0.72	36.3		1	ICPST	9/28/01	18:46
Cobalt	228.62	0.42	7.2	10.3		1	ICP	9/28/01	12:16
Copper	324.75	0.34	3.6	401	N*	1	ICP	9/28/01	12:16
Iron	259.94	0.70	143	18900		1	ICP	9/28/01	12:16
Lead	220.35	0.26	0.43	400	N*	1	ICPST	9/28/01	18:46
Magnesium	279.08	3.1	715	30400	N*	1	ICP	9/28/01	12:16
Manganese	257.61	0.13	2.1	524	*	1	ICP	9/28/01	12:16
Nickel	231.60	1.5	5.7	69.4		1	ICP	9/28/01	12:16
Potassium	766.49	62.6	715	1300		1	ICP	9/28/01	12:16
Selenium	220.35	0.64	0.72	1.9		1	ICPST	9/28/01	18:46
Silver	328.07	0.12	0.72	24.6	N*	1	ICPST	9/28/01	18:46
Sodium	589	1.7	715	223	B	1	ICP	9/28/01	12:16
Thallium	190.86	1.1	1.4	1.1	U	1	ICPST	10/2/01	16:35
Vanadium	292.40	0.36	7.2	19.9		1	ICP	9/28/01	12:16
Zinc	213.86	0.34	2.9	1040	*	1	ICP	9/28/01	12:16

Comments: Lot #: C1I070323 Sample #: 11

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ75J **Client ID:** NTC17BBSD5305

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 33.61

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.2	30.1	9870		1	ICP	9/28/01	12:25
Antimony	220.35	0.45	1.5	8.0	N	1	ICPST	9/28/01	18:51
Arsenic	189.04	0.39	1.5	28.7		1	ICPST	9/28/01	18:51
Barium	493.41	0.056	30.1	230		1	ICP	9/28/01	12:25
Beryllium	313.04	0.026	0.75	1.5		1	ICP	9/28/01	12:25
Cadmium	226.50	0.059	0.75	9.3	N*	1	ICPST	9/28/01	18:51
Calcium	317.93	2.0	753	68900		1	ICP	9/28/01	12:25
Chromium	267.72	0.15	0.75	61.4		1	ICPST	9/28/01	18:51
Cobalt	228.62	0.44	7.5	17.1		1	ICP	9/28/01	12:25
Copper	324.75	0.36	3.8	378	N*	1	ICP	9/28/01	12:25
Iron	259.94	0.74	151	24600		1	ICP	9/28/01	12:25
Lead	220.35	0.27	0.45	369	N*	1	ICPST	9/28/01	18:51
Magnesium	279.08	3.2	753	32100	N*	1	ICP	9/28/01	12:25
Manganese	257.61	0.13	2.3	1290	*	1	ICP	9/28/01	12:25
Nickel	231.60	1.6	6.0	97.1		1	ICP	9/28/01	12:25
Potassium	766.49	66.0	753	1880		1	ICP	9/28/01	12:25
Selenium	220.35	0.68	0.75	13.4		1	ICPST	9/28/01	18:51
Silver	328.07	0.13	0.75	67.7	N*	1	ICPST	9/28/01	18:51
Sodium	589	1.8	753	376	B	1	ICP	9/28/01	12:25
Thallium	190.86	1.2	1.5	1.2	U	1	ICPST	10/2/01	16:40
Vanadium	292.40	0.38	7.5	27.0		1	ICP	9/28/01	12:25
Zinc	213.86	0.36	3.0	934	*	1	ICP	9/28/01	12:25

Comments: Lot #: C1I070323 Sample #: 12

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ75R **Client ID:** NTC17BBSD05001

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/26/01 **Prep Batch:** 1269146

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 9.13

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.3	22.0	1740		1	ICP	9/28/01	12:32
Antimony	220.35	0.33	1.1	0.45	BN	1	ICPST	9/28/01	18:59
Arsenic	189.04	0.29	1.1	4.9		1	ICPST	9/28/01	18:59
Barium	493.41	0.041	22.0	12.0	B	1	ICP	9/28/01	12:32
Beryllium	313.04	0.019	0.55	0.37	B	1	ICP	9/28/01	12:32
Cadmium	226.50	0.043	0.55	0.37	BN*	1	ICPST	9/28/01	18:59
Calcium	317.93	1.4	550	33500		1	ICP	9/28/01	12:32
Chromium	267.72	0.11	0.55	7.9		1	ICPST	9/28/01	18:59
Cobalt	228.62	0.32	5.5	3.8	B	1	ICP	9/28/01	12:32
Copper	324.75	0.26	2.8	60.6	N*	1	ICP	9/28/01	12:32
Iron	259.94	0.54	110	9110		1	ICP	9/28/01	12:32
Lead	220.35	0.20	0.33	72.6	N*	1	ICPST	9/28/01	18:59
Magnesium	279.08	2.4	550	17200	N*	1	ICP	9/28/01	12:32
Manganese	257.61	0.098	1.7	258	*	1	ICP	9/28/01	12:32
Nickel	231.60	1.1	4.4	13.3		1	ICP	9/28/01	12:32
Potassium	766.49	48.2	550	248	B	1	ICP	9/28/01	12:32
Selenium	220.35	0.50	0.55	0.50	U	1	ICPST	9/28/01	18:59
Silver	328.07	0.096	0.55	0.52	BN*	1	ICPST	9/28/01	18:59
Sodium	589	1.3	550	152	B	1	ICP	9/28/01	12:32
Thallium	190.86	0.87	1.1	0.87	U	1	ICPST	10/2/01	17:08
Vanadium	292.40	0.28	5.5	6.8		1	ICP	9/28/01	12:32
Zinc	213.86	0.26	2.2	387	*	1	ICP	9/28/01	12:32

Comments: Lot #: C1I070323 Sample #: 14

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

NTC Great Lakes, Illinois

Total Organic Carbon

Lab Name:	STL PITTSBURGH	**Method:**	MSA WALKLEY-B
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I060259
Matrix:	SOLID	**Date/Time Received:**	9/6/01 10:15:00AM
		SDG Number:	GL002

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17BBSD5404	001	EJ5EW1A8	20100	mg/kg	70.1	1	9/13/01 -9/13/01	1256129
NTC17BBSD5405	002	EJ5FL1AK	14100	mg/kg	65.4	1	9/13/01 -9/13/01	1256129
NTCFD09050102	003	EJ5FM1AK	19100	mg/kg	72.0	1	9/13/01 -9/13/01	1256129
NTC17BBSD4701	001	EJ74D1A8	1460	mg/kg	60.4	1	9/13/01 -9/13/01	1256129
NTC17BBSD4703	002	EJ74P1AK	15700	mg/kg	70.2	1	9/13/01 -9/13/01	1256129
NTC17BBSD4704	003	EJ74Q1AK	23300	mg/kg	71.7	1	9/13/01 -9/13/01	1256129
NTC17BBSD4705	004	EJ74V1A8	22400	mg/kg	70.9	1	9/13/01 -9/13/01	1256129
NTC17BBSD5101	005	EJ7411AV	6490	mg/kg	63.5	1	9/13/01 -9/13/01	1256129
NTC17BBSD5103	006	EJ7431AV	7010	mg/kg	66.9	1	9/13/01 -9/13/01	1256129
NTC17BBSD5104	007	EJ7441A8	16700	mg/kg	71.2	1	9/13/01 -9/13/01	1256129
NTC17BBSD5105	008	EJ7461AV	25200	mg/kg	71.7	1	9/13/01 -9/13/01	1256129
NTC17BBSD5301	009	EJ7491AK	3660	mg/kg	63.5	1	9/13/01 -9/13/01	1256129
NTC17BBSD5303	010	EJ75C1A9	18800	mg/kg	72.2	1	9/13/01 -9/13/01	1256129
NTC17BBSD5304	011	EJ75G1AV	21800	mg/kg	71.5	1	9/13/01 -9/13/01	1256129
NTC17BBSD5305	012	EJ75J1AV	29600	mg/kg	75.3	1	9/13/01 -9/13/01	1256129
NTCFD09060101	013	EJ75L1AV	5070	mg/kg	62.9	1	9/13/01 -9/13/01	1256129
NTC17BBSD05001	014	EJ75R1CX	2510	mg/kg	55.0	1	9/13/01 -9/13/01	1256129
NTC17BBSD05003	015	EJ7541AV	5480	mg/kg	61.8	1	9/13/01 -9/13/01	1256129
NTC17BBSD05004	016	EJ7581AV	17600	mg/kg	63.1	1	9/13/01 -9/13/01	1256129

NTC Great Lakes, Illinois

pH

Lab Name:	STL PITTSBURGH	**Method:**	SW846 9045C
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I060259
Matrix:	SOLID	**Date/Time Received:**	9/6/01 10:15:00AM
		SDG Number:	GL002

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17BBSD5404	001	EJ5EW1AC	7.1	No Units		1	9/6/01 -9/6/01	1249408
NTC17BBSD5405	002	EJ5FL1AM	7.3	No Units		1	9/6/01 -9/6/01	1249408
NTCFD09050102	003	EJ5FM1AM	7.1	No Units		1	9/6/01 -9/6/01	1249408
NTC17BBSD4701	001	EJ74D1AC	7.8	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD4703	002	EJ74P1AM	7.2	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD4704	003	EJ74Q1AM	7.3	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD4705	004	EJ74V1AC	7.3	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD5101	005	EJ7411AX	7.5	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD5103	006	EJ7431AX	7.4	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD5104	007	EJ7441AC	7.3	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD5105	008	EJ7461AX	7.3	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD5301	009	EJ7491AN	7.4	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD5303	010	EJ75C1AD	7.1	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD5304	011	EJ75G1AX	7.2	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD5305	012	EJ75J1AX	7.2	No Units		1	9/10/01 -9/10/01	1253326
NTCFD09060101	013	EJ75L1AX	7.3	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD05001	014	EJ75R1C5	8.0	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD05003	015	EJ7541AX	7.5	No Units		1	9/10/01 -9/10/01	1253326
NTC17BBSD05004	016	EJ7581AX	7.4	No Units		1	9/10/01 -9/10/01	1253326

NTC Great Lakes, Illinois

Percent Solids

Lab Name:	STL PITTSBURGH	**Method:**	MCAWW 160.3 MOD
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I060259
Matrix:	SOLID	**Date/Time Received:**	9/6/01 10:15:00AM
		SDG Number:	GL002

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17BBSD5404	001	EJ5EW1A7	71.3	%	1.0	1	9/11/01 -9/12/01	1254190
NTC17BBSD5405	002	EJ5FL1AJ	76.5	%	1.0	1	9/11/01 -9/12/01	1254190
NTCFD09050102	003	EJ5FM1AJ	69.4	%	1.0	1	9/11/01 -9/12/01	1254190
NTC17BBSD4701	001	EJ74D1A7	82.8	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD4703	002	EJ74P1AJ	71.3	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD4704	003	EJ74Q1AJ	69.8	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD4705	004	EJ74V1A7	70.5	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD5101	005	EJ7411AU	78.8	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD5103	006	EJ7431AU	74.7	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD5104	007	EJ7441A7	70.2	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD5105	008	EJ7461AU	69.8	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD5301	009	EJ7491AJ	78.7	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD5303	010	EJ75C1A8	69.2	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD5304	011	EJ75G1AU	70.0	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD5305	012	EJ75J1AU	66.4	%	1.0	1	9/10/01 -9/11/01	1253187
NTCFD09060101	013	EJ75L1AU	79.6	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD05001	014	EJ75R1CW	90.9	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD05003	015	EJ7541AU	81.0	%	1.0	1	9/10/01 -9/11/01	1253187
NTC17BBSD05004	016	EJ7581AU	79.3	%	1.0	1	9/10/01 -9/11/01	1253187

Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	NTC17BBSD5303
Client Reference	NTC GREAT LAKES C1I070323	Depth (ft)	SDG GL002
Project No.	2001-270-01	Sample No.	10
Lab ID	2001-270-01-01	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	2450	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	1227.60	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	925.80	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	100.36	Weight of Tare (gm)	NA
Weight of Water (gm)	301.80	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	825.44	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**36.6**	**Moisture Content (%)**	**NA**

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	825.44
Dry Weight - 3/4" Sample (gm)	417.24	Weight of minus #200 material (gm)	408.20
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	417.24
Dry Weight + 3/4" Sample (gm)	0.00		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	**Accumulated Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	0.00	0.00	0.00	100.00	**100.00**
1/2"	12.5	15.90	1.93	1.93	98.07	**98.07**
3/8"	9.50	1.57	0.19	2.12	97.88	**97.88**
#4	4.75	11.01	1.33	3.45	96.55	**96.55**
#10	2.00	21.93	2.66	6.11	93.89	**93.89**
#20	0.85	27.75	3.36	9.47	90.53	**90.53**
#40	0.425	48.67	5.90	15.37	84.63	**84.63**
#60	0.250	107.95	13.08	28.44	71.56	**71.56**
#140	0.106	142.31	17.24	45.68	54.32	**54.32**
#200	0.075	40.15	4.86	50.55	49.45	**49.45**
Pan	-	408.20	49.45	100.00	-	-

Tested By JR Date 9/14/01 Checked By JMO Date 9/18/01

DCN: CT-S3A DATE:02/06/01 REVISION: 4

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544 Braddock Avenue • East Pittsburgh, PA 15112 • Phone (412) 823-7600 • Fax (412) 823-8999

STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248

SEVERN TRENT SERVICES
STL Burlington

Analytical Report

Severn Trent Laboratories
450 William Pitt Way

Pittsburgh, PA 15238

Attention : Veronica Bortot

Date : 09/17/01
ETR Number : 84664
Project No.: 21000
No. Samples: 2
Arrived : 09/11/01

Case:NTCGL SDG:C1I070323

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, *Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.*
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
464697	NTC17BBSD5104:09/06/01 @1000(Solid)	
AVS	Acid Volatile Sulfide	25.2 f
IN623	Solids, Percent	69.5 c
464698	NTC17BBSD5301:09/06/01 @1315(Solid)	
AVS	Acid Volatile Sulfide	30.8 f
IN623	Solids, Percent	82.5 c

Comments/Notes

f = mg/Kg dry weight
c = %W/W as received

< Last Page > Submitted By : STL Burlington

Kristine Dusablon

U.S. EPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

NTC17BBSD5104

Lab Name: STL BURLINGTON Contract: 21000

Lab Code: STLVT Case No.: NTCGL SAS No.: SDG No.: C1I070323

Matrix (soil/water): SOLID Lab Sample ID: 464697

Level (low/med): LOW Date Received: 09/11/01

% Solids: 69.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-43-9	Cadmium	1.8		E	P
7440-50-8	Copper	210		E	P
7439-92-1	Lead	194		E	P
7439-97-6	Mercury	0.04			CV
7440-02-0	Nickel	17.0		E	P
7440-66-6	Zinc	725			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

NTC17BBSD5301

Lab Name: STL BURLINGTON Contract: 21000

Lab Code: STLVT Case No.: NTCGL SAS No.: SDG No.: C1I070323

Matrix (soil/water): SOLID Lab Sample ID: 464698

Level (low/med): LOW Date Received: 09/11/01

% Solids: 82.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-43-9	Cadmium	0.39		E	P
7440-50-8	Copper	71.7		E	P
7439-92-1	Lead	40.4		E	P
7439-97-6	Mercury	0.05			CV
7440-02-0	Nickel	6.2		E	P
7440-66-6	Zinc	334			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER Lab Sample ID:C1I070109 001
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / mL Date Received: 09/06/01
Work Order: EJ59K1C0 Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/12/01
Moisture %:NA

QC Batch: 1255159

Client Sample Id: NTC17BBSW0601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
67-64-1	**Acetone**	**5.4**	**J B**
71-43-2	Benzene	1.0	U
75-27-4	Bromodichloromethane	1.0	U
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
78-93-3	2-Butanone	5.0	U
75-15-0	Carbon disulfide	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	2.0	U
67-66-3	Chloroform	1.0	U
74-87-3	Chloromethane	2.0	U
110-82-7	Cyclohexane	10	U
124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
75-71-8	Dichlorodifluoromethane	2.0	U
75-34-3	1,1-Dichloroethane	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER Lab Sample ID:C1I070109 001
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / mL Date Received: 09/06/01
Work Order: EJ59K1C0 Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/12/01
Moisture %:NA

QC Batch: 1255159

Client Sample Id: NTC17BBSW0601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
100-41-4	Ethylbenzene	1.0	U
591-78-6	2-Hexanone	5.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	10	U
75-09-2	Methylene chloride	2.0	U
108-87-2	Methylcyclohexane	10	U
108-10-1	4-Methyl-2-pentanone	5.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
127-18-4	Tetrachloroethene	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
75-69-4	Trichlorofluoromethane	2.0	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	10	U
108-88-3	Toluene	1.0	U
75-01-4	Vinyl chloride	2.0	U
1330-20-7	Xylenes (total)	3.0	U
1634-04-4	Methyl tert-butyl ether (MTB	1.0	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER Lab Sample ID:C1I080130 001
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / mL Date Received: 09/08/01
Work Order: EJ8PV1AA Date Extracted:09/17/01
Dilution factor: 1 Date Analyzed: 09/17/01
Moisture %:NA

QC Batch: 1260154

Client Sample Id: NTC17BBSW0501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
67-64-1	**Acetone**	**8.2**	**J**
71-43-2	Benzene	1.0	U
75-27-4	Bromodichloromethane	1.0	U
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
78-93-3	2-Butanone	5.0	U
75-15-0	Carbon disulfide	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	2.0	U
67-66-3	Chloroform	1.0	U
74-87-3	Chloromethane	2.0	U
110-82-7	Cyclohexane	10	U
124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
75-71-8	Dichlorodifluoromethane	2.0	U
75-34-3	1,1-Dichloroethane	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER Lab Sample ID:C1I080130 001
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / mL Date Received: 09/08/01
Work Order: EJ8PV1AA Date Extracted:09/17/01
Dilution factor: 1 Date Analyzed: 09/17/01
Moisture %:NA

QC Batch: 1260154

Client Sample Id: NTC17BBSW0501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
100-41-4	Ethylbenzene	1.0	U
591-78-6	2-Hexanone	5.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	10	U
75-09-2	Methylene chloride	2.0	U
108-87-2	Methylcyclohexane	10	U
108-10-1	4-Methyl-2-pentanone	5.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
127-18-4	Tetrachloroethene	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
75-69-4	Trichlorofluoromethane	2.0	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	10	U
108-88-3	Toluene	1.0	U
75-01-4	Vinyl chloride	2.0	U
1330-20-7	Xylenes (total)	3.0	U
1634-04-4	Methyl tert-butyl ether (MTB	1.0	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER Lab Sample ID:C1I070109 001
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/06/01
Work Order: EJ59K1A6 Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/25/01
Moisture %:NA

QC Batch: 1255342

Client Sample Id: NTC17BBSW0601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
83-32-9	Acenaphthene	10	U
208-96-8	Acenaphthylene	10	U
98-86-2	Acetophenone	10	U
120-12-7	Anthracene	10	U
1912-24-9	Atrazine	10	U
56-55-3	Benzo(a)anthracene	10	U
50-32-8	Benzo(a)pyrene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
191-24-2	Benzo(ghi)perylene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
100-52-7	Benzaldehyde	10	U
92-52-4	1,1'-Biphenyl	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
111-44-4	bis(2-Chloroethyl) ether	10	U
117-81-7	bis(2-Ethylhexyl) phthalate	10	U
101-55-3	4-Bromophenyl phenyl ether	10	U
85-68-7	Butyl benzyl phthalate	10	U
105-60-2	Caprolactam	10	U
86-74-8	Carbazole	10	U
106-47-8	4-Chloroaniline	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-58-7	2-Chloronaphthalene	10	U
95-57-8	2-Chlorophenol	10	U
7005-72-3	4-Chlorophenyl phenyl ether	10	U
218-01-9	Chrysene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
132-64-9	Dibenzofuran	10	U
91-94-1	3,3'-Dichlorobenzidine	50	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER Lab Sample ID:C1I070109 001
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/06/01
Work Order: EJ59K1A6 Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/25/01
Moisture %:NA

QC Batch: 1255342

Client Sample Id: NTC17BBSW0601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
120-83-2	2,4-Dichlorophenol	10	U
84-66-2	Diethyl phthalate	10	U
105-67-9	2,4-Dimethylphenol	10	U
131-11-3	Dimethyl phthalate	10	U
84-74-2	Di-n-butyl phthalate	10	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
51-28-5	2,4-Dinitrophenol	50	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
117-84-0	Di-n-octyl phthalate	10	U
206-44-0	Fluoranthene	10	U
86-73-7	Fluorene	10	U
118-74-1	Hexachlorobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
77-47-4	Hexachlorocyclopentadiene	50	U
67-72-1	Hexachloroethane	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
78-59-1	Isophorone	10	U
91-57-6	2-Methylnaphthalene	10	U
95-48-7	2-Methylphenol	10	U
106-44-5	4-Methylphenol	10	U
91-20-3	Naphthalene	10	U
88-74-4	2-Nitroaniline	50	U
99-09-2	3-Nitroaniline	50	U
100-01-6	4-Nitroaniline	50	U
98-95-3	Nitrobenzene	10	U
88-75-5	2-Nitrophenol	10	U
100-02-7	4-Nitrophenol	50	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER Lab Sample ID:C1I070109 001
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/06/01
Work Order: EJ59K1A6 Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/25/01
Moisture %:NA

QC Batch: 1255342

Client Sample Id: NTC17BBSW0601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
621-64-7	N-Nitrosodi-n-propylamine	10	U
86-30-6	N-Nitrosodiphenylamine	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
108-95-2	Phenol	10	U
129-00-0	Pyrene	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
88-06-2	2,4,6-Trichlorophenol	10	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER Lab Sample ID:C1I080130 001
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/08/01
Work Order: EJ8PV1A7 Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/25/01
Moisture %:NA

QC Batch: 1255342

Client Sample Id: NTC17BBSW0501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
83-32-9	Acenaphthene	10	U
208-96-8	Acenaphthylene	10	U
98-86-2	Acetophenone	10	U
120-12-7	Anthracene	10	U
1912-24-9	Atrazine	10	U
56-55-3	Benzo(a)anthracene	10	U
50-32-8	Benzo(a)pyrene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
191-24-2	Benzo(ghi)perylene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
100-52-7	Benzaldehyde	10	U
92-52-4	1,1'-Biphenyl	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
111-44-4	bis(2-Chloroethyl) ether	10	U
117-81-7	bis(2-Ethylhexyl) phthalate	10	U
101-55-3	4-Bromophenyl phenyl ether	10	U
85-68-7	Butyl benzyl phthalate	10	U
105-60-2	Caprolactam	10	U
86-74-8	Carbazole	10	U
106-47-8	4-Chloroaniline	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-58-7	2-Chloronaphthalene	10	U
95-57-8	2-Chlorophenol	10	U
7005-72-3	4-Chlorophenyl phenyl ether	10	U
218-01-9	Chrysene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
132-64-9	Dibenzofuran	10	U
91-94-1	3,3'-Dichlorobenzidine	50	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Lab Sample ID:C1I080130 001

Sample WT/Vol: 1000 / mL
Work Order: EJ8PV1A7
Dilution factor: 1
Moisture %:NA

Date Received: 09/08/01
Date Extracted:09/12/01
Date Analyzed: 09/25/01

QC Batch: 1255342

Client Sample Id: NTC17BBSW0501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
120-83-2	2,4-Dichlorophenol	10	U
84-66-2	Diethyl phthalate	10	U
105-67-9	2,4-Dimethylphenol	10	U
131-11-3	Dimethyl phthalate	10	U
84-74-2	Di-n-butyl phthalate	10	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
51-28-5	2,4-Dinitrophenol	50	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
117-84-0	Di-n-octyl phthalate	10	U
206-44-0	Fluoranthene	10	U
86-73-7	Fluorene	10	U
118-74-1	Hexachlorobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
77-47-4	Hexachlorocyclopentadiene	50	U
67-72-1	Hexachloroethane	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
78-59-1	Isophorone	10	U
91-57-6	2-Methylnaphthalene	10	U
95-48-7	2-Methylphenol	10	U
106-44-5	4-Methylphenol	10	U
91-20-3	Naphthalene	10	U
88-74-4	2-Nitroaniline	50	U
99-09-2	3-Nitroaniline	50	U
100-01-6	4-Nitroaniline	50	U
98-95-3	Nitrobenzene	10	U
88-75-5	2-Nitrophenol	10	U
100-02-7	4-Nitrophenol	50	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER Lab Sample ID:C1I080130 001
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/08/01
Work Order: EJ8PV1A7 Date Extracted:09/12/01
Dilution factor: 1 Date Analyzed: 09/25/01
Moisture %:NA

QC Batch: 1255342

Client Sample Id: NTC17BBSW0501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
621-64-7	N-Nitrosodi-n-propylamine	10	U
86-30-6	N-Nitrosodiphenylamine	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
108-95-2	Phenol	10	U
129-00-0	Pyrene	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
88-06-2	2,4,6-Trichlorophenol	10	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I070109 001

Sample WT/Vol: 1000 / mL
Work Order: EJ59K1A3
Dilution factor: 1
Moisture %:NA

Date Received: 09/06/01
Date Extracted:09/10/01
Date Analyzed: 09/19/01

QC Batch: 1253509

Client Sample Id: NTC17BBSW0601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.050	U
72-55-9	4,4'-DDE	0.050	U
72-20-8	Endrin	0.050	U
53494-70-5	Endrin ketone	0.050	U
7421-93-4	Endrin aldehyde	0.050	U
33213-65-9	Endosulfan II	0.050	U
72-54-8	4,4'-DDD	0.050	U
1031-07-8	Endosulfan sulfate	0.050	U
50-29-3	4,4'-DDT	0.050	U
72-43-5	Methoxychlor	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.0	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I080130 001

Sample WT/Vol: 1000 / mL
Work Order: EJ8PV1A4
Dilution factor: 1
Moisture %:NA

Date Received: 09/08/01
Date Extracted:09/10/01
Date Analyzed: 09/19/01

QC Batch: 1253509

Client Sample Id: NTC17BBSW0501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	**Endosulfan I**	**0.010**	**J**
60-57-1	**Dieldrin**	**0.0035**	**J P**
72-55-9	**4,4'-DDE**	**0.0046**	**J P**
72-20-8	Endrin	0.050	U
53494-70-5	Endrin ketone	0.050	U
7421-93-4	Endrin aldehyde	0.050	U
33213-65-9	Endosulfan II	0.050	U
72-54-8	4,4'-DDD	0.050	U
1031-07-8	Endosulfan sulfate	0.050	U
50-29-3	4,4'-DDT	0.050	U
72-43-5	Methoxychlor	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.0	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I070109 001

Sample WT/Vol: 1000 / mL
Work Order: EJ59K1A4
Dilution factor: 1
Moisture %:NA

Date Received: 09/06/01
Date Extracted:09/10/01
Date Analyzed: 09/19/01

QC Batch: 1253510

Client Sample Id: NTC17BBSW0601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
12674-11-2	Aroclor 1016	1.0	U
11104-28-2	Aroclor 1221	1.0	U
11141-16-5	Aroclor 1232	1.0	U
53469-21-9	Aroclor 1242	1.0	U
12672-29-6	Aroclor 1248	1.0	U
11097-69-1	Aroclor 1254	1.0	U
11096-82-5	Aroclor 1260	1.0	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL003

Matrix: (soil/water) WATER
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I080130 001

Sample WT/Vol: 1000 / mL
Work Order: EJ8PV1A5
Dilution factor: 1
Moisture %:NA

Date Received: 09/08/01
Date Extracted:09/10/01
Date Analyzed: 09/19/01

QC Batch: 1253510

Client Sample Id: NTC17BBSW0501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
12674-11-2	Aroclor 1016	1.0	U
11104-28-2	Aroclor 1221	1.0	U
11141-16-5	Aroclor 1232	1.0	U
53469-21-9	Aroclor 1242	1.0	U
12672-29-6	Aroclor 1248	1.0	U
11097-69-1	Aroclor 1254	1.0	U
11096-82-5	Aroclor 1260	1.0	U

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ59K **Client ID:** NTC17BBSW0601

Matrix: Water **Units:** ug/L **Prep Date:** 9/19/01 **Prep Batch:** 1262109

Weight: NA **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.047	0.20	0.047	U	1	CVAA	9/19/01	11:01

Comments: Lot #: C1I070109 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ59KF **Client ID:** NTC17BBSW0601F

Matrix: Water **Units:** ug/L **Prep Date:** 9/19/01 **Prep Batch:** 1262109

Weight: NA **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.047	0.20	0.047	U	1	CVAA	9/19/01	11:08

Comments: Lot #: C1I070109 Sample #: 1 DISSOLVED METALS ANALYSIS

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8PV **Client ID:** NTC17BBSW0501

Matrix: Water **Units:** ug/L **Prep Date:** 9/19/01 **Prep Batch:** 1262109

Weight: NA **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.047	0.20	0.047	U	1	CVAA	9/19/01	11:07

Comments: Lot #: C1I080130 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8PVF **Client ID:** NTC17BBSW0501F

Matrix: Water **Units:** ug/L **Prep Date:** 9/19/01 **Prep Batch:** 1262109

Weight: NA **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.047	0.20	0.047	U	1	CVAA	9/19/01	11:13

Comments: Lot #: C1I080130 Sample #: 1 DISSOLVED METALS ANALYSIS

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ59K **Client ID:** NTC17BBSW0601

Matrix: Water **Units:** ug/L **Prep Date:** 9/21/01 **Prep Batch:** 1264164

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**21.1**	**200**	**316**		**1**	**ICP**	**9/27/01**	**19:37**
Antimony	220.35	3.0	10.0	3.0	U	1	ICPST	9/28/01	22:44
Arsenic	**189.04**	**2.6**	**10.0**	**3.7**	**B**	**1**	**ICPST**	**9/28/01**	**22:44**
Barium	**493.41**	**0.37**	**200**	**25.0**	**B**	**1**	**ICP**	**9/27/01**	**19:37**
Beryllium	313.04	0.17	5.0	0.17	U	1	ICP	9/27/01	19:37
Cadmium	226.50	0.39	5.0	0.39	U	1	ICPST	9/28/01	22:44
Calcium	**317.93**	**13.1**	**5000**	**36800**		**1**	**ICP**	**9/27/01**	**19:37**
Chromium	**267.72**	**0.96**	**5.0**	**1.8**	**B**	**1**	**ICPST**	**9/28/01**	**22:44**
Cobalt	228.62	2.9	50.0	2.9	U	1	ICP	9/27/01	19:37
Copper	324.75	2.4	25.0	2.4	U	1	ICP	9/27/01	19:37
Iron	**259.94**	**4.9**	**1000**	**417**	**B**	**1**	**ICP**	**9/27/01**	**19:37**
Lead	220.35	1.8	3.0	1.8	U	1	ICPST	9/28/01	22:44
Magnesium	**279.08**	**21.4**	**5000**	**12600**		**1**	**ICP**	**9/27/01**	**19:37**
Manganese	**257.61**	**0.89**	**15.0**	**18.2**		**1**	**ICP**	**9/27/01**	**19:37**
Nickel	231.60	10.4	40.0	10.4	U	1	ICP	9/27/01	19:37
Potassium	**766.49**	**438**	**5000**	**1270**	**B**	**1**	**ICP**	**9/27/01**	**19:37**
Selenium	220.35	4.5	5.0	4.5	U	1	ICPST	9/28/01	22:44
Sodium	**589**	**11.9**	**5000**	**13100**		**1**	**ICP**	**9/27/01**	**19:37**
Thallium	190.86	7.9	10.0	7.9	U	1	ICPST	10/2/01	20:39
Vanadium	292.40	2.5	50.0	2.5	U	1	ICP	9/27/01	19:37
Zinc	**213.86**	**2.4**	**20.0**	**13.5**	**B**	**1**	**ICP**	**9/27/01**	**19:37**

Comments: Lot #: C1I070109 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ59KF **Client ID:** NTC17BBSW0601F

Matrix: Water **Units:** ug/L **Prep Date:** 9/21/01 **Prep Batch:** 1264164

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**21.1**	**200**	**317**		**1**	**ICP**	**9/27/01**	**19:59**
Antimony	220.35	3.0	10.0	3.0	U	1	ICPST	9/28/01	23:15
Arsenic	**189.04**	**2.6**	**10.0**	**3.6**	**B**	**1**	**ICPST**	**9/28/01**	**23:15**
Barium	**493.41**	**0.37**	**200**	**25.1**	**B**	**1**	**ICP**	**9/27/01**	**19:59**
Beryllium	313.04	0.17	5.0	0.17	U	1	ICP	9/27/01	19:59
Cadmium	226.50	0.39	5.0	0.39	U	1	ICPST	9/28/01	23:15
Calcium	**317.93**	**13.1**	**5000**	**36900**		**1**	**ICP**	**9/27/01**	**19:59**
Chromium	**267.72**	**0.96**	**5.0**	**2.7**	**B**	**1**	**ICPST**	**9/28/01**	**23:15**
Cobalt	228.62	2.9	50.0	2.9	U	1	ICP	9/27/01	19:59
Copper	324.75	2.4	25.0	2.4	U	1	ICP	9/27/01	19:59
Iron	**259.94**	**4.9**	**1000**	**429**	**B**	**1**	**ICP**	**9/27/01**	**19:59**
Lead	**220.35**	**1.8**	**3.0**	**3.3**		**1**	**ICPST**	**9/28/01**	**23:15**
Magnesium	**279.08**	**21.4**	**5000**	**12800**		**1**	**ICP**	**9/27/01**	**19:59**
Manganese	**257.61**	**0.89**	**15.0**	**18.8**		**1**	**ICP**	**9/27/01**	**19:59**
Nickel	231.60	10.4	40.0	10.4	U	1	ICP	9/27/01	19:59
Potassium	**766.49**	**438**	**5000**	**1360**	**B**	**1**	**ICP**	**9/27/01**	**19:59**
Selenium	220.35	4.5	5.0	4.5	U	1	ICPST	9/28/01	23:15
Sodium	**589**	**11.9**	**5000**	**13400**		**1**	**ICP**	**9/27/01**	**19:59**
Thallium	190.86	7.9	10.0	7.9	U	1	ICPST	10/2/01	21:01
Vanadium	292.40	2.5	50.0	2.5	U	1	ICP	9/27/01	19:59
Zinc	**213.86**	**2.4**	**20.0**	**11.9**	**B**	**1**	**ICP**	**9/27/01**	**19:59**

Comments: Lot #: C1I070109 Sample #: 1 DISSOLVED METALS ANALYSIS

Version 4.10.2

U *Result is less than the IDL*

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8PV **Client ID:** NTC17BBSW0501

Matrix: Water **Units:** ug/L **Prep Date:** 9/21/01 **Prep Batch:** 1264164

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**21.1**	**200**	**44.8**	**B**	**1**	**ICP**	**9/27/01**	**19:24**
Antimony	**220.35**	**3.0**	**10.0**	**3.9**	**B**	**1**	**ICPST**	**9/28/01**	**22:27**
Arsenic	**189.04**	**2.6**	**10.0**	**3.8**	**B**	**1**	**ICPST**	**9/28/01**	**22:27**
Barium	**493.41**	**0.37**	**200**	**16.8**	**B**	**1**	**ICP**	**9/27/01**	**19:24**
Beryllium	313.04	0.17	5.0	0.17	U	1	ICP	9/27/01	19:24
Cadmium	226.50	0.39	5.0	0.39	U	1	ICPST	9/28/01	22:27
Calcium	**317.93**	**13.1**	**5000**	**23200**		**1**	**ICP**	**9/27/01**	**19:24**
Chromium	**267.72**	**0.96**	**5.0**	**2.9**	**B**	**1**	**ICPST**	**9/28/01**	**22:27**
Cobalt	228.62	2.9	50.0	2.9	U	1	ICP	9/27/01	19:24
Copper	**324.75**	**2.4**	**25.0**	**6.9**	**B**	**1**	**ICP**	**9/27/01**	**19:24**
Iron	**259.94**	**4.9**	**1000**	**84.4**	**B**	**1**	**ICP**	**9/27/01**	**19:24**
Lead	**220.35**	**1.8**	**3.0**	**3.0**	**B**	**1**	**ICPST**	**9/28/01**	**22:27**
Magnesium	**279.08**	**21.4**	**5000**	**7720**		**1**	**ICP**	**9/27/01**	**19:24**
Manganese	**257.61**	**0.89**	**15.0**	**14.6**	**B**	**1**	**ICP**	**9/27/01**	**19:24**
Nickel	231.60	10.4	40.0	10.4	U	1	ICP	9/27/01	19:24
Potassium	**766.49**	**438**	**5000**	**1980**	**B**	**1**	**ICP**	**9/27/01**	**19:24**
Selenium	220.35	4.5	5.0	4.5	U	1	ICPST	9/28/01	22:27
Sodium	**589**	**11.9**	**5000**	**40200**		**1**	**ICP**	**9/27/01**	**19:24**
Thallium	190.86	7.9	10.0	7.9	U	1	ICPST	10/2/01	20:44
Vanadium	292.40	2.5	50.0	2.5	U	1	ICP	9/27/01	19:24
Zinc	**213.86**	**2.4**	**20.0**	**32.7**		**1**	**ICP**	**9/27/01**	**19:24**

Comments: Lot #: C1I080130 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8PVF **Client ID:** NTC17BBSW0501F

Matrix: Water **Units:** ug/L **Prep Date:** 9/21/01 **Prep Batch:** 1264164

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**21.1**	**200**	**51.3**	**B**	**1**	**ICP**	**9/27/01**	**19:46**
Antimony	**220.35**	**3.0**	**10.0**	**3.2**	**B**	**1**	**ICPST**	**9/28/01**	**22:49**
Arsenic	**189.04**	**2.6**	**10.0**	**4.3**	**B**	**1**	**ICPST**	**9/28/01**	**22:49**
Barium	**493.41**	**0.37**	**200**	**17.1**	**B**	**1**	**ICP**	**9/27/01**	**19:46**
Beryllium	313.04	0.17	5.0	0.17	U	1	ICP	9/27/01	19:46
Cadmium	226.50	0.39	5.0	0.39	U	1	ICPST	9/28/01	22:49
Calcium	**317.93**	**13.1**	**5000**	**23500**		**1**	**ICP**	**9/27/01**	**19:46**
Chromium	**267.72**	**0.96**	**5.0**	**2.5**	**B**	**1**	**ICPST**	**9/28/01**	**22:49**
Cobalt	228.62	2.9	50.0	2.9	U	1	ICP	9/27/01	19:46
Copper	**324.75**	**2.4**	**25.0**	**2.9**	**B**	**1**	**ICP**	**9/27/01**	**19:46**
Iron	**259.94**	**4.9**	**1000**	**78.0**	**B**	**1**	**ICP**	**9/27/01**	**19:46**
Lead	220.35	1.8	3.0	1.8	U	1	ICPST	9/28/01	22:49
Magnesium	**279.08**	**21.4**	**5000**	**7840**		**1**	**ICP**	**9/27/01**	**19:46**
Manganese	**257.61**	**0.89**	**15.0**	**14.6**	**B**	**1**	**ICP**	**9/27/01**	**19:46**
Nickel	231.60	10.4	40.0	10.4	U	1	ICP	9/27/01	19:46
Potassium	**766.49**	**438**	**5000**	**2000**	**B**	**1**	**ICP**	**9/27/01**	**19:46**
Selenium	220.35	4.5	5.0	4.5	U	1	ICPST	9/28/01	22:49
Sodium	**589**	**11.9**	**5000**	**40500**		**1**	**ICP**	**9/27/01**	**19:46**
Thallium	190.86	7.9	10.0	7.9	U	1	ICPST	10/2/01	21:06
Vanadium	292.40	2.5	50.0	2.5	U	1	ICP	9/27/01	19:46
Zinc	**213.86**	**2.4**	**20.0**	**29.0**		**1**	**ICP**	**9/27/01**	**19:46**

Comments: Lot #: C1I080130 Sample #: 1 DISSOLVED METALS ANALYSIS

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ59K **Client ID:** NTC17BBSW0601

Matrix: Water **Units:** ug/L **Prep Date:** 10/1/01 **Prep Batch:** 1274132

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Silver	328.07	0.87	5.0	0.87	U	1	ICPST	10/2/01	21:45

Comments: Lot #: C1I070109 Sample #: 1

Version 4.10.2

U Result is less than the IDL
B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ59KF **Client ID:** NTC17BBSW0601F

Matrix: Water **Units:** ug/L **Prep Date:** 10/1/01 **Prep Batch:** 1274132

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Silver	328.07	0.87	5.0	0.87	U	1	ICPST	10/2/01	21:59

Comments: Lot #: C1I070109 Sample #: 1 DISSOLVED METALS ANALYSIS

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8PV **Client ID:** NTC17BBSW0501

Matrix: Water **Units:** ug/L **Prep Date:** 10/1/01 **Prep Batch:** 1274132

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Silver	328.07	0.87	5.0	0.87	U	1	ICPST	10/2/01	21:50

Comments: Lot #: C1I080130 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8PVF **Client ID:** NTC17BBSW0501F

Matrix: Water **Units:** ug/L **Prep Date:** 10/1/01 **Prep Batch:** 1274132

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Silver	328.07	0.87	5.0	0.87	U	1	ICPST	10/2/01	22:03

Comments: Lot #: C1I080130 Sample #: 1 DISSOLVED METALS ANALYSIS

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 001
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8L31AD Date Extracted:09/15/01
Dilution factor: 5 Date Analyzed: 09/22/01
Moisture %:22

QC Batch: 1258093

Client Sample Id: NTC17BBSD4501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	11	U
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	11	U
319-86-8	delta-BHC	11	U
58-89-9	gamma-BHC (Lindane)	11	U
5103-71-9	alpha-Chlordane	2.6	J P
5103-74-2	gamma-Chlordane	2.4	J P
72-54-8	4,4'-DDD	89	
72-55-9	4,4'-DDE	85	
50-29-3	4,4'-DDT	87	
60-57-1	Dieldrin	3.1	J P
959-98-8	Endosulfan I	0.68	J P
33213-65-9	Endosulfan II	3.6	J P
53494-70-5	Endrin ketone	4.7	J P
1031-07-8	Endosulfan sulfate	11	U
72-20-8	Endrin	11	U
7421-93-4	Endrin aldehyde	11	U
76-44-8	Heptachlor	11	U
1024-57-3	Heptachlor epoxide	11	U
8001-35-2	Toxaphene	430	U
72-43-5	Methoxychlor	110	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 002
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8MJ1AM Date Extracted:09/15/01
Dilution factor: 20 Date Analyzed: 09/22/01
Moisture %:33

QC Batch: 1258093

Client Sample Id: NTC17BBSD4503

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	51	U
319-84-6	alpha-BHC	51	U
319-85-7	beta-BHC	51	U
319-86-8	delta-BHC	51	U
58-89-9	gamma-BHC (Lindane)	51	U
5103-71-9	alpha-Chlordane	22	J
5103-74-2	gamma-Chlordane	12	J P
72-54-8	4,4'-DDD	490	
72-55-9	4,4'-DDE	170	
50-29-3	4,4'-DDT	130	P
60-57-1	Dieldrin	22	J P
959-98-8	Endosulfan I	6.2	J P
33213-65-9	Endosulfan II	6.5	J P
53494-70-5	Endrin ketone	7.1	J P
1031-07-8	Endosulfan sulfate	51	U
72-20-8	Endrin	51	U
7421-93-4	Endrin aldehyde	51	U
76-44-8	Heptachlor	51	U
1024-57-3	Heptachlor epoxide	51	U
8001-35-2	Toxaphene	2000	U
72-43-5	Methoxychlor	510	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 003
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8MM1AD Date Extracted:09/15/01
Dilution factor: 250 Date Analyzed: 09/29/01
Moisture %:36

QC Batch: 1258093

Client Sample Id: NTC17BBSD4504

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	660	U
319-84-6	alpha-BHC	660	U
319-85-7	beta-BHC	660	U
319-86-8	delta-BHC	660	U
58-89-9	gamma-BHC (Lindane)	660	U
5103-71-9	**alpha-Chlordane**	**95**	**J P**
5103-74-2	gamma-Chlordane	660	U
72-54-8	**4,4'-DDD**	**3600**	
72-55-9	**4,4'-DDE**	**410**	**J**
50-29-3	**4,4'-DDT**	**220**	**J P**
60-57-1	**Dieldrin**	**51**	**J P**
959-98-8	Endosulfan I	660	U
33213-65-9	Endosulfan II	660	U
53494-70-5	Endrin ketone	660	U
1031-07-8	Endosulfan sulfate	660	U
72-20-8	Endrin	660	U
7421-93-4	Endrin aldehyde	660	U
76-44-8	Heptachlor	660	U
1024-57-3	Heptachlor epoxide	660	U
8001-35-2	Toxaphene	26000	U
72-43-5	Methoxychlor	6600	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 004
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8MX1AM Date Extracted:09/15/01
Dilution factor: 250 Date Analyzed: 09/29/01
Moisture %:35

QC Batch: 1258093

Client Sample Id: NTC17BBSD4505

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	660	U
319-84-6	alpha-BHC	660	U
319-85-7	beta-BHC	660	U
319-86-8	delta-BHC	660	U
58-89-9	gamma-BHC (Lindane)	660	U
5103-71-9	alpha-Chlordane	660	U
5103-74-2	gamma-Chlordane	660	U
72-54-8	**4,4'-DDD**	**3800**	
72-55-9	**4,4'-DDE**	**540**	**J**
50-29-3	4,4'-DDT	660	U
60-57-1	**Dieldrin**	**77**	**J P**
959-98-8	Endosulfan I	660	U
33213-65-9	Endosulfan II	660	U
53494-70-5	Endrin ketone	660	U
1031-07-8	Endosulfan sulfate	660	U
72-20-8	Endrin	660	U
7421-93-4	Endrin aldehyde	660	U
76-44-8	Heptachlor	660	U
1024-57-3	Heptachlor epoxide	660	U
8001-35-2	Toxaphene	26000	U
72-43-5	Methoxychlor	6600	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I080123 005

Sample WT/Vol: 30 / g
Work Order: EJ8M01AM
Dilution factor: 5
Moisture %:20

Date Received: 09/08/01
Date Extracted:09/15/01
Date Analyzed: 09/22/01

QC Batch: 1258093

Client Sample Id: NTC17BBSD4901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	11	U
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	11	U
319-86-8	delta-BHC	11	U
58-89-9	gamma-BHC (Lindane)	11	U
5103-71-9	alpha-Chlordane	2.3	J
5103-74-2	gamma-Chlordane	1.8	J P
72-54-8	4,4'-DDD	76	
72-55-9	4,4'-DDE	55	
50-29-3	4,4'-DDT	43	
60-57-1	Dieldrin	11	U
959-98-8	Endosulfan I	1.5	J P
33213-65-9	Endosulfan II	2.7	J P
53494-70-5	Endrin ketone	11	U
1031-07-8	Endosulfan sulfate	11	U
72-20-8	Endrin	11	U
7421-93-4	Endrin aldehyde	11	U
76-44-8	Heptachlor	11	U
1024-57-3	Heptachlor epoxide	11	U
8001-35-2	Toxaphene	420	U
72-43-5	Methoxychlor	110	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 006
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8M21AM Date Extracted:09/15/01
Dilution factor: 20 Date Analyzed: 09/22/01
Moisture %:21

QC Batch: 1258093

Client Sample Id: NTC17BBSD4903

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	43	U
319-84-6	alpha-BHC	43	U
319-85-7	beta-BHC	43	U
319-86-8	delta-BHC	43	U
58-89-9	gamma-BHC (Lindane)	43	U
5103-71-9	alpha-Chlordane	7.4	J P
5103-74-2	gamma-Chlordane	6.4	J P
72-54-8	4,4'-DDD	270	
72-55-9	4,4'-DDE	100	
50-29-3	4,4'-DDT	56	
60-57-1	Dieldrin	8.5	J
959-98-8	Endosulfan I	6.4	J
33213-65-9	Endosulfan II	4.6	J
53494-70-5	Endrin ketone	43	U
1031-07-8	Endosulfan sulfate	43	U
72-20-8	Endrin	43	U
7421-93-4	Endrin aldehyde	43	U
76-44-8	Heptachlor	43	U
1024-57-3	Heptachlor epoxide	43	U
8001-35-2	Toxaphene	1700	U
72-43-5	Methoxychlor	11	J

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 007
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8M31AM Date Extracted:09/15/01
Dilution factor: 20 Date Analyzed: 09/22/01
Moisture %:19

QC Batch: 1258093

Client Sample Id: NTC17BBSD4904

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	42	U
319-84-6	alpha-BHC	42	U
319-85-7	beta-BHC	42	U
319-86-8	delta-BHC	42	U
58-89-9	gamma-BHC (Lindane)	42	U
5103-71-9	alpha-Chlordane	16	J
5103-74-2	gamma-Chlordane	8.5	J P
72-54-8	4,4'-DDD	400	
72-55-9	4,4'-DDE	130	
50-29-3	4,4'-DDT	61	
60-57-1	Dieldrin	15	J
959-98-8	Endosulfan I	7.2	J P
33213-65-9	Endosulfan II	9.1	J P
53494-70-5	Endrin ketone	42	U
1031-07-8	Endosulfan sulfate	42	U
72-20-8	Endrin	11	J P
7421-93-4	Endrin aldehyde	42	U
76-44-8	Heptachlor	42	U
1024-57-3	Heptachlor epoxide	42	U
8001-35-2	Toxaphene	1700	U
72-43-5	Methoxychlor	16	J

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 008
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8M41AM Date Extracted:09/15/01
Dilution factor: 30 Date Analyzed: 09/22/01
Moisture %:20

QC Batch: 1258093

Client Sample Id: NTC17BBSD4905

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	64	U
319-84-6	alpha-BHC	64	U
319-85-7	beta-BHC	64	U
319-86-8	delta-BHC	64	U
58-89-9	gamma-BHC (Lindane)	64	U
5103-71-9	alpha-Chlordane	17	J
5103-74-2	gamma-Chlordane	11	J P
72-54-8	4,4'-DDD	640	
72-55-9	4,4'-DDE	150	
50-29-3	4,4'-DDT	60	J
60-57-1	Dieldrin	17	J P
959-98-8	Endosulfan I	15	J
33213-65-9	Endosulfan II	10	J P
53494-70-5	Endrin ketone	64	U
1031-07-8	Endosulfan sulfate	64	U
72-20-8	Endrin	64	U
7421-93-4	Endrin aldehyde	64	U
76-44-8	Heptachlor	64	U
1024-57-3	Heptachlor epoxide	64	U
8001-35-2	Toxaphene	2500	U
72-43-5	Methoxychlor	640	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I070321 001

Sample WT/Vol: 30 / g
Work Order: EJ7371AD
Dilution factor: 40
Moisture %:29

Date Received: 09/07/01
Date Extracted:09/15/01
Date Analyzed: 09/22/01

QC Batch: 1258093

Client Sample Id: NTC17BBSD5005

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	95	U
319-84-6	alpha-BHC	95	U
319-85-7	beta-BHC	95	U
319-86-8	delta-BHC	95	U
58-89-9	gamma-BHC (Lindane)	95	U
5103-71-9	alpha-Chlordane	37	J
5103-74-2	gamma-Chlordane	19	J P
72-54-8	4,4'-DDD	1000	
72-55-9	4,4'-DDE	220	
50-29-3	4,4'-DDT	170	
60-57-1	Dieldrin	39	J
959-98-8	Endosulfan I	20	J
33213-65-9	Endosulfan II	38	J P
53494-70-5	Endrin ketone	95	U
1031-07-8	Endosulfan sulfate	95	U
72-20-8	Endrin	41	J
7421-93-4	Endrin aldehyde	95	U
76-44-8	Heptachlor	95	U
1024-57-3	Heptachlor epoxide	95	U
8001-35-2	Toxaphene	3800	U
72-43-5	Methoxychlor	950	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I070321 002
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74G1AN Date Extracted:09/15/01
Dilution factor: 5 Date Analyzed: 09/22/01
Moisture %:16

QC Batch: 1258093

Client Sample Id: NTC17BBSD4601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	10	U
319-84-6	alpha-BHC	10	U
319-85-7	beta-BHC	10	U
319-86-8	delta-BHC	10	U
58-89-9	gamma-BHC (Lindane)	10	U
5103-71-9	alpha-Chlordane	1.2	J P
5103-74-2	gamma-Chlordane	1.8	J P
72-54-8	4,4'-DDD	82	
72-55-9	4,4'-DDE	60	
50-29-3	4,4'-DDT	42	
60-57-1	Dieldrin	1.5	J P
959-98-8	Endosulfan I	1.1	J P
33213-65-9	Endosulfan II	2.8	J P
53494-70-5	Endrin ketone	10	U
1031-07-8	Endosulfan sulfate	10	U
72-20-8	Endrin	1.3	J P
7421-93-4	Endrin aldehyde	10	U
76-44-8	Heptachlor	10	U
1024-57-3	Heptachlor epoxide	10	U
8001-35-2	Toxaphene	400	U
72-43-5	Methoxychlor	100	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I070321 003
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74J1AN Date Extracted:09/15/01
Dilution factor: 20 Date Analyzed: 09/22/01
Moisture %:28

QC Batch: 1258093

Client Sample Id: NTC17BBSD4603

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	47	U
319-84-6	alpha-BHC	47	U
319-85-7	beta-BHC	47	U
319-86-8	delta-BHC	47	U
58-89-9	gamma-BHC (Lindane)	47	U
5103-71-9	alpha-Chlordane	21	J
5103-74-2	gamma-Chlordane	12	J P
72-54-8	4,4'-DDD	460	
72-55-9	4,4'-DDE	160	
50-29-3	4,4'-DDT	300	
60-57-1	Dieldrin	18	J
959-98-8	Endosulfan I	7.5	J P
33213-65-9	Endosulfan II	7.6	J P
53494-70-5	Endrin ketone	47	U
1031-07-8	Endosulfan sulfate	47	U
72-20-8	Endrin	17	J
7421-93-4	Endrin aldehyde	47	U
76-44-8	Heptachlor	47	U
1024-57-3	Heptachlor epoxide	47	U
8001-35-2	Toxaphene	1900	U
72-43-5	Methoxychlor	470	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I070321 004
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74K1AN Date Extracted:09/15/01
Dilution factor: 250 Date Analyzed: 09/29/01
Moisture %:40

QC Batch: 1258093

Client Sample Id: NTC17BBSD4604

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	710	U
319-84-6	alpha-BHC	710	U
319-85-7	beta-BHC	710	U
319-86-8	delta-BHC	710	U
58-89-9	gamma-BHC (Lindane)	710	U
5103-71-9	alpha-Chlordane	710	U
5103-74-2	gamma-Chlordane	710	U
72-54-8	**4,4'-DDD**	**4100**	
72-55-9	**4,4'-DDE**	**400**	J
50-29-3	**4,4'-DDT**	**400**	J
60-57-1	Dieldrin	710	U
959-98-8	Endosulfan I	710	U
33213-65-9	Endosulfan II	710	U
53494-70-5	Endrin ketone	710	U
1031-07-8	Endosulfan sulfate	710	U
72-20-8	Endrin	710	U
7421-93-4	Endrin aldehyde	710	U
76-44-8	Heptachlor	710	U
1024-57-3	Heptachlor epoxide	710	U
8001-35-2	Toxaphene	28000	U
72-43-5	Methoxychlor	7100	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I070321 005

Sample WT/Vol: 30 / g
Work Order: EJ74L1AN
Dilution factor: 40
Moisture %:23

Date Received: 09/07/01
Date Extracted:09/15/01
Date Analyzed: 09/23/01

QC Batch: 1258093

Client Sample Id: NTC17BBSD4605

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	88	U
319-84-6	alpha-BHC	88	U
319-85-7	beta-BHC	88	U
319-86-8	delta-BHC	88	U
58-89-9	gamma-BHC (Lindane)	88	U
5103-71-9	alpha-Chlordane	34	J P
5103-74-2	gamma-Chlordane	18	J P
72-54-8	4,4'-DDD	1500	
72-55-9	4,4'-DDE	150	
50-29-3	4,4'-DDT	27	J P
60-57-1	Dieldrin	23	J P
959-98-8	Endosulfan I	88	U
33213-65-9	Endosulfan II	20	J P
53494-70-5	Endrin ketone	88	U
1031-07-8	Endosulfan sulfate	88	U
72-20-8	Endrin	88	U
7421-93-4	Endrin aldehyde	88	U
76-44-8	Heptachlor	88	U
1024-57-3	Heptachlor epoxide	88	U
8001-35-2	Toxaphene	3500	U
72-43-5	Methoxychlor	880	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I070321 001

Sample WT/Vol: 30 / g
Work Order: EJ7371AE
Dilution factor: 2
Moisture %:29

Date Received: 09/07/01
Date Extracted:09/15/01
Date Analyzed: 09/27/01

QC Batch: 1258094

Client Sample Id: NTC17BBSD5005

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	93	U
11104-28-2	Aroclor 1221	93	U
11141-16-5	Aroclor 1232	93	U
53469-21-9	Aroclor 1242	93	U
12672-29-6	Aroclor 1248	93	U
11097-69-1	**Aroclor 1254**	**3100**	
11096-82-5	**Aroclor 1260**	**760**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I070321 002

Sample WT/Vol: 30 / g
Work Order: EJ74G1AP
Dilution factor: 1
Moisture %:16

Date Received: 09/07/01
Date Extracted:09/15/01
Date Analyzed: 09/25/01

QC Batch: 1258094

Client Sample Id: NTC17BBSD4601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	39	U
11104-28-2	Aroclor 1221	39	U
11141-16-5	Aroclor 1232	39	U
53469-21-9	Aroclor 1242	39	U
12672-29-6	Aroclor 1248	39	U
11097-69-1	Aroclor 1254	39	U
11096-82-5	Aroclor 1260	39	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I070321 003
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74J1AP Date Extracted:09/15/01
Dilution factor: 1 Date Analyzed: 09/25/01
Moisture %:28

QC Batch: 1258094

Client Sample Id: NTC17BBSD4603

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	46	U
11104-28-2	Aroclor 1221	46	U
11141-16-5	Aroclor 1232	46	U
53469-21-9	Aroclor 1242	46	U
12672-29-6	**Aroclor 1248**	**360**	
11097-69-1	**Aroclor 1254**	**830**	
11096-82-5	**Aroclor 1260**	**210**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I070321 004
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74K1AP Date Extracted:09/15/01
Dilution factor: 2 Date Analyzed: 09/27/01
Moisture %:40

QC Batch: 1258094

Client Sample Id: NTC17BBSD4604

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	110	U
11104-28-2	Aroclor 1221	110	U
11141-16-5	Aroclor 1232	110	U
53469-21-9	Aroclor 1242	110	U
12672-29-6	Aroclor 1248	110	U
11097-69-1	**Aroclor 1254**	**4200**	
11096-82-5	Aroclor 1260	110	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I070321 005
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74L1AP Date Extracted:09/15/01
Dilution factor: 2 Date Analyzed: 09/27/01
Moisture %:23

QC Batch: 1258094

Client Sample Id: NTC17BBSD4605

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	85	U
11104-28-2	Aroclor 1221	85	U
11141-16-5	Aroclor 1232	85	U
53469-21-9	Aroclor 1242	85	U
12672-29-6	Aroclor 1248	85	U
11097-69-1	**Aroclor 1254**	**2200**	
11096-82-5	Aroclor 1260	85	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I080123 001

Sample WT/Vol: 30 / g
Work Order: EJ8L31AE
Dilution factor: 1
Moisture %:22

Date Received: 09/08/01
Date Extracted:09/15/01
Date Analyzed: 09/24/01

QC Batch: 1258094

Client Sample Id: NTC17BBSD4501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	42	U
11104-28-2	Aroclor 1221	42	U
11141-16-5	Aroclor 1232	42	U
53469-21-9	Aroclor 1242	42	U
12672-29-6	Aroclor 1248	42	U
11097-69-1	Aroclor 1254	42	U
11096-82-5	**Aroclor 1260**	**49**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 002
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8MJ1AN Date Extracted:09/15/01
Dilution factor: 1 Date Analyzed: 09/24/01
Moisture %:33

QC Batch: 1258094

Client Sample Id: NTC17BBSD4503

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	50	U
11104-28-2	Aroclor 1221	50	U
11141-16-5	Aroclor 1232	50	U
53469-21-9	Aroclor 1242	50	U
12672-29-6	**Aroclor 1248**	**460**	
11097-69-1	**Aroclor 1254**	**840**	
11096-82-5	Aroclor 1260	50	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I080123 003

Sample WT/Vol: 30 / g
Work Order: EJ8MM1AE
Dilution factor: 5
Moisture %:36

Date Received: 09/08/01
Date Extracted:09/15/01
Date Analyzed: 09/27/01

QC Batch: 1258094

Client Sample Id: NTC17BBSD4504

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	260	U
11104-28-2	Aroclor 1221	260	U
11141-16-5	Aroclor 1232	260	U
53469-21-9	Aroclor 1242	260	U
12672-29-6	Aroclor 1248	260	U
11097-69-1	**Aroclor 1254**	**4600**	
11096-82-5	**Aroclor 1260**	**760**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 004
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8MX1AN Date Extracted:09/15/01
Dilution factor: 5 Date Analyzed: 09/27/01
Moisture %:35

QC Batch: 1258094

Client Sample Id: NTC17BBSD4505

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	260	U
11104-28-2	Aroclor 1221	260	U
11141-16-5	Aroclor 1232	260	U
53469-21-9	Aroclor 1242	260	U
12672-29-6	Aroclor 1248	260	U
11097-69-1	**Aroclor 1254**	**6100**	
11096-82-5	Aroclor 1260	260	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I080123 005

Sample WT/Vol: 30 / g
Work Order: EJ8M01AN
Dilution factor: 1
Moisture %:20

Date Received: 09/08/01
Date Extracted:09/15/01
Date Analyzed: 09/24/01

QC Batch: 1258094

Client Sample Id: NTC17BBSD4901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	41	U
11104-28-2	Aroclor 1221	41	U
11141-16-5	Aroclor 1232	41	U
53469-21-9	Aroclor 1242	41	U
12672-29-6	Aroclor 1248	41	U
11097-69-1	**Aroclor 1254**	**88**	
11096-82-5	Aroclor 1260	41	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 006
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8M21AN Date Extracted:09/15/01
Dilution factor: 1 Date Analyzed: 09/24/01
Moisture %:21

QC Batch: 1258094

Client Sample Id: NTC17BBSD4903

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	42	U
11104-28-2	Aroclor 1221	42	U
11141-16-5	Aroclor 1232	42	U
53469-21-9	Aroclor 1242	42	U
12672-29-6	Aroclor 1248	42	U
11097-69-1	**Aroclor 1254**	**490**	
11096-82-5	**Aroclor 1260**	**98**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 007
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8M31AN Date Extracted:09/15/01
Dilution factor: 1 Date Analyzed: 09/24/01
Moisture %:19

QC Batch: 1258094

Client Sample Id: NTC17BBSD4904

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	41	U
11104-28-2	Aroclor 1221	41	U
11141-16-5	Aroclor 1232	41	U
53469-21-9	Aroclor 1242	41	U
12672-29-6	Aroclor 1248	41	U
11097-69-1	**Aroclor 1254**	**740**	
11096-82-5	**Aroclor 1260**	**150**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 008
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8M41AN Date Extracted:09/15/01
Dilution factor: 1 Date Analyzed: 09/24/01
Moisture %:20

QC Batch: 1258094

Client Sample Id: NTC17BBSD4905

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	41	U
11104-28-2	Aroclor 1221	41	U
11141-16-5	Aroclor 1232	41	U
53469-21-9	Aroclor 1242	41	U
12672-29-6	Aroclor 1248	41	U
11097-69-1	**Aroclor 1254**	**1100**	
11096-82-5	**Aroclor 1260**	**250**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I070321 001
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ7371AA Date Extracted:09/16/01
Dilution factor: 10 Date Analyzed: 10/03/01
Moisture %:29

QC Batch: 1259095

Client Sample Id: NTC17BBSD5005

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	460	U
208-96-8	Acenaphthylene	48	J
83-32-9	Acenaphthene	460	U
86-73-7	Fluorene	140	
85-01-8	Phenanthrene	920	
120-12-7	Anthracene	160	
206-44-0	Fluoranthene	1200	
129-00-0	Pyrene	960	
56-55-3	Benzo(a)anthracene	450	
218-01-9	Chrysene	450	
205-99-2	Benzo(b)fluoranthene	430	
207-08-9	Benzo(k)fluoranthene	210	
50-32-8	Benzo(a)pyrene	410	
193-39-5	Indeno(1,2,3-cd)pyrene	240	
53-70-3	Dibenzo(a,h)anthracene	94	U
191-24-2	Benzo(ghi)perylene	240	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I070321 002
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74G1AL Date Extracted:09/16/01
Dilution factor: 100 Date Analyzed: 10/03/01
Moisture %:16

QC Batch: 1259095

Client Sample Id: NTC17BBSD4601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	1200	J P
208-96-8	Acenaphthylene	3900	U
83-32-9	Acenaphthene	3900	U
86-73-7	Fluorene	1300	
85-01-8	Phenanthrene	9700	
120-12-7	Anthracene	1900	
206-44-0	Fluoranthene	10000	
129-00-0	Pyrene	7700	
56-55-3	Benzo(a)anthracene	3300	
218-01-9	Chrysene	3100	
205-99-2	Benzo(b)fluoranthene	2700	
207-08-9	Benzo(k)fluoranthene	1500	
50-32-8	Benzo(a)pyrene	2700	
193-39-5	Indeno(1,2,3-cd)pyrene	950	P
53-70-3	Dibenzo(a,h)anthracene	800	U
191-24-2	Benzo(ghi)perylene	1500	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I070321 003
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74J1AL Date Extracted:09/16/01
Dilution factor: 20 Date Analyzed: 10/03/01
Moisture %:28

QC Batch: 1259095

Client Sample Id: NTC17BBSD4603

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	920	U
208-96-8	Acenaphthylene	81	J
83-32-9	Acenaphthene	920	U
86-73-7	Fluorene	170	J
85-01-8	Phenanthrene	1300	
120-12-7	Anthracene	260	
206-44-0	Fluoranthene	1900	
129-00-0	Pyrene	1500	
56-55-3	Benzo(a)anthracene	660	
218-01-9	Chrysene	650	
205-99-2	Benzo(b)fluoranthene	650	
207-08-9	Benzo(k)fluoranthene	330	
50-32-8	Benzo(a)pyrene	720	
193-39-5	Indeno(1,2,3-cd)pyrene	280	
53-70-3	Dibenzo(a,h)anthracene	190	U
191-24-2	Benzo(ghi)perylene	290	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I070321 004
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74K1AL Date Extracted:09/16/01
Dilution factor: 20 Date Analyzed: 10/03/01
Moisture %:40

QC Batch: 1259095

Client Sample Id: NTC17BBSD4604

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	1100	U
208-96-8	Acenaphthylene	89	J
83-32-9	Acenaphthene	1100	U
86-73-7	Fluorene	120	J
85-01-8	Phenanthrene	810	
120-12-7	Anthracene	77	J
206-44-0	Fluoranthene	990	P
129-00-0	Pyrene	890	P
56-55-3	Benzo(a)anthracene	400	
218-01-9	Chrysene	390	
205-99-2	Benzo(b)fluoranthene	360	
207-08-9	Benzo(k)fluoranthene	170	J
50-32-8	Benzo(a)pyrene	270	
193-39-5	Indeno(1,2,3-cd)pyrene	200	J
53-70-3	Dibenzo(a,h)anthracene	220	U
191-24-2	Benzo(ghi)perylene	220	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I070321 005
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/07/01
Work Order: EJ74L1AL Date Extracted:09/16/01
Dilution factor: 20 Date Analyzed: 10/03/01
Moisture %:23

QC Batch: 1259095

Client Sample Id: NTC17BBSD4605

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	850	U
208-96-8	Acenaphthylene	76	J
83-32-9	Acenaphthene	850	U
86-73-7	Fluorene	160	J
85-01-8	Phenanthrene	1100	
120-12-7	Anthracene	120	J
206-44-0	Fluoranthene	1500	P
129-00-0	Pyrene	1400	P
56-55-3	Benzo(a)anthracene	660	
218-01-9	Chrysene	640	
205-99-2	Benzo(b)fluoranthene	600	
207-08-9	Benzo(k)fluoranthene	320	
50-32-8	Benzo(a)pyrene	520	
193-39-5	Indeno(1,2,3-cd)pyrene	320	
53-70-3	Dibenzo(a,h)anthracene	170	U
191-24-2	Benzo(ghi)perylene	260	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 001
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8L31AA Date Extracted:09/16/01
Dilution factor: 100 Date Analyzed: 10/03/01
Moisture %:22

QC Batch: 1259095

Client Sample Id: NTC17BBSD4501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	4200	U
208-96-8	Acenaphthylene	160	J
83-32-9	Acenaphthene	4200	U
86-73-7	Fluorene	1300	
85-01-8	Phenanthrene	10000	
120-12-7	Anthracene	1800	
206-44-0	Fluoranthene	14000	
129-00-0	Pyrene	11000	
56-55-3	Benzo(a)anthracene	4900	
218-01-9	Chrysene	4900	
205-99-2	Benzo(b)fluoranthene	4500	
207-08-9	Benzo(k)fluoranthene	2500	
50-32-8	Benzo(a)pyrene	4500	
193-39-5	Indeno(1,2,3-cd)pyrene	2000	P
53-70-3	Dibenzo(a,h)anthracene	860	U
191-24-2	Benzo(ghi)perylene	2800	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 002
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8MJ1AK Date Extracted:09/16/01
Dilution factor: 20 Date Analyzed: 10/03/01
Moisture %:33

QC Batch: 1259095

Client Sample Id: NTC17BBSD4503

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	990	U
208-96-8	Acenaphthylene	140	J
83-32-9	Acenaphthene	990	U
86-73-7	Fluorene	180	J
85-01-8	Phenanthrene	1100	
120-12-7	Anthracene	160	J
206-44-0	Fluoranthene	1400	P
129-00-0	Pyrene	1200	
56-55-3	Benzo(a)anthracene	550	
218-01-9	Chrysene	570	
205-99-2	Benzo(b)fluoranthene	560	
207-08-9	Benzo(k)fluoranthene	290	
50-32-8	Benzo(a)pyrene	520	P
193-39-5	Indeno(1,2,3-cd)pyrene	260	P
53-70-3	Dibenzo(a,h)anthracene	200	U
191-24-2	Benzo(ghi)perylene	190	J P

FORM I

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 003
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8MM1AA Date Extracted:09/16/01
Dilution factor: 20 Date Analyzed: 10/03/01
Moisture %:36

QC Batch: 1259095

Client Sample Id: NTC17BBSD4504

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	1000	U
208-96-8	Acenaphthylene	110	J
83-32-9	Acenaphthene	1000	U
86-73-7	Fluorene	210	
85-01-8	Phenanthrene	1500	
120-12-7	Anthracene	190	J
206-44-0	Fluoranthene	1700	P
129-00-0	Pyrene	1400	
56-55-3	Benzo(a)anthracene	630	
218-01-9	Chrysene	650	
205-99-2	Benzo(b)fluoranthene	600	
207-08-9	Benzo(k)fluoranthene	300	
50-32-8	Benzo(a)pyrene	540	
193-39-5	Indeno(1,2,3-cd)pyrene	320	
53-70-3	Dibenzo(a,h)anthracene	210	U
191-24-2	Benzo(ghi)perylene	290	P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 004
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8MX1AK Date Extracted:09/16/01
Dilution factor: 20 Date Analyzed: 10/03/01
Moisture %:35

QC Batch: 1259095

Client Sample Id: NTC17BBSD4505

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	1000	U
208-96-8	Acenaphthylene	1000	U
83-32-9	Acenaphthene	1000	U
86-73-7	Fluorene	190	J
85-01-8	Phenanthrene	1300	
120-12-7	Anthracene	190	J
206-44-0	Fluoranthene	1600	P
129-00-0	Pyrene	1300	
56-55-3	Benzo(a)anthracene	600	
218-01-9	Chrysene	560	
205-99-2	Benzo(b)fluoranthene	560	
207-08-9	Benzo(k)fluoranthene	270	
50-32-8	Benzo(a)pyrene	620	
193-39-5	Indeno(1,2,3-cd)pyrene	220	P
53-70-3	Dibenzo(a,h)anthracene	210	U
191-24-2	Benzo(ghi)perylene	310	P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 005
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8M01AK Date Extracted:09/16/01
Dilution factor: 10 Date Analyzed: 10/03/01
Moisture %:20

QC Batch: 1259095

Client Sample Id: NTC17BBSD4901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	410	U
208-96-8	Acenaphthylene	24	J
83-32-9	Acenaphthene	410	U
86-73-7	Fluorene	51	J
85-01-8	Phenanthrene	380	
120-12-7	Anthracene	49	J
206-44-0	Fluoranthene	730	
129-00-0	Pyrene	560	
56-55-3	Benzo(a)anthracene	250	
218-01-9	Chrysene	270	
205-99-2	Benzo(b)fluoranthene	280	
207-08-9	Benzo(k)fluoranthene	150	
50-32-8	Benzo(a)pyrene	260	
193-39-5	Indeno(1,2,3-cd)pyrene	150	
53-70-3	Dibenzo(a,h)anthracene	83	U
191-24-2	Benzo(ghi)perylene	200	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 006
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8M21AK Date Extracted:09/16/01
Dilution factor: 20 Date Analyzed: 10/03/01
Moisture %:21

QC Batch: 1259095

Client Sample Id: NTC17BBSD4903

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	840	U
208-96-8	Acenaphthylene	41	J
83-32-9	Acenaphthene	840	U
86-73-7	Fluorene	150	J
85-01-8	Phenanthrene	1300	
120-12-7	Anthracene	160	J
206-44-0	Fluoranthene	1800	
129-00-0	Pyrene	1400	
56-55-3	Benzo(a)anthracene	580	
218-01-9	Chrysene	630	
205-99-2	Benzo(b)fluoranthene	610	
207-08-9	Benzo(k)fluoranthene	330	
50-32-8	Benzo(a)pyrene	600	
193-39-5	Indeno(1,2,3-cd)pyrene	410	
53-70-3	Dibenzo(a,h)anthracene	170	U
191-24-2	Benzo(ghi)perylene	410	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 007
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8M31AK Date Extracted:09/16/01
Dilution factor: 100 Date Analyzed: 10/03/01
Moisture %:19

QC Batch: 1259095

Client Sample Id: NTC17BBSD4904

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	4100	U
208-96-8	Acenaphthylene	4100	U
83-32-9	Acenaphthene	4100	U
86-73-7	Fluorene	910	
85-01-8	Phenanthrene	6800	
120-12-7	Anthracene	990	
206-44-0	Fluoranthene	7700	
129-00-0	Pyrene	5900	
56-55-3	Benzo(a)anthracene	2500	
218-01-9	Chrysene	2600	
205-99-2	Benzo(b)fluoranthene	2300	
207-08-9	Benzo(k)fluoranthene	1300	
50-32-8	Benzo(a)pyrene	2300	
193-39-5	Indeno(1,2,3-cd)pyrene	1200	
53-70-3	Dibenzo(a,h)anthracene	830	U
191-24-2	Benzo(ghi)perylene	1200	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL004

Matrix: (soil/water) SOLID Lab Sample ID:C1I080123 008
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/08/01
Work Order: EJ8M41AK Date Extracted:09/16/01
Dilution factor: 30 Date Analyzed: 10/03/01
Moisture %:20

QC Batch: 1259095

Client Sample Id: NTC17BBSD4905

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	290	J p
208-96-8	Acenaphthylene	1200	U
83-32-9	Acenaphthene	1200	U
86-73-7	Fluorene	240	J
85-01-8	Phenanthrene	2200	
120-12-7	Anthracene	280	
206-44-0	Fluoranthene	2500	
129-00-0	Pyrene	2000	
56-55-3	Benzo(a)anthracene	770	
218-01-9	Chrysene	830	
205-99-2	Benzo(b)fluoranthene	740	
207-08-9	Benzo(k)fluoranthene	390	
50-32-8	Benzo(a)pyrene	710	
193-39-5	Indeno(1,2,3-cd)pyrene	380	
53-70-3	Dibenzo(a,h)anthracene	250	U
191-24-2	Benzo(ghi)perylene	460	p

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ737 **Client ID:** NTC17BBSD5005

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263200

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 28.69

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.047	1.2		1	CVAA	9/20/01	16:07

Comments: Lot #: C1I070321 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74G **Client ID:** NTC17BBSD4601

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263200

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.87

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0093	0.040	0.068		1	CVAA	9/20/01	16:12

Comments: Lot #: C1I070321 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74J **Client ID:** NTC17BBSD4603

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263200

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 27.93

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.046	0.75		1	CVAA	9/20/01	16:14

Comments: Lot #: C1I070321 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74K **Client ID:** NTC17BBSD4604

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263200

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 39.89

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.013	0.056	2.5		1	CVAA	9/20/01	16:15

Comments: Lot #: C1I070321 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74L **Client ID:** NTC17BBSD4605

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263200

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 22.68

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.043	0.088		1	CVAA	9/20/01	16:17

Comments: Lot #: C1I070321 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8L3 **Client ID:** NTC17BBSD4501

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263200

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 21.96

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.043	0.12		1	CVAA	9/20/01	16:19

Comments: Lot #: C1I080123 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8MJ **Client ID:** NTC17BBSD4503

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263200

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 33.39

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.024	0.10	3.2		2	CVAA	9/20/01	16:54

Comments: Lot #: C1I080123 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8MM **Client ID:** NTC17BBSD4504

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263200

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 35.92

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.012	0.052	1.4		1	CVAA	9/20/01	16:26

Comments: Lot #: C1I080123 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8MX **Client ID:** NTC17BBSD4505

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263200

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 35.41

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.012	0.052	1.7		1	CVAA	9/20/01	16:27

Comments: Lot #: C1I080123 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8M0 **Client ID:** NTC17BBSD4901

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263200

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 19.73

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0098	0.042	0.17		1	CVAA	9/20/01	16:29

Comments: Lot #: C1I080123 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8M2 **Client ID:** NTC17BBSD4903

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263200

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 20.96

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0099	0.042	0.38		1	CVAA	9/20/01	16:30

Comments: Lot #: C1I080123 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8M3 **Client ID:** NTC17BBSD4904

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263200

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 18.85

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0097	0.041	0.40		1	CVAA	9/20/01	16:32

Comments: Lot #: C1I080123 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8M4 **Client ID:** NTC17BBSD4905

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/20/01 **Prep Batch:** 1263200

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 19.85

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0098	0.042	2.0		1	CVAA	9/20/01	16:33

Comments: Lot #: C1I080123 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ737 **Client ID:** NTC17BBSD5005

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268143

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 28.69

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.0	28.1	5110		1	ICP	9/27/01	10:53
Antimony	220.35	0.42	8.4	3.9	BN	1	ICPST	10/3/01	18:01
Arsenic	189.04	0.37	1.4	16.0		1	ICPST	10/3/01	18:01
Barium	493.41	0.052	28.1	97.4		1	ICP	9/27/01	10:53
Beryllium	313.04	0.024	0.70	0.83		1	ICP	9/27/01	10:53
Cadmium	226.50	0.055	0.70	5.0	NE	1	ICPST	10/3/01	18:01
Calcium	317.93	1.8	701	43600		1	ICP	9/27/01	10:53
Chromium	267.72	0.14	1.4	45.4		1	ICPST	10/3/01	18:01
Cobalt	228.62	0.41	7.0	8.8		1	ICP	9/27/01	10:53
Copper	324.75	0.34	3.5	347		1	ICP	9/27/01	10:53
Iron	259.94	0.69	140	14000	E	1	ICP	9/27/01	10:53
Lead	220.35	0.25	0.42	233		1	ICPST	10/3/01	18:01
Magnesium	279.08	3.0	701	21100	N	1	ICP	9/27/01	10:53
Manganese	257.61	0.13	2.1	535		1	ICP	9/27/01	10:53
Nickel	231.60	1.5	5.6	95.1		1	ICP	9/27/01	10:53
Potassium	766.49	61.4	701	789		1	ICP	9/27/01	10:53
Selenium	220.35	0.63	0.70	5.8		1	ICPST	10/3/01	18:01
Silver	328.07	0.12	1.4	31.8	*	1	ICPST	10/3/01	18:01
Sodium	589	1.7	701	278	B	1	ICP	9/27/01	10:53
Thallium	190.86	1.1	1.4	1.1	U	1	ICPST	10/3/01	18:01
Vanadium	292.40	0.35	7.0	15.7		1	ICP	9/27/01	10:53
Zinc	213.86	0.34	2.8	637		1	ICP	9/27/01	10:53

Comments: Lot #: C1J070321 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74G **Client ID:** NTC17BBSD4601

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268143

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 15.87

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.5	23.8	2050		1	ICP	9/27/01	11:12
Antimony	*220.35*	*0.36*	*7.1*	*0.80*	*BN*	*1*	*ICPST*	*10/3/01*	*18:19*
Arsenic	189.04	0.31	1.2	5.3		1	ICPST	10/3/01	18:19
Barium	493.41	0.044	23.8	21.4	B	1	ICP	9/27/01	11:12
Beryllium	313.04	0.020	0.59	0.47	B	1	ICP	9/27/01	11:12
Cadmium	226.50	0.046	0.59	0.48	BNE	1	ICPST	10/3/01	18:19
Calcium	317.93	1.6	594	56100		1	ICP	9/27/01	11:12
Chromium	267.72	0.11	1.2	9.5		1	ICPST	10/3/01	18:19
Cobalt	228.62	0.35	5.9	4.8	B	1	ICP	9/27/01	11:12
Copper	324.75	0.29	3.0	79.6		1	ICP	9/27/01	11:12
Iron	259.94	0.58	119	12600	E	1	ICP	9/27/01	11:12
Lead	220.35	0.21	0.36	88.4		1	ICPST	10/3/01	18:19
Magnesium	279.08	2.5	594	27300	N	1	ICP	9/27/01	11:12
Manganese	257.61	0.11	1.8	337		1	ICP	9/27/01	11:12
Nickel	231.60	1.2	4.8	14.7		1	ICP	9/27/01	11:12
Potassium	766.49	52.1	594	295	B	1	ICP	9/27/01	11:12
Selenium	220.35	0.54	0.59	0.66		1	ICPST	10/3/01	18:19
Silver	328.07	0.10	1.2	0.34	B*	1	ICPST	10/3/01	18:19
Sodium	589	1.4	594	237	B	1	ICP	9/27/01	11:12
Thallium	190.86	0.94	1.2	0.94	U	1	ICPST	10/3/01	18:19
Vanadium	292.40	0.30	5.9	9.5		1	ICP	9/27/01	11:12
Zinc	213.86	0.29	2.4	525		1	ICP	9/27/01	11:12

Comments: Lot #: C1I070321 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74J **Client ID:** NTC17BBSD4603

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268143

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 27.93

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.9	27.8	4040		1	ICP	9/27/01	11:15
Antimony	220.35	0.42	8.3	1.2	BN	1	ICPST	10/3/01	18:32
Arsenic	189.04	0.36	1.4	11.4		1	ICPST	10/3/01	18:32
Barium	493.41	0.051	27.8	51.1		1	ICP	9/27/01	11:15
Beryllium	313.04	0.024	0.69	0.44	B	1	ICP	9/27/01	11:15
Cadmium	226.50	0.054	0.69	3.2	NE	1	ICPST	10/3/01	18:32
Calcium	317.93	1.8	694	57600		1	ICP	9/27/01	11:15
Chromium	267.72	0.13	1.4	23.8		1	ICPST	10/3/01	18:32
Cobalt	228.62	0.40	6.9	9.5		1	ICP	9/27/01	11:15
Copper	324.75	0.33	3.5	313		1	ICP	9/27/01	11:15
Iron	259.94	0.68	139	14200	E	1	ICP	9/27/01	11:15
Lead	220.35	0.25	0.42	270		1	ICPST	10/3/01	18:32
Magnesium	279.08	3.0	694	29800	N	1	ICP	9/27/01	11:15
Manganese	257.61	0.12	2.1	539		1	ICP	9/27/01	11:15
Nickel	231.60	1.4	5.6	78.2		1	ICP	9/27/01	11:15
Potassium	766.49	60.8	694	465	B	1	ICP	9/27/01	11:15
Selenium	220.35	0.62	0.69	1.8		1	ICPST	10/3/01	18:32
Silver	328.07	0.12	1.4	20.6	*	1	ICPST	10/3/01	18:32
Sodium	589	1.7	694	199	B	1	ICP	9/27/01	11:15
Thallium	190.86	1.1	1.4	1.1	U	1	ICPST	10/3/01	18:32
Vanadium	292.40	0.35	6.9	12.4		1	ICP	9/27/01	11:15
Zinc	213.86	0.33	2.8	709		1	ICP	9/27/01	11:15

Comments: Lot #: C1I070321 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74K **Client ID:** NTC17BBSD4604

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268143

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 39.89

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.5	33.3	6030		1	ICP	9/27/01	11:18
Antimony	220.35	0.50	10.0	3.4	BN	1	ICPST	10/3/01	18:37
Arsenic	189.04	0.43	1.7	18.6		1	ICPST	10/3/01	18:37
Barium	493.41	0.062	33.3	117		1	ICP	9/27/01	11:18
Beryllium	313.04	0.028	0.83	0.71	B	1	ICP	9/27/01	11:18
Cadmium	226.50	0.065	0.83	4.7	NE	1	ICPST	10/3/01	18:37
Calcium	317.93	2.2	832	64300		1	ICP	9/27/01	11:18
Chromium	267.72	0.16	1.7	59.5		1	ICPST	10/3/01	18:37
Cobalt	228.62	0.48	8.3	12.7		1	ICP	9/27/01	11:18
Copper	324.75	0.40	4.2	183		1	ICP	9/27/01	11:18
Iron	259.94	0.82	166	18100	E	1	ICP	9/27/01	11:18
Lead	220.35	0.30	0.50	214		1	ICPST	10/3/01	18:37
Magnesium	279.08	3.6	832	32700	N	1	ICP	9/27/01	11:18
Manganese	257.61	0.15	2.5	702		1	ICP	9/27/01	11:18
Nickel	231.60	1.7	6.7	136		1	ICP	9/27/01	11:18
Potassium	766.49	72.9	832	812	B	1	ICP	9/27/01	11:18
Selenium	220.35	0.75	0.83	4.9		1	ICPST	10/3/01	18:37
Silver	328.07	0.15	1.7	40.0	*	1	ICPST	10/3/01	18:37
Sodium	589	2.0	832	287	B	1	ICP	9/27/01	11:18
Thallium	190.86	1.3	1.7	1.3	U	1	ICPST	10/4/01	11:36
Vanadium	292.40	0.42	8.3	21.1		1	ICP	9/27/01	11:18
Zinc	213.86	0.40	3.3	470		1	ICP	9/27/01	11:18

Comments: Lot #: C1I070321 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ74L **Client ID:** NTC17BBSD4605

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268143

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 22.68

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.7	25.9	8270		1	ICP	9/27/01	11:21
Antimony	220.35	0.39	7.8	4.6	BN	1	ICPST	10/3/01	18:41
Arsenic	189.04	0.34	1.3	19.8		1	ICPST	10/3/01	18:41
Barium	493.41	0.048	25.9	114		1	ICP	9/27/01	11:21
Beryllium	313.04	0.022	0.65	0.96		1	ICP	9/27/01	11:21
Cadmium	226.50	0.050	0.65	4.7	NE	1	ICPST	10/3/01	18:41
Calcium	317.93	1.7	647	55700		1	ICP	9/27/01	11:21
Chromium	267.72	0.12	1.3	45.2		1	ICPST	10/3/01	18:41
Cobalt	228.62	0.38	6.5	12.0		1	ICP	9/27/01	11:21
Copper	324.75	0.31	3.2	482		1	ICP	9/27/01	11:21
Iron	259.94	0.63	129	19400	E	1	ICP	9/27/01	11:21
Lead	220.35	0.23	0.39	281		1	ICPST	10/3/01	18:41
Magnesium	279.08	2.8	647	24100	N	1	ICP	9/27/01	11:21
Manganese	257.61	0.12	1.9	778		1	ICP	9/27/01	11:21
Nickel	231.60	1.4	5.2	96.7		1	ICP	9/27/01	11:21
Potassium	766.49	56.7	647	1620		1	ICP	9/27/01	11:21
Selenium	220.35	0.58	0.65	5.0		1	ICPST	10/3/01	18:41
Silver	328.07	0.11	1.3	17.4	*	1	ICPST	10/3/01	18:41
Sodium	589	1.5	647	307	B	1	ICP	9/27/01	11:21
Thallium	190.86	1.0	1.3	1.0	U	1	ICPST	10/3/01	18:41
Vanadium	292.40	0.32	6.5	21.4		1	ICP	9/27/01	11:21
Zinc	213.86	0.31	2.6	814		1	ICP	9/27/01	11:21

Comments: Lot #: C1I070321 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8L3 **Client ID:** NTC17BBSD4501

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268143

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 21.96

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.7	25.6	2810		1	ICP	9/27/01	11:27
Antimony	220.35	0.38	7.7	0.47	BN	1	ICPST	10/3/01	18:50
Arsenic	189.04	0.33	1.3	5.1		1	ICPST	10/3/01	18:50
Barium	493.41	0.047	25.6	30.2		1	ICP	9/27/01	11:27
Beryllium	313.04	0.022	0.64	0.32	B	1	ICP	9/27/01	11:27
Cadmium	226.50	0.050	0.64	0.52	BNE	1	ICPST	10/3/01	18:50
Calcium	317.93	1.7	641	45100		1	ICP	9/27/01	11:27
Chromium	267.72	0.12	1.3	15.4		1	ICPST	10/3/01	18:50
Cobalt	228.62	0.37	6.4	5.3	B	1	ICP	9/27/01	11:27
Copper	324.75	0.31	3.2	78.5		1	ICP	9/27/01	11:27
Iron	259.94	0.63	128	10700	E	1	ICP	9/27/01	11:27
Lead	220.35	0.23	0.38	81.6		1	ICPST	10/3/01	18:50
Magnesium	279.08	2.7	641	22500	N	1	ICP	9/27/01	11:27
Manganese	257.61	0.11	1.9	292		1	ICP	9/27/01	11:27
Nickel	231.60	1.3	5.1	11.1		1	ICP	9/27/01	11:27
Potassium	766.49	56.1	641	406	B	1	ICP	9/27/01	11:27
Selenium	220.35	0.58	0.64	0.58	U	1	ICPST	10/3/01	18:50
Silver	328.07	0.11	1.3	0.67	B*	1	ICPST	10/3/01	18:50
Sodium	589	1.5	641	203	B	1	ICP	9/27/01	11:27
Thallium	190.86	1.0	1.3	1.0	U	1	ICPST	10/3/01	18:50
Vanadium	292.40	0.32	6.4	11.6		1	ICP	9/27/01	11:27
Zinc	213.86	0.31	2.6	367		1	ICP	9/27/01	11:27

Comments: Lot #: C1I080123 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8MJ **Client ID:** NTC17BBSD4503

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268143

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 33.39

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.2	30.0	5130		1	ICP	9/27/01	11:30
Antimony	220.35	0.45	9.0	0.90	BN	1	ICPST	10/3/01	18:54
Arsenic	189.04	0.39	1.5	9.7		1	ICPST	10/3/01	18:54
Barium	493.41	0.056	30.0	56.0		1	ICP	9/27/01	11:30
Beryllium	313.04	0.026	0.75	0.56	B	1	ICP	9/27/01	11:30
Cadmium	226.50	0.059	0.75	2.6	NE	1	ICPST	10/3/01	18:54
Calcium	317.93	2.0	751	63500		1	ICP	9/27/01	11:30
Chromium	267.72	0.14	1.5	22.8		1	ICPST	10/3/01	18:54
Cobalt	228.62	0.44	7.5	11.3		1	ICP	9/27/01	11:30
Copper	324.75	0.36	3.8	295		1	ICP	9/27/01	11:30
Iron	259.94	0.74	150	15400	E	1	ICP	9/27/01	11:30
Lead	220.35	0.27	0.45	244		1	ICPST	10/3/01	18:54
Magnesium	279.08	3.2	751	32700	N	1	ICP	9/27/01	11:30
Manganese	257.61	0.13	2.3	566		1	ICP	9/27/01	11:30
Nickel	231.60	1.6	6.0	97.4		1	ICP	9/27/01	11:30
Potassium	766.49	65.8	751	706	B	1	ICP	9/27/01	11:30
Selenium	220.35	0.68	0.75	2.0		1	ICPST	10/3/01	18:54
Silver	328.07	0.13	1.5	14.4	*	1	ICPST	10/3/01	18:54
Sodium	589	1.8	751	239	B	1	ICP	9/27/01	11:30
Thallium	190.86	1.2	1.5	1.2	U	1	ICPST	10/3/01	18:54
Vanadium	292.40	0.38	7.5	16.4		1	ICP	9/27/01	11:30
Zinc	213.86	0.36	3.0	788		1	ICP	9/27/01	11:30

Comments: Lot #: C1I080123 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8MM **Client ID:** NTC17BBSD4504

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268143

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 35.92

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.3	31.2	8330		1	ICP	9/27/01	11:34
Antimony	220.35	0.47	9.4	1.2	BN	1	ICPST	10/3/01	18:59
Arsenic	189.04	0.41	1.6	12.5		1	ICPST	10/3/01	18:59
Barium	493.41	0.058	31.2	101		1	ICP	9/27/01	11:34
Beryllium	313.04	0.027	0.78	0.74	B	1	ICP	9/27/01	11:34
Cadmium	226.50	0.061	0.78	17.3	NE	1	ICPST	10/3/01	18:59
Calcium	317.93	2.0	780	73500		1	ICP	9/27/01	11:34
Chromium	267.72	0.15	1.6	57.6		1	ICPST	10/3/01	18:59
Cobalt	228.62	0.45	7.8	10.1		1	ICP	9/27/01	11:34
Copper	324.75	0.38	3.9	644		1	ICP	9/27/01	11:34
Iron	259.94	0.77	156	20600	E	1	ICP	9/27/01	11:34
Lead	220.35	0.28	0.47	503		1	ICPST	10/3/01	18:59
Magnesium	279.08	3.3	780	37000	N	1	ICP	9/27/01	11:34
Manganese	257.61	0.14	2.3	633		1	ICP	9/27/01	11:34
Nickel	231.60	1.6	6.2	309		1	ICP	9/27/01	11:34
Potassium	766.49	68.4	780	1070		1	ICP	9/27/01	11:34
Selenium	220.35	0.70	0.78	3.3		1	ICPST	10/3/01	18:59
Silver	328.07	0.14	1.6	70.8	*	1	ICPST	10/3/01	18:59
Sodium	589	1.9	780	268	B	1	ICP	9/27/01	11:34
Thallium	190.86	1.2	1.6	1.2	U	1	ICPST	10/4/01	11:41
Vanadium	292.40	0.39	7.8	19.7		1	ICP	9/27/01	11:34
Zinc	213.86	0.38	3.1	1060		1	ICP	9/27/01	11:34

Comments: Lot #: C1I080123 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8MX **Client ID:** NTC17BBSD4505

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268143

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 35.41

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	3.3	31.0	6860		1	ICP	9/27/01	11:37
Antimony	220.35	0.46	9.3	6.5	BN	1	ICPST	10/3/01	19:03
Arsenic	189.04	0.40	1.6	18.9		1	ICPST	10/3/01	19:03
Barium	493.41	0.057	31.0	130		1	ICP	9/27/01	11:37
Beryllium	313.04	0.026	0.77	1.0		1	ICP	9/27/01	11:37
Cadmium	226.50	0.060	0.77	3.7	NE	1	ICPST	10/3/01	19:03
Calcium	317.93	2.0	774	48200		1	ICP	9/27/01	11:37
Chromium	267.72	0.15	1.6	50.2		1	ICPST	10/3/01	19:03
Cobalt	228.62	0.45	7.7	11.9		1	ICP	9/27/01	11:37
Copper	324.75	0.37	3.9	256		1	ICP	9/27/01	11:37
Iron	259.94	0.76	155	19100	E	1	ICP	9/27/01	11:37
Lead	220.35	0.28	0.46	188		1	ICPST	10/3/01	19:03
Magnesium	279.08	3.3	774	17300	N	1	ICP	9/27/01	11:37
Manganese	257.61	0.14	2.3	974		1	ICP	9/27/01	11:37
Nickel	231.60	1.6	6.2	113		1	ICP	9/27/01	11:37
Potassium	766.49	67.8	774	2040		1	ICP	9/27/01	11:37
Selenium	220.35	0.70	0.77	5.2		1	ICPST	10/3/01	19:03
Silver	328.07	0.14	1.6	22.8	*	1	ICPST	10/3/01	19:03
Sodium	589	1.8	774	346	B	1	ICP	9/27/01	11:37
Thallium	190.86	1.2	1.6	1.2	U	1	ICPST	10/3/01	19:03
Vanadium	292.40	0.39	7.7	20.6		1	ICP	9/27/01	11:37
Zinc	213.86	0.37	3.1	479		1	ICP	9/27/01	11:37

Comments: Lot #: C1I080123 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8M0 **Client ID:** NTC17BBSD4901

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268143

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 19.73

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	24.9	2700		1	ICP	9/27/01	11:46
Antimony	220.35	0.37	7.5	0.71	BN	1	ICPST	10/3/01	19:07
Arsenic	189.04	0.32	1.3	5.8		1	ICPST	10/3/01	19:07
Barium	493.41	0.046	24.9	33.9		1	ICP	9/27/01	11:46
Beryllium	313.04	0.021	0.62	6.7		1	ICP	9/27/01	11:46
Cadmium	226.50	0.049	0.62	0.73	NE	1	ICPST	10/3/01	19:07
Calcium	317.93	3.3	1250	86300		2	ICP	9/27/01	12:39
Chromium	267.72	0.12	1.3	10.5		1	ICPST	10/3/01	19:07
Cobalt	228.62	0.36	6.2	6.1	B	1	ICP	9/27/01	11:46
Copper	324.75	0.30	3.1	232		1	ICP	9/27/01	11:46
Iron	259.94	0.61	125	14500	E	1	ICP	9/27/01	11:46
Lead	220.35	0.22	0.37	149		1	ICPST	10/3/01	19:07
Magnesium	279.08	2.7	623	46900	N	1	ICP	9/27/01	11:46
Manganese	257.61	0.11	1.9	731		1	ICP	9/27/01	11:46
Nickel	231.60	1.3	5.0	21.6		1	ICP	9/27/01	11:46
Potassium	766.49	54.6	623	365	B	1	ICP	9/27/01	11:46
Selenium	220.35	0.56	0.62	0.72		1	ICPST	10/3/01	19:07
Silver	328.07	0.11	1.3	2.3	*	1	ICPST	10/3/01	19:07
Sodium	589	1.5	623	487	B	1	ICP	9/27/01	11:46
Thallium	190.86	0.98	1.3	0.98	U	1	ICPST	10/3/01	19:07
Vanadium	292.40	0.31	6.2	8.7		1	ICP	9/27/01	11:46
Zinc	213.86	0.30	2.5	2070		1	ICP	9/27/01	11:46

Comments: Lot #: C1I080123 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8M2 **Client ID:** NTC17BBSD4903

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268143

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 20.96

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.7	25.3	2450		1	ICP	9/27/01	11:49
Antimony	220.35	0.38	7.6	0.72	BN	1	ICPST	10/3/01	19:12
Arsenic	189.04	0.33	1.3	5.7		1	ICPST	10/3/01	19:12
Barium	493.41	0.047	25.3	29.1		1	ICP	9/27/01	11:49
Beryllium	313.04	0.022	0.63	4.0		1	ICP	9/27/01	11:49
Cadmium	226.50	0.049	0.63	4.6	NE	1	ICPST	10/3/01	19:12
Calcium	317.93	1.7	633	40100		1	ICP	9/27/01	11:49
Chromium	267.72	0.12	1.3	12.7		1	ICPST	10/3/01	19:12
Cobalt	228.62	0.37	6.3	5.7	B	1	ICP	9/27/01	11:49
Copper	324.75	0.30	3.2	358		1	ICP	9/27/01	11:49
Iron	259.94	0.62	127	11100	E	1	ICP	9/27/01	11:49
Lead	220.35	0.23	0.38	152		1	ICPST	10/3/01	19:12
Magnesium	279.08	2.7	633	20800	N	1	ICP	9/27/01	11:49
Manganese	257.61	0.11	1.9	326		1	ICP	9/27/01	11:49
Nickel	231.60	1.3	5.1	43.7		1	ICP	9/27/01	11:49
Potassium	766.49	55.4	633	352	B	1	ICP	9/27/01	11:49
Selenium	220.35	0.57	0.63	1.1		1	ICPST	10/3/01	19:12
Silver	328.07	0.11	1.3	33.0	*	1	ICPST	10/3/01	19:12
Sodium	589	1.5	633	298	B	1	ICP	9/27/01	11:49
Thallium	190.86	1.0	1.3	1.0	U	1	ICPST	10/3/01	19:12
Vanadium	292.40	0.32	6.3	8.7		1	ICP	9/27/01	11:49
Zinc	213.86	0.30	2.5	1190		1	ICP	9/27/01	11:49

Comments: Lot #: C1I080123 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8M3 **Client ID:** NTC17BBSD4904

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268143

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 18.85

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	24.7	2640		1	ICP	9/27/01	11:52
Antimony	220.35	0.37	7.4	0.87	BN	1	ICPST	10/3/01	19:25
Arsenic	189.04	0.32	1.2	9.4		1	ICPST	10/3/01	19:25
Barium	493.41	0.046	24.7	35.2		1	ICP	9/27/01	11:52
Beryllium	313.04	0.021	0.62	0.65		1	ICP	9/27/01	11:52
Cadmium	226.50	0.048	0.62	1.9	NE	1	ICPST	10/3/01	19:25
Calcium	317.93	1.6	616	35700		1	ICP	9/27/01	11:52
Chromium	267.72	0.12	1.2	16.2		1	ICPST	10/3/01	19:25
Cobalt	228.62	0.36	6.2	6.0	B	1	ICP	9/27/01	11:52
Copper	324.75	0.30	3.1	245		1	ICP	9/27/01	11:52
Iron	259.94	0.60	123	11200	E	1	ICP	9/27/01	11:52
Lead	220.35	0.22	0.37	190		1	ICPST	10/3/01	19:25
Magnesium	279.08	2.6	616	18000	N	1	ICP	9/27/01	11:52
Manganese	257.61	0.11	1.9	322		1	ICP	9/27/01	11:52
Nickel	231.60	1.3	4.9	55.7		1	ICP	9/27/01	11:52
Potassium	766.49	54.0	616	348	B	1	ICP	9/27/01	11:52
Selenium	220.35	0.56	0.62	0.91		1	ICPST	10/3/01	19:25
Silver	328.07	0.11	1.2	3.6	*	1	ICPST	10/3/01	19:25
Sodium	589	1.5	616	208	B	1	ICP	9/27/01	11:52
Thallium	190.86	0.97	1.2	0.97	U	1	ICPST	10/3/01	19:25
Vanadium	292.40	0.31	6.2	9.7		1	ICP	9/27/01	11:52
Zinc	213.86	0.30	2.5	804		1	ICP	9/27/01	11:52

Comments: Lot #: C1I080123 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EJ8M4 **Client ID:** NTC17BBSD4905

Matrix: Soil **Units:** mg/kg **Prep Date:** 9/25/01 **Prep Batch:** 1268143

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 19.85

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	25.0	6720		1	ICP	9/27/01	11:56
Antimony	220.35	0.37	7.5	1.4	BN	1	ICPST	10/3/01	19:29
Arsenic	189.04	0.32	1.3	12.8		1	ICPST	10/3/01	19:29
Barium	493.41	0.046	25.0	73.0		1	ICP	9/27/01	11:56
Beryllium	313.04	0.021	0.62	0.96		1	ICP	9/27/01	11:56
Cadmium	226.50	0.049	0.62	7.4	NE	1	ICPST	10/3/01	19:29
Calcium	317.93	1.6	624	38800		1	ICP	9/27/01	11:56
Chromium	267.72	0.12	1.3	53.8		1	ICPST	10/3/01	19:29
Cobalt	228.62	0.36	6.2	9.8		1	ICP	9/27/01	11:56
Copper	324.75	0.30	3.1	457		1	ICP	9/27/01	11:56
Iron	259.94	0.61	125	16400	E	1	ICP	9/27/01	11:56
Lead	220.35	0.23	0.37	299		1	ICPST	10/3/01	19:29
Magnesium	279.08	2.7	624	18600	N	1	ICP	9/27/01	11:56
Manganese	257.61	0.11	1.9	450		1	ICP	9/27/01	11:56
Nickel	231.60	1.3	5.0	133		1	ICP	9/27/01	11:56
Potassium	766.49	54.7	624	1240		1	ICP	9/27/01	11:56
Selenium	220.35	0.56	0.62	3.4		1	ICPST	10/3/01	19:29
Silver	328.07	0.11	1.3	44.0	*	1	ICPST	10/3/01	19:29
Sodium	589	1.5	624	325	B	1	ICP	9/27/01	11:56
Thallium	190.86	0.99	1.3	0.99	U	1	ICPST	10/3/01	19:29
Vanadium	292.40	0.31	6.2	17.3		1	ICP	9/27/01	11:56
Zinc	213.86	0.30	2.5	1040		1	ICP	9/27/01	11:56

Comments: Lot #: C1I080123 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

NTC Great Lakes, Illinois

Total Organic Carbon

Lab Name:	STL PITTSBURGH	**Method:**	MSA WALKLEY-B
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I070321
Matrix:	SOLID	**Date/Time Received:**	9/7/01 2:00:00PM
		SDG Number:	GL004

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17BBSD5005	001	EJ7371A8	20700	mg/kg	70.1	1	9/18/01 -9/18/01	1261403
NTC17BBSD4601	002	EJ74G1AK	2290	mg/kg	59.4	1	9/18/01 -9/18/01	1261403
NTC17BBSD4603	003	EJ74J1AK	18100	mg/kg	69.4	1	9/18/01 -9/18/01	1261403
NTC17BBSD4604	004	EJ74K1AK	30200	mg/kg	83.2	1	9/18/01 -9/18/01	1261403
NTC17BBSD4605	005	EJ74L1AK	9730	mg/kg	64.7	1	9/18/01 -9/18/01	1261403
NTCFD09060102	006	EJ74N1AK	27500	mg/kg	78.7	1	9/18/01 -9/18/01	1261403
NTC17BBSD4501	001	EJ8L31A8	7250	mg/kg	64.1	1	9/18/01 -9/18/01	1261404
NTC17BBSD4503	002	EJ8MJ1A9	24400	mg/kg	75.1	1	9/18/01 -9/18/01	1261404
NTC17BBSD4504	003	EJ8MM1A8	23400	mg/kg	78.0	1	9/18/01 -9/18/01	1261404
NTC17BBSD4505	004	EJ8MX1A9	25700	mg/kg	77.4	1	9/18/01 -9/18/01	1261404
NTC17BBSD4901	005	EJ8M01A9	7760	mg/kg	62.3	1	9/18/01 -9/18/01	1261404
NTC17BBSD4903	006	EJ8M21A9	5450	mg/kg	63.3	1	9/18/01 -9/18/01	1261404
NTC17BBSD4904	007	EJ8M31A9	4430	mg/kg	61.6	1	9/18/01 -9/18/01	1261404
NTC17BBSD4905	008	EJ8M41A9	8470	mg/kg	62.4	1	9/18/01 -9/18/01	1261404
NTC07SS160001	001	EKANK1A6	3300	mg/kg	56.4	1	9/18/01 -9/18/01	1261403
NTC07SB160108	002	EKAR11AH	10100	mg/kg	59.6	1	9/18/01 -9/18/01	1261403
NTC07SS010001	003	EKAR51AH	3750	mg/kg	58.9	1	9/18/01 -9/18/01	1261403
NTC07SB010110	004	EKAR61AH	3680	mg/kg	57.5	1	9/18/01 -9/18/01	1261403
NTC07SS130001	005	EKAR71AH	7720	mg/kg	59.2	1	9/18/01 -9/18/01	1261403

NTC Great Lakes, Illinois

pH

Lab Name:	STL PITTSBURGH	**Method:**	SW846 9045C
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I070321
Matrix:	SOLID	**Date/Time Received:**	9/7/01 2:00:00PM
		SDG Number:	GL004

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17BBSD5005	001	EJ7371AC	7.3	No Units		1	9/10/01 -9/10/01	1253322
NTC17BBSD4601	002	EJ74G1AM	7.3	No Units		1	9/10/01 -9/10/01	1253322
NTC17BBSD4603	003	EJ74J1AM	7.2	No Units		1	9/10/01 -9/10/01	1253322
NTC17BBSD4604	004	EJ74K1AM	7.4	No Units		1	9/10/01 -9/10/01	1253322
NTC17BBSD4605	005	EJ74L1AM	7.5	No Units		1	9/10/01 -9/10/01	1253322
NTCFD09060102	006	EJ74N1AM	7.4	No Units		1	9/10/01 -9/10/01	1253322
NTC17BBSD4501	001	EJ8L31AC	7.4	No Units		1	9/10/01 -9/10/01	1253322
NTC17BBSD4503	002	EJ8MJ1AL	7.8	No Units		1	9/10/01 -9/10/01	1253322
NTC17BBSD4504	003	EJ8MM1AC	7.5	No Units		1	9/10/01 -9/10/01	1253322
NTC17BBSD4505	004	EJ8MX1AL	7.5	No Units		1	9/10/01 -9/10/01	1253322
NTC17BBSD4901	005	EJ8M01AL	7.6	No Units		1	9/10/01 -9/10/01	1253322
NTC17BBSD4903	006	EJ8M21AL	7.8	No Units		1	9/10/01 -9/10/01	1253322
NTC17BBSD4904	007	EJ8M31AL	7.8	No Units		1	9/10/01 -9/10/01	1253322
NTC17BBSD4905	008	EJ8M41AL	7.5	No Units		1	9/10/01 -9/10/01	1253322

NTC Great Lakes, Illinois

Percent Solids

Lab Name:	STL PITTSBURGH	**Method:**	MCAWW 160.3 MOD
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I070321
Matrix:	SOLID	**Date/Time Received:**	9/7/01 2:00:00PM
		SDG Number:	GL004

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17BBSD5005	001	EJ7371A7	71.3	%		1	9/11/01 -9/12/01	1254190
NTC17BBSD4601	002	EJ74G1AJ	84.1	%		1	9/11/01 -9/12/01	1254190
NTC17BBSD4603	003	EJ74J1AJ	72.1	%		1	9/11/01 -9/12/01	1254190
NTC17BBSD4604	004	EJ74K1AJ	60.1	%		1	9/11/01 -9/12/01	1254190
NTC17BBSD4605	005	EJ74L1AJ	77.3	%		1	9/11/01 -9/12/01	1254190
NTCFD09060102	006	EJ74N1AJ	63.5	%		1	9/11/01 -9/12/01	1254190
NTC17BBSD4501	001	EJ8L31A9	78.0	%		1	9/11/01 -9/12/01	1254190
NTC17BBSD4503	002	EJ8MJ1CA	66.6	%		1	9/11/01 -9/12/01	1254190
NTC17BBSD4504	003	EJ8MM1A7	64.1	%		1	9/11/01 -9/12/01	1254190
NTC17BBSD4505	004	EJ8MX1CA	64.6	%		1	9/11/01 -9/12/01	1254190
NTC17BBSD4901	005	EJ8M01CA	80.3	%		1	9/11/01 -9/12/01	1254190
NTC17BBSD4903	006	EJ8M21CA	79.0	%		1	9/11/01 -9/12/01	1254190
NTC17BBSD4904	007	EJ8M31CA	81.2	%		1	9/11/01 -9/12/01	1254190
NTC17BBSD4905	008	EJ8M41CA	80.2	%		1	9/11/01 -9/12/01	1254190
NTC07SS160001	001	EKANK1AA	88.7	%		1	9/12/01 -9/13/01	1255174
NTC07SB160108	002	EKAR11AM	83.9	%		1	9/12/01 -9/13/01	1255174
NTC07SS010001	003	EKAR51AM	84.9	%		1	9/12/01 -9/13/01	1255174
NTC07SB010110	004	EKAR61AM	87.0	%		1	9/12/01 -9/13/01	1255174
NTC07SS130001	005	EKAR71AM	84.5	%		1	9/12/01 -9/13/01	1255174

STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248

SEVERN TRENT SERVICES
STL Burlington

Analytical Report

Severn Trent Laboratories
450 William Pitt Way

Pittsburgh, PA 15238

Attention : Veronica Bortot

Date : 09/17/01
ETR Number : 84665
Project No.: 21000
No. Samples: 1
Arrived : 09/11/01

Case:NTCGL SDG:C1I080123

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
464699	NTC17BBSD4504:09/07/01 @0835(Solid)	
AVS	Acid Volatile Sulfide	<10.6 f
IN623	Solids, Percent	71.7 c

Comments/Notes

f = mg/Kg dry weight
c = %W/W as received

< Last Page > Submitted By : STL Burlington

Kristine Duscalcon

U.S. EPA - CLP

-1-

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

NTC17BBSD4504

Lab Name: STL BURLINGTON Contract: 21000

Lab Code: STLVT Case No.: NTCGL SAS No.: SDG No.: C1I080123

Matrix (soil/water): SOLID Lab Sample ID: 464699

Level (low/med): LOW Date Received: 09/11/01

% Solids: 71.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-43-9	Cadmium	2.8		E	P
7440-50-8	Copper	251		E	P
7439-92-1	Lead	120		E	P
7439-97-6	Mercury	0.03			CV
7440-02-0	Nickel	51.5		E	P
7440-66-6	Zinc	628			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 005
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / mL Date Received: 09/25/01
Work Order: EK3ME1AA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:NA

QC Batch: 1271510

Client Sample Id: NTC17PCSW0201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
67-64-1	Acetone	10	U
71-43-2	Benzene	1.0	U
75-27-4	**Bromodichloromethane**	**0.74**	**J**
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
78-93-3	2-Butanone	5.0	U
75-15-0	Carbon disulfide	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	2.0	U
67-66-3	**Chloroform**	**1.2**	
74-87-3	Chloromethane	2.0	U
110-82-7	Cyclohexane	10	U
124-48-1	**Dibromochloromethane**	**0.59**	**J**
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
75-71-8	Dichlorodifluoromethane	2.0	U
75-34-3	1,1-Dichloroethane	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
156-59-2	**cis-1,2-Dichloroethene**	**1.1**	
156-60-5	trans-1,2-Dichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 005
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / mL Date Received: 09/25/01
Work Order: EK3ME1AA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:NA

QC Batch: 1271510

Client Sample Id: NTC17PCSW0201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
100-41-4	Ethylbenzene	1.0	U
591-78-6	2-Hexanone	5.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	10	U
75-09-2	Methylene chloride	2.0	U
108-87-2	Methylcyclohexane	10	U
108-10-1	4-Methyl-2-pentanone	5.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
127-18-4	**Tetrachloroethene**	**0.41**	**J**
71-55-6	1,1,1-Trichloroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
79-01-6	**Trichloroethene**	**0.46**	**J**
75-69-4	Trichlorofluoromethane	2.0	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	10	U
108-88-3	Toluene	1.0	U
75-01-4	Vinyl chloride	2.0	U
1330-20-7	Xylenes (total)	3.0	U
1634-04-4	Methyl tert-butyl ether (MTB	1.0	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 006
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / mL Date Received: 09/25/01
Work Order: EK3MM1AM Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:NA

QC Batch: 1271510

Client Sample Id: NTC17PCSW0301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
67-64-1	Acetone	4.4	J
71-43-2	Benzene	1.0	U
75-27-4	Bromodichloromethane	1.0	U
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
78-93-3	2-Butanone	5.0	U
75-15-0	Carbon disulfide	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	2.0	U
67-66-3	Chloroform	1.0	U
74-87-3	Chloromethane	2.0	U
110-82-7	Cyclohexane	10	U
124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
75-71-8	Dichlorodifluoromethane	2.0	U
75-34-3	1,1-Dichloroethane	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 006
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / mL Date Received: 09/25/01
Work Order: EK3MM1AM Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:NA

QC Batch: 1271510

Client Sample Id: NTC17PCSW0301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
100-41-4	Ethylbenzene	1.0	U
591-78-6	2-Hexanone	5.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	10	U
75-09-2	Methylene chloride	2.0	U
108-87-2	Methylcyclohexane	10	U
108-10-1	4-Methyl-2-pentanone	5.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
127-18-4	Tetrachloroethene	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
75-69-4	Trichlorofluoromethane	2.0	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	10	U
108-88-3	Toluene	1.0	U
75-01-4	Vinyl chloride	2.0	U
1330-20-7	Xylenes (total)	3.0	U
1634-04-4	Methyl tert-butyl ether (MTB	1.0	U

TETRA TECH NUS, INC.

Lab Name: Severn Trent Laboratories, Inc. SDG Number: GL007

Matrix: (soil/water) WATER Lab Sample ID: C1I250277 007
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / mL Date Received: 09/25/01
Work Order: EK3MN1AM Date Extracted: 09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %: NA

QC Batch: 1271510

Client Sample Id: NTC17PCSW0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
67-64-1	Acetone	2.6	J
71-43-2	Benzene	1.0	U
75-27-4	Bromodichloromethane	1.0	U
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
78-93-3	2-Butanone	5.0	U
75-15-0	Carbon disulfide	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	2.0	U
67-66-3	Chloroform	1.0	U
74-87-3	Chloromethane	2.0	U
110-82-7	Cyclohexane	10	U
124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
75-71-8	Dichlorodifluoromethane	2.0	U
75-34-3	1,1-Dichloroethane	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 007
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / mL Date Received: 09/25/01
Work Order: EK3MN1AM Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:NA

QC Batch: 1271510

Client Sample Id: NTC17PCSW0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
100-41-4	Ethylbenzene	1.0	U
591-78-6	2-Hexanone	5.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	10	U
75-09-2	Methylene chloride	2.0	U
108-87-2	Methylcyclohexane	10	U
108-10-1	4-Methyl-2-pentanone	5.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
127-18-4	Tetrachloroethene	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
75-69-4	Trichlorofluoromethane	2.0	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	10	U
108-88-3	Toluene	1.0	U
75-01-4	Vinyl chloride	2.0	U
1330-20-7	Xylenes (total)	3.0	U
1634-04-4	Methyl tert-butyl ether (MTB	1.0	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 008
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / mL Date Received: 09/25/01
Work Order: EK3MQ1CA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:NA

QC Batch: 1271510

Client Sample Id: NTC17PCSW0101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
67-64-1	**Acetone**	**11**	
71-43-2	Benzene	1.0	U
75-27-4	**Bromodichloromethane**	**0.34**	**J**
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
78-93-3	**2-Butanone**	**5.6**	
75-15-0	Carbon disulfide	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	2.0	U
67-66-3	**Chloroform**	**0.42**	**J**
74-87-3	Chloromethane	2.0	U
110-82-7	Cyclohexane	10	U
124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
75-71-8	Dichlorodifluoromethane	2.0	U
75-34-3	1,1-Dichloroethane	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
156-59-2	**cis-1,2-Dichloroethene**	**9.2**	
156-60-5	trans-1,2-Dichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 008
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / mL Date Received: 09/25/01
Work Order: EK3MQ1CA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:NA

QC Batch: 1271510

Client Sample Id: NTC17PCSW0101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
100-41-4	Ethylbenzene	1.0	U
591-78-6	2-Hexanone	5.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	10	U
75-09-2	Methylene chloride	2.0	U
108-87-2	Methylcyclohexane	10	U
108-10-1	4-Methyl-2-pentanone	5.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
127-18-4	**Tetrachloroethene**	**1.4**	
71-55-6	1,1,1-Trichloroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
79-01-6	**Trichloroethene**	**5.5**	
75-69-4	Trichlorofluoromethane	2.0	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	10	U
108-88-3	**Toluene**	**0.70**	**J**
75-01-4	**Vinyl chloride**	**0.77**	**J**
1330-20-7	Xylenes (total)	3.0	U
1634-04-4	Methyl tert-butyl ether (MTB	1.0	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 005
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3ME1A7 Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:NA

QC Batch: 1272141

Client Sample Id: NTC17PCSW0201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
83-32-9	Acenaphthene	10	U
208-96-8	Acenaphthylene	10	U
98-86-2	Acetophenone	10	U
120-12-7	Anthracene	10	U
1912-24-9	Atrazine	10	U
56-55-3	Benzo(a)anthracene	10	U
50-32-8	Benzo(a)pyrene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
191-24-2	Benzo(ghi)perylene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
100-52-7	Benzaldehyde	10	U
92-52-4	1,1'-Biphenyl	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
111-44-4	bis(2-Chloroethyl) ether	10	U
117-81-7	bis(2-Ethylhexyl) phthalate	10	U
101-55-3	4-Bromophenyl phenyl ether	10	U
85-68-7	Butyl benzyl phthalate	10	U
105-60-2	Caprolactam	10	U
86-74-8	Carbazole	10	U
106-47-8	4-Chloroaniline	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-58-7	2-Chloronaphthalene	10	U
95-57-8	2-Chlorophenol	10	U
7005-72-3	4-Chlorophenyl phenyl ether	10	U
218-01-9	Chrysene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
132-64-9	Dibenzofuran	10	U
91-94-1	3,3'-Dichlorobenzidine	50	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 005
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3ME1A7 Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:NA

QC Batch: 1272141

Client Sample Id: NTC17PCSW0201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
120-83-2	2,4-Dichlorophenol	10	U
84-66-2	Diethyl phthalate	10	U
105-67-9	2,4-Dimethylphenol	10	U
131-11-3	Dimethyl phthalate	10	U
84-74-2	Di-n-butyl phthalate	10	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
51-28-5	2,4-Dinitrophenol	50	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
117-84-0	Di-n-octyl phthalate	10	U
206-44-0	Fluoranthene	10	U
86-73-7	Fluorene	10	U
118-74-1	Hexachlorobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
77-47-4	Hexachlorocyclopentadiene	50	U
67-72-1	Hexachloroethane	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
78-59-1	Isophorone	10	U
91-57-6	2-Methylnaphthalene	10	U
95-48-7	2-Methylphenol	10	U
106-44-5	4-Methylphenol	10	U
91-20-3	Naphthalene	10	U
88-74-4	2-Nitroaniline	50	U
99-09-2	3-Nitroaniline	50	U
100-01-6	4-Nitroaniline	50	U
98-95-3	Nitrobenzene	10	U
88-75-5	2-Nitrophenol	10	U
100-02-7	4-Nitrophenol	50	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 005
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3ME1A7 Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:NA

QC Batch: 1272141

Client Sample Id: NTC17PCSW0201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
621-64-7	N-Nitrosodi-n-propylamine	10	U
86-30-6	N-Nitrosodiphenylamine	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
108-95-2	Phenol	10	U
129-00-0	Pyrene	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
88-06-2	2,4,6-Trichlorophenol	10	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 006
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3MM1AJ Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:NA

QC Batch: 1272141

Client Sample Id: NTC17PCSW0301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
83-32-9	Acenaphthene	10	U
208-96-8	Acenaphthylene	10	U
98-86-2	Acetophenone	10	U
120-12-7	Anthracene	10	U
1912-24-9	Atrazine	10	U
56-55-3	Benzo(a)anthracene	10	U
50-32-8	Benzo(a)pyrene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
191-24-2	Benzo(ghi)perylene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
100-52-7	Benzaldehyde	10	U
92-52-4	1,1'-Biphenyl	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
111-44-4	bis(2-Chloroethyl) ether	10	U
117-81-7	bis(2-Ethylhexyl) phthalate	10	U
101-55-3	4-Bromophenyl phenyl ether	10	U
85-68-7	Butyl benzyl phthalate	10	U
105-60-2	Caprolactam	10	U
86-74-8	Carbazole	10	U
106-47-8	4-Chloroaniline	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-58-7	2-Chloronaphthalene	10	U
95-57-8	2-Chlorophenol	10	U
7005-72-3	4-Chlorophenyl phenyl ether	10	U
218-01-9	Chrysene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
132-64-9	Dibenzofuran	10	U
91-94-1	3,3'-Dichlorobenzidine	50	U

Lab Name: Severn Trent Laboratories, Inc. SDG Number: GL007

Matrix: (soil/water) WATER Lab Sample ID: C1I250277 006
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3MM1AJ Date Extracted: 09/28/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %: NA

QC Batch: 1272141

Client Sample Id: NTC17PCSW0301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
120-83-2	2,4-Dichlorophenol	10	U
84-66-2	Diethyl phthalate	10	U
105-67-9	2,4-Dimethylphenol	10	U
131-11-3	Dimethyl phthalate	10	U
84-74-2	Di-n-butyl phthalate	10	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
51-28-5	2,4-Dinitrophenol	50	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
117-84-0	Di-n-octyl phthalate	10	U
206-44-0	Fluoranthene	10	U
86-73-7	Fluorene	10	U
118-74-1	Hexachlorobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
77-47-4	Hexachlorocyclopentadiene	50	U
67-72-1	Hexachloroethane	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
78-59-1	Isophorone	10	U
91-57-6	2-Methylnaphthalene	10	U
95-48-7	2-Methylphenol	10	U
106-44-5	4-Methylphenol	10	U
91-20-3	Naphthalene	10	U
88-74-4	2-Nitroaniline	50	U
99-09-2	3-Nitroaniline	50	U
100-01-6	4-Nitroaniline	50	U
98-95-3	Nitrobenzene	10	U
88-75-5	2-Nitrophenol	10	U
100-02-7	4-Nitrophenol	50	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 006
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3MM1AJ Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:NA

QC Batch: 1272141

Client Sample Id: NTC17PCSW0301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
621-64-7	N-Nitrosodi-n-propylamine	10	U
86-30-6	N-Nitrosodiphenylamine	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
108-95-2	Phenol	10	U
129-00-0	Pyrene	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
88-06-2	2,4,6-Trichlorophenol	10	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 007
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3MN1AJ Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 10/17/01
Moisture %:NA

QC Batch: 1272141

Client Sample Id: NTC17PCSW0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
83-32-9	Acenaphthene	10	U
208-96-8	Acenaphthylene	10	U
98-86-2	Acetophenone	10	U
120-12-7	Anthracene	10	U
1912-24-9	Atrazine	10	U
56-55-3	Benzo(a)anthracene	10	U
50-32-8	Benzo(a)pyrene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
191-24-2	Benzo(ghi)perylene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
100-52-7	Benzaldehyde	10	U
92-52-4	1,1'-Biphenyl	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
111-44-4	bis(2-Chloroethyl) ether	10	U
117-81-7	bis(2-Ethylhexyl) phthalate	10	U
101-55-3	4-Bromophenyl phenyl ether	10	U
85-68-7	Butyl benzyl phthalate	10	U
105-60-2	Caprolactam	10	U
86-74-8	Carbazole	10	U
106-47-8	4-Chloroaniline	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-58-7	2-Chloronaphthalene	10	U
95-57-8	2-Chlorophenol	10	U
7005-72-3	4-Chlorophenyl phenyl ether	10	U
218-01-9	Chrysene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
132-64-9	Dibenzofuran	10	U
91-94-1	3,3'-Dichlorobenzidine	50	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 007
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3MN1AJ Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 10/17/01
Moisture %:NA

QC Batch: 1272141

Client Sample Id: NTC17PCSW0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
120-83-2	2,4-Dichlorophenol	10	U
84-66-2	Diethyl phthalate	10	U
105-67-9	2,4-Dimethylphenol	10	U
131-11-3	Dimethyl phthalate	10	U
84-74-2	Di-n-butyl phthalate	10	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
51-28-5	2,4-Dinitrophenol	50	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
117-84-0	Di-n-octyl phthalate	10	U
206-44-0	Fluoranthene	10	U
86-73-7	Fluorene	10	U
118-74-1	Hexachlorobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
77-47-4	Hexachlorocyclopentadiene	50	U
67-72-1	Hexachloroethane	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
78-59-1	Isophorone	10	U
91-57-6	2-Methylnaphthalene	10	U
95-48-7	2-Methylphenol	10	U
106-44-5	4-Methylphenol	10	U
91-20-3	Naphthalene	10	U
88-74-4	2-Nitroaniline	50	U
99-09-2	3-Nitroaniline	50	U
100-01-6	4-Nitroaniline	50	U
98-95-3	Nitrobenzene	10	U
88-75-5	2-Nitrophenol	10	U
100-02-7	4-Nitrophenol	50	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 007
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3MN1AJ Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 10/17/01
Moisture %:NA

QC Batch: 1272141

Client Sample Id: NTC17PCSW0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
621-64-7	N-Nitrosodi-n-propylamine	10	U
86-30-6	N-Nitrosodiphenylamine	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
108-95-2	Phenol	10	U
129-00-0	Pyrene	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
88-06-2	2,4,6-Trichlorophenol	10	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 008
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3MQ1A1 Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:NA

QC Batch: 1272141

Client Sample Id: NTC17PCSW0101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
83-32-9	Acenaphthene	10	U
208-96-8	Acenaphthylene	10	U
98-86-2	Acetophenone	10	U
120-12-7	Anthracene	10	U
1912-24-9	Atrazine	10	U
56-55-3	Benzo(a)anthracene	10	U
50-32-8	Benzo(a)pyrene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
191-24-2	Benzo(ghi)perylene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
100-52-7	Benzaldehyde	10	U
92-52-4	1,1'-Biphenyl	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
111-44-4	bis(2-Chloroethyl) ether	10	U
117-81-7	bis(2-Ethylhexyl) phthalate	10	U
101-55-3	4-Bromophenyl phenyl ether	10	U
85-68-7	Butyl benzyl phthalate	10	U
105-60-2	Caprolactam	10	U
86-74-8	Carbazole	10	U
106-47-8	4-Chloroaniline	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-58-7	2-Chloronaphthalene	10	U
95-57-8	2-Chlorophenol	10	U
7005-72-3	4-Chlorophenyl phenyl ether	10	U
218-01-9	Chrysene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
132-64-9	Dibenzofuran	10	U
91-94-1	3,3'-Dichlorobenzidine	50	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 008
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3MQ1A1 Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:NA

QC Batch: 1272141

Client Sample Id: NTC17PCSW0101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
120-83-2	2,4-Dichlorophenol	10	U
84-66-2	Diethyl phthalate	10	U
105-67-9	2,4-Dimethylphenol	10	U
131-11-3	Dimethyl phthalate	10	U
84-74-2	Di-n-butyl phthalate	2.7	J
534-52-1	4,6-Dinitro-2-methylphenol	50	U
51-28-5	2,4-Dinitrophenol	50	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
117-84-0	Di-n-octyl phthalate	10	U
206-44-0	Fluoranthene	10	U
86-73-7	Fluorene	10	U
118-74-1	Hexachlorobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
77-47-4	Hexachlorocyclopentadiene	50	U
67-72-1	Hexachloroethane	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
78-59-1	Isophorone	10	U
91-57-6	2-Methylnaphthalene	10	U
95-48-7	2-Methylphenol	10	U
106-44-5	4-Methylphenol	10	U
91-20-3	Naphthalene	10	U
88-74-4	2-Nitroaniline	50	U
99-09-2	3-Nitroaniline	50	U
100-01-6	4-Nitroaniline	50	U
98-95-3	Nitrobenzene	10	U
88-75-5	2-Nitrophenol	10	U
100-02-7	4-Nitrophenol	50	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 008
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3MQ1A1 Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:NA

QC Batch: 1272141

Client Sample Id: NTC17PCSW0101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
621-64-7	N-Nitrosodi-n-propylamine	10	U
86-30-6	N-Nitrosodiphenylamine	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
108-95-2	Phenol	10	U
129-00-0	Pyrene	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
88-06-2	2,4,6-Trichlorophenol	10	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250277 005

Sample WT/Vol: 1000 / mL
Work Order: EK3ME1A4
Dilution factor: 1
Moisture %:NA

Date Received: 09/25/01
Date Extracted:09/27/01
Date Analyzed: 10/04/01

QC Batch: 1270589

Client Sample Id: NTC17PCSW0201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.050	U
72-55-9	**4,4'-DDE**	**0.024**	**J**
72-20-8	Endrin	0.050	U
53494-70-5	Endrin ketone	0.050	U
7421-93-4	Endrin aldehyde	0.050	U
33213-65-9	Endosulfan II	0.050	U
72-54-8	**4,4'-DDD**	**0.0054**	**J P**
1031-07-8	Endosulfan sulfate	0.050	U
50-29-3	**4,4'-DDT**	**0.029**	**J**
72-43-5	Methoxychlor	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.0	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250277 006

Sample WT/Vol: 1000 / mL
Work Order: EK3MM1AF
Dilution factor: 1
Moisture %:NA

Date Received: 09/25/01
Date Extracted:09/27/01
Date Analyzed: 10/04/01

QC Batch: 1270589

Client Sample Id: NTC17PCSW0301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.050	U
72-55-9	**4,4'-DDE**	**0.010**	**J P**
72-20-8	Endrin	0.050	U
53494-70-5	Endrin ketone	0.050	U
7421-93-4	Endrin aldehyde	0.050	U
33213-65-9	Endosulfan II	0.050	U
72-54-8	4,4'-DDD	0.050	U
1031-07-8	Endosulfan sulfate	0.050	U
50-29-3	4,4'-DDT	0.050	U
72-43-5	Methoxychlor	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.0	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250277 007

Sample WT/Vol: 1000 / mL
Work Order: EK3MN1AF
Dilution factor: 1
Moisture %:NA

Date Received: 09/25/01
Date Extracted:09/27/01
Date Analyzed: 10/04/01

QC Batch: 1270589

Client Sample Id: NTC17PCSW0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.050	U
72-55-9	**4,4'-DDE**	**0.0064**	**J P**
72-20-8	Endrin	0.050	U
53494-70-5	Endrin ketone	0.050	U
7421-93-4	Endrin aldehyde	0.050	U
33213-65-9	Endosulfan II	0.050	U
72-54-8	4,4'-DDD	0.050	U
1031-07-8	Endosulfan sulfate	0.050	U
50-29-3	4,4'-DDT	0.050	U
72-43-5	Methoxychlor	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.0	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 008
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3MQ1AP Date Extracted:09/27/01
Dilution factor: 1 Date Analyzed: 10/04/01
Moisture %:NA

QC Batch: 1270589

Client Sample Id: NTC17PCSW0101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.050	U
72-55-9	4,4'-DDE	0.050	U
72-20-8	Endrin	0.050	U
53494-70-5	Endrin ketone	0.050	U
7421-93-4	Endrin aldehyde	0.050	U
33213-65-9	Endosulfan II	0.050	U
72-54-8	4,4'-DDD	0.050	U
1031-07-8	Endosulfan sulfate	0.050	U
50-29-3	4,4'-DDT	0.050	U
72-43-5	Methoxychlor	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.0	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250277 005

Sample WT/Vol: 1000 / mL
Work Order: EK3ME1A5
Dilution factor: 1
Moisture %:NA

Date Received: 09/25/01
Date Extracted:09/27/01
Date Analyzed: 10/05/01

QC Batch: 1270587

Client Sample Id: NTC17PCSW0201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
12674-11-2	Aroclor 1016	1.0	U
11104-28-2	Aroclor 1221	1.0	U
11141-16-5	Aroclor 1232	1.0	U
53469-21-9	Aroclor 1242	1.0	U
12672-29-6	Aroclor 1248	1.0	U
11097-69-1	Aroclor 1254	1.0	U
11096-82-5	Aroclor 1260	1.0	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 006
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3MM1AG Date Extracted:09/27/01
Dilution factor: 1 Date Analyzed: 10/05/01
Moisture %:NA

QC Batch: 1270587

Client Sample Id: NTC17PCSW0301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
12674-11-2	Aroclor 1016	1.0	U
11104-28-2	Aroclor 1221	1.0	U
11141-16-5	Aroclor 1232	1.0	U
53469-21-9	Aroclor 1242	1.0	U
12672-29-6	Aroclor 1248	1.0	U
11097-69-1	Aroclor 1254	1.0	U
11096-82-5	Aroclor 1260	1.0	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250277 007

Sample WT/Vol: 1000 / mL
Work Order: EK3MN1AG
Dilution factor: 1
Moisture %:NA

Date Received: 09/25/01
Date Extracted:09/27/01
Date Analyzed: 10/05/01

QC Batch: 1270587

Client Sample Id: NTC17PCSW0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L		Q
12674-11-2	Aroclor 1016		1.0	U
11104-28-2	Aroclor 1221		1.0	U
11141-16-5	Aroclor 1232		1.0	U
53469-21-9	Aroclor 1242		1.0	U
12672-29-6	Aroclor 1248		1.0	U
11097-69-1	Aroclor 1254		1.0	U
11096-82-5	Aroclor 1260		1.0	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL007

Matrix: (soil/water) WATER Lab Sample ID:C1I250277 008
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 1000 / mL Date Received: 09/25/01
Work Order: EK3MQ1AT Date Extracted:09/27/01
Dilution factor: 1 Date Analyzed: 10/05/01
Moisture %:NA

QC Batch: 1270587

Client Sample Id: NTC17PCSW0101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
12674-11-2	Aroclor 1016	1.0	U
11104-28-2	Aroclor 1221	1.0	U
11141-16-5	Aroclor 1232	1.0	U
53469-21-9	Aroclor 1242	1.0	U
12672-29-6	Aroclor 1248	1.0	U
11097-69-1	Aroclor 1254	1.0	U
11096-82-5	Aroclor 1260	1.0	U

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MEF **Client ID:** NTC17PCSW0201F

Matrix: Water **Units:** ug/L **Prep Date:** 10/10/01 **Prep Batch:** 1283138

Weight: NA **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.047	0.20	0.047	U	1	CVAA	10/10/01	16:28

Comments: Lot #: C1I250277 Sample #: 5 DISSOLVED METALS ANALYSIS

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MMF **Client ID:** NTC17PCSW0301F

Matrix: Water **Units:** ug/L **Prep Date:** 10/10/01 **Prep Batch:** 1283138

Weight: NA **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.047	0.20	0.047	U	1	CVAA	10/10/01	16:29

Comments: Lot #: C1I250277 Sample #: 6 DISSOLVED METALS ANALYSIS

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MNF **Client ID:** NTC17PCSW0401F

Matrix: Water **Units:** ug/L **Prep Date:** 10/10/01 **Prep Batch:** 1283138

Weight: NA **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.047	0.20	0.078	B	1	CVAA	10/10/01	16:31

Comments: Lot #: C1I250277 Sample #: 7 DISSOLVED METALS ANALYSIS

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MQF **Client ID:** NTC17PCSW0101F

Matrix: Water **Units:** ug/L **Prep Date:** 10/10/01 **Prep Batch:** 1283138

Weight: NA **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.047	0.20	0.047	U	1	CVAA	10/10/01	16:32

Comments: Lot #: C1I250277 Sample #: 8 DISSOLVED METALS ANALYSIS

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3ME **Client ID:** NTC17PCSW0201

Matrix: Water **Units:** ug/L **Prep Date:** 10/10/01 **Prep Batch:** 1283178

Weight: NA **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.047	0.20	0.047	B	1	CVAA	10/10/01	16:10

Comments: Lot #: C1I250277 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MM **Client ID:** NTC17PCSW0301

Matrix: Water **Units:** ug/L **Prep Date:** 10/10/01 **Prep Batch:** 1283178

Weight: NA **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.047	0.20	0.069	B	1	CVAA	10/10/01	16:11

Comments: Lot #: C1I250277 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MN **Client ID:** NTC17PCSW0401

Matrix: Water **Units:** ug/L **Prep Date:** 10/10/01 **Prep Batch:** 1283178

Weight: NA **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.047	0.20	0.095	B	1	CVAA	10/10/01	16:13

Comments: Lot #: C1I250277 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MQ **Client ID:** NTC17PCSW0101

Matrix: Water **Units:** ug/L **Prep Date:** 10/10/01 **Prep Batch:** 1283178

Weight: NA **Volume:** 100 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.047	0.20	0.064	B	1	CVAA	10/10/01	16:14

Comments: Lot #: C1I250277 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MEF **Client ID:** NTC17PCSW0201F

Matrix: Water **Units:** ug/L **Prep Date:** 10/13/01 **Prep Batch:** 1285134

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**21.1**	**200**	**35.0**	**B**	**1**	**ICP**	**10/19/01**	**21:12**
Antimony	220.35	2.4	10.0	2.4	U	1	ICPST	10/18/01	22:24
Arsenic	189.04	3.2	10.0	3.2	U	1	ICPST	10/18/01	22:24
Barium	**493.41**	**0.37**	**200**	**44.2**	**B**	**1**	**ICP**	**10/19/01**	**21:12**
Beryllium	313.04	0.17	5.0	0.17	U	1	ICP	10/19/01	21:12
Cadmium	226.50	0.51	5.0	0.51	U	1	ICPST	10/18/01	22:24
Calcium	**317.93**	**13.1**	**5000**	**73800**		**1**	**ICP**	**10/19/01**	**21:12**
Chromium	**267.72**	**0.74**	**5.0**	**3.3**	**B**	**1**	**ICPST**	**10/18/01**	**22:24**
Cobalt	228.62	2.9	50.0	2.9	U	1	ICP	10/19/01	21:12
Copper	**324.75**	**2.4**	**25.0**	**8.7**	**B**	**1**	**ICP**	**10/19/01**	**21:12**
Iron	**259.94**	**4.9**	**1000**	**344**	**B**	**1**	**ICP**	**10/19/01**	**21:12**
Lead	220.35	2.5	3.0	2.5	U	1	ICPST	10/18/01	22:24
Magnesium	**279.08**	**21.4**	**5000**	**28200**		**1**	**ICP**	**10/19/01**	**21:12**
Manganese	**257.61**	**0.89**	**15.0**	**21.9**		**1**	**ICP**	**10/19/01**	**21:12**
Nickel	231.60	10.4	40.0	10.4	U	1	ICP	10/19/01	21:12
Potassium	**766.49**	**438**	**5000**	**3540**	**B**	**1**	**ICP**	**10/19/01**	**21:12**
Selenium	220.35	3.3	5.0	3.3	U	1	ICPST	10/18/01	22:24
Silver	328.07	0.80	5.0	0.80	U	1	ICPST	10/18/01	22:24
Sodium	**589**	**11.9**	**5000**	**92800**		**1**	**ICP**	**10/19/01**	**21:12**
Thallium	190.86	5.7	10.0	5.7	U	1	ICPST	10/18/01	22:24
Vanadium	**292.40**	**2.5**	**50.0**	**2.8**	**B**	**1**	**ICP**	**10/19/01**	**21:12**
Zinc	**213.86**	**2.4**	**20.0**	**33.4**		**1**	**ICP**	**10/19/01**	**21:12**

Comments: Lot #: C1I250277 Sample #: 5 DISSOLVED METALS ANALYSIS

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MMF **Client ID:** NTC17PCSW0301F

Matrix: Water **Units:** ug/L **Prep Date:** 10/13/01 **Prep Batch:** 1285134

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**21.1**	**200**	**114**	**B**	**1**	**ICP**	**10/19/01**	**21:16**
Antimony	220.35	2.4	10.0	2.4	U	1	ICPST	10/18/01	22:28
Arsenic	189.04	3.2	10.0	3.2	U	1	ICPST	10/18/01	22:28
Barium	***493.41***	***0.37***	***200***	***16.8***	***B***	***1***	***ICP***	***10/19/01***	***21:16***
Beryllium	313.04	0.17	5.0	0.17	U	1	ICP	10/19/01	21:16
Cadmium	226.50	0.51	5.0	0.51	U	1	ICPST	10/18/01	22:28
Calcium	**317.93**	**13.1**	**5000**	**28300**		**1**	**ICP**	**10/19/01**	**21:16**
Chromium	**267.72**	**0.74**	**5.0**	**2.7**	**B**	**1**	**ICPST**	**10/18/01**	**22:28**
Cobalt	228.62	2.9	50.0	2.9	U	1	ICP	10/19/01	21:16
Copper	**324.75**	**2.4**	**25.0**	**10.7**	**B**	**1**	**ICP**	**10/19/01**	**21:16**
Iron	**259.94**	**4.9**	**1000**	**141**	**B**	**1**	**ICP**	**10/19/01**	**21:16**
Lead	220.35	2.5	3.0	2.5	U	1	ICPST	10/18/01	22:28
Magnesium	**279.08**	**21.4**	**5000**	**11500**		**1**	**ICP**	**10/19/01**	**21:16**
Manganese	***257.61***	***0.89***	***15.0***	***16.5***		***1***	***ICP***	***10/19/01***	***21:16***
Nickel	231.60	10.4	40.0	10.4	U	1	ICP	10/19/01	21:16
Potassium	**766.49**	**438**	**5000**	**2730**	**B**	**1**	**ICP**	**10/19/01**	**21:16**
Selenium	220.35	3.3	5.0	3.3	U	1	ICPST	10/18/01	22:28
Silver	328.07	0.80	5.0	0.80	B	1	ICPST	10/18/01	22:28
Sodium	**589**	**11.9**	**5000**	**31500**		**1**	**ICP**	**10/19/01**	**21:16**
Thallium	190.86	5.7	10.0	5.7	U	1	ICPST	10/18/01	22:28
Vanadium	292.40	2.5	50.0	2.5	U	1	ICP	10/19/01	21:16
Zinc	**213.86**	**2.4**	**20.0**	**5.6**	**B**	**1**	**ICP**	**10/19/01**	**21:16**

Comments: Lot #: C1I250277 Sample #: 6 DISSOLVED METALS ANALYSIS

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MNF **Client ID:** NTC17PCSW0401F

Matrix: Water **Units:** ug/L **Prep Date:** 10/13/01 **Prep Batch:** 1285134

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**21.1**	**200**	**25.5**	**B**	**1**	**ICP**	**10/19/01**	**21:19**
Antimony	220.35	2.4	10.0	2.4	U	1	ICPST	10/18/01	22:33
Arsenic	189.04	3.2	10.0	3.2	U	1	ICPST	10/18/01	22:33
Barium	**493.41**	**0.37**	**200**	**30.0**	**B**	**1**	**ICP**	**10/19/01**	**21:19**
Beryllium	313.04	0.17	5.0	0.17	U	1	ICP	10/19/01	21:19
Cadmium	226.50	0.51	5.0	0.51	U	1	ICPST	10/18/01	22:33
Calcium	**317.93**	**13.1**	**5000**	**54300**		**1**	**ICP**	**10/19/01**	**21:19**
Chromium	**267.72**	**0.74**	**5.0**	**1.5**	**B**	**1**	**ICPST**	**10/18/01**	**22:33**
Cobalt	228.62	2.9	50.0	2.9	U	1	ICP	10/19/01	21:19
Copper	**324.75**	**2.4**	**25.0**	**5.8**	**B**	**1**	**ICP**	**10/19/01**	**21:19**
Iron	**259.94**	**4.9**	**1000**	**82.9**	**B**	**1**	**ICP**	**10/19/01**	**21:19**
Lead	220.35	2.5	3.0	2.5	U	1	ICPST	10/18/01	22:33
Magnesium	**279.08**	**21.4**	**5000**	**25800**		**1**	**ICP**	**10/19/01**	**21:19**
Manganese	**257.61**	**0.89**	**15.0**	**33.8**		**1**	**ICP**	**10/19/01**	**21:19**
Nickel	231.60	10.4	40.0	10.4	U	1	ICP	10/19/01	21:19
Potassium	**766.49**	**438**	**5000**	**3790**	**B**	**1**	**ICP**	**10/19/01**	**21:19**
Selenium	220.35	3.3	5.0	3.3	U	1	ICPST	10/18/01	22:33
Silver	**328.07**	**0.80**	**5.0**	**1.0**	**B**	**1**	**ICPST**	**10/18/01**	**22:33**
Sodium	**589**	**11.9**	**5000**	**53000**		**1**	**ICP**	**10/19/01**	**21:19**
Thallium	190.86	5.7	10.0	5.7	U	1	ICPST	10/18/01	22:33
Vanadium	292.40	2.5	50.0	2.5	U	1	ICP	10/19/01	21:19
Zinc	**213.86**	**2.4**	**20.0**	**8.3**	**B**	**1**	**ICP**	**10/19/01**	**21:19**

Comments: Lot #: C1I250277 Sample #: 7 DISSOLVED METALS ANALYSIS

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MQF **Client ID:** NTC17PCSW0101F

Matrix: Water **Units:** ug/L **Prep Date:** 10/13/01 **Prep Batch:** 1285134

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	21.1	200	21.1	U	1	ICP	10/19/01	21:22
Antimony	220.35	2.4	10.0	2.4	U	1	ICPST	10/19/01	12:39
Arsenic	189.04	3.2	10.0	3.2	U	1	ICPST	10/19/01	12:39
Barium	**493.41**	**0.37**	**200**	**53.3**	**B**	**1**	**ICP**	**10/19/01**	**21:22**
Beryllium	313.04	0.17	5.0	0.17	U	1	ICP	10/19/01	21:22
Cadmium	**226.50**	**0.51**	**5.0**	**0.58**	**B**	**1**	**ICPST**	**10/19/01**	**12:39**
Calcium	**317.93**	**13.1**	**5000**	**87500**		**1**	**ICP**	**10/19/01**	**21:22**
Chromium	**267.72**	**0.74**	**5.0**	**1.7**	**B**	**1**	**ICPST**	**10/19/01**	**12:39**
Cobalt	228.62	2.9	50.0	2.9	U	1	ICP	10/19/01	21:22
Copper	**324.75**	**2.4**	**25.0**	**10.7**	**B**	**1**	**ICP**	**10/19/01**	**21:22**
Iron	**259.94**	**4.9**	**1000**	**30.3**	**B**	**1**	**ICP**	**10/19/01**	**21:22**
Lead	220.35	2.5	3.0	2.5	U	1	ICPST	10/19/01	12:39
Magnesium	**279.08**	**21.4**	**5000**	**35700**		**1**	**ICP**	**10/19/01**	**21:22**
Manganese	**257.61**	**0.89**	**15.0**	**46.3**		**1**	**ICP**	**10/19/01**	**21:22**
Nickel	231.60	10.4	40.0	10.4	U	1	ICP	10/19/01	21:22
Potassium	**766.49**	**438**	**5000**	**5150**		**1**	**ICP**	**10/19/01**	**21:22**
Selenium	**220.35**	**3.3**	**5.0**	**4.4**	**B**	**1**	**ICPST**	**10/19/01**	**12:39**
Silver	**328.07**	**0.80**	**5.0**	**0.97**	**B**	**1**	**ICPST**	**10/19/01**	**12:39**
Sodium	**589**	**11.9**	**5000**	**115000**		**1**	**ICP**	**10/19/01**	**21:22**
Thallium	190.86	5.7	10.0	5.7	U	1	ICPST	10/19/01	12:39
Vanadium	292.40	2.5	50.0	2.5	U	1	ICP	10/19/01	21:22
Zinc	**213.86**	**2.4**	**20.0**	**111**		**1**	**ICP**	**10/19/01**	**21:22**

Comments: Lot #: C1I250277 Sample #: 8 DISSOLVED METALS ANALYSIS

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3ME **Client ID:** NTC17PCSW0201

Matrix: Water **Units:** ug/L **Prep Date:** 10/13/01 **Prep Batch:** 1285135

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**21.1**	**200**	**675**		**1**	**ICP**	**10/19/01**	**20:31**
Antimony	220.35	2.4	10.0	2.4	U	1	ICPST	10/19/01	14:20
Arsenic	189.04	3.2	10.0	3.2	U	1	ICPST	10/19/01	14:20
Barium	**493.41**	**0.37**	**200**	**49.8**	**B**	**1**	**ICP**	**10/19/01**	**20:31**
Beryllium	313.04	0.17	5.0	0.17	U	1	ICP	10/19/01	20:31
Cadmium	226.50	0.51	5.0	0.51	U	1	ICPST	10/19/01	14:20
Calcium	**317.93**	**13.1**	**5000**	**76400**		**1**	**ICP**	**10/19/01**	**20:31**
Chromium	**267.72**	**0.74**	**5.0**	**5.4**		**1**	**ICPST**	**10/19/01**	**14:20**
Cobalt	228.62	2.9	50.0	2.9	U	1	ICP	10/19/01	20:31
Copper	**324.75**	**2.4**	**25.0**	**12.9**	**B**	**1**	**ICP**	**10/19/01**	**20:31**
Iron	**259.94**	**4.9**	**1000**	**843**	**B**	**1**	**ICP**	**10/19/01**	**20:31**
Lead	**220.35**	**2.5**	**3.0**	**3.9**		**1**	**ICPST**	**10/19/01**	**14:20**
Magnesium	**279.08**	**21.4**	**5000**	**29500**		**1**	**ICP**	**10/19/01**	**20:31**
Manganese	**257.61**	**0.89**	**15.0**	**35.8**		**1**	**ICP**	**10/19/01**	**20:31**
Nickel	231.60	10.4	40.0	10.4	U	1	ICP	10/19/01	20:31
Potassium	**766.49**	**438**	**5000**	**3710**	**B**	**1**	**ICP**	**10/19/01**	**20:31**
Selenium	220.35	3.3	5.0	3.3	U	1	ICPST	10/19/01	14:20
Silver	**328.07**	**0.80**	**5.0**	**1.5**	**B**	**1**	**ICPST**	**10/19/01**	**14:20**
Sodium	**589**	**11.9**	**5000**	**95400**		**1**	**ICP**	**10/19/01**	**20:31**
Thallium	190.86	5.7	10.0	5.7	U	1	ICPST	10/19/01	14:20
Vanadium	**292.40**	**2.5**	**50.0**	**2.9**	**B**	**1**	**ICP**	**10/19/01**	**20:31**
Zinc	**213.86**	**2.4**	**20.0**	**58.3**	**E**	**1**	**ICP**	**10/19/01**	**20:31**

Comments: Lot #: C1I250277 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MM **Client ID:** NTC17PCSW0301

Matrix: Water **Units:** ug/L **Prep Date:** 10/13/01 **Prep Batch:** 1285135

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**21.1**	**200**	**9460**		**1**	**ICP**	**10/19/01**	**20:35**
Antimony	220.35	2.4	10.0	2.4	U	1	ICPST	10/19/01	14:25
Arsenic	**189.04**	**3.2**	**10.0**	**3.7**	**B**	**1**	**ICPST**	**10/19/01**	**14:25**
Barium	**493.41**	**0.37**	**200**	**61.8**	**B**	**1**	**ICP**	**10/19/01**	**20:35**
Beryllium	**313.04**	**0.17**	**5.0**	**0.26**	**B**	**1**	**ICP**	**10/19/01**	**20:35**
Cadmium	226.50	0.51	5.0	0.51	U	1	ICPST	10/19/01	14:25
Calcium	**317.93**	**13.1**	**5000**	**44000**		**1**	**ICP**	**10/19/01**	**20:35**
Chromium	**267.72**	**0.74**	**5.0**	**14.4**		**1**	**ICPST**	**10/19/01**	**14:25**
Cobalt	**228.62**	**2.9**	**50.0**	**4.6**	**B**	**1**	**ICP**	**10/19/01**	**20:35**
Copper	**324.75**	**2.4**	**25.0**	**18.9**	**B**	**1**	**ICP**	**10/19/01**	**20:35**
Iron	**259.94**	**4.9**	**1000**	**10900**		**1**	**ICP**	**10/19/01**	**20:35**
Lead	**220.35**	**2.5**	**3.0**	**18.0**		**1**	**ICPST**	**10/19/01**	**14:25**
Magnesium	**279.08**	**21.4**	**5000**	**21100**		**1**	**ICP**	**10/19/01**	**20:35**
Manganese	**257.61**	**0.89**	**15.0**	**245**		**1**	**ICP**	**10/19/01**	**20:35**
Nickel	**231.60**	**10.4**	**40.0**	**12.5**	**B**	**1**	**ICP**	**10/19/01**	**20:35**
Potassium	**766.49**	**438**	**5000**	**6280**		**1**	**ICP**	**10/19/01**	**20:35**
Selenium	220.35	3.3	5.0	3.3	U	1	ICPST	10/19/01	14:25
Silver	328.07	0.80	5.0	0.80	U	1	ICPST	10/19/01	14:25
Sodium	**589**	**11.9**	**5000**	**32900**		**1**	**ICP**	**10/19/01**	**20:35**
Thallium	190.86	5.7	10.0	5.7	U	1	ICPST	10/20/01	11:50
Vanadium	**292.40**	**2.5**	**50.0**	**15.6**	**B**	**1**	**ICP**	**10/19/01**	**20:35**
Zinc	**213.86**	**2.4**	**20.0**	**77.5**	**E**	**1**	**ICP**	**10/19/01**	**20:35**

Comments: Lot #: C1I250277 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MN **Client ID:** NTC17PCSW0401

Matrix: Water **Units:** ug/L **Prep Date:** 10/13/01 **Prep Batch:** 1285135

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**21.1**	**200**	**3360**		**1**	**ICP**	**10/19/01**	**20:38**
Antimony	220.35	2.4	10.0	2.4	U	1	ICPST	10/19/01	14:29
Arsenic	189.04	3.2	10.0	3.2	U	1	ICPST	10/19/01	14:29
Barium	**493.41**	**0.37**	**200**	**48.1**	**B**	**1**	**ICP**	**10/19/01**	**20:38**
Beryllium	313.04	0.17	5.0	0.17	U	1	ICP	10/19/01	20:38
Cadmium	226.50	0.51	5.0	0.51	U	1	ICPST	10/19/01	14:29
Calcium	**317.93**	**13.1**	**5000**	**60900**		**1**	**ICP**	**10/19/01**	**20:38**
Chromium	**267.72**	**0.74**	**5.0**	**5.6**		**1**	**ICPST**	**10/19/01**	**14:29**
Cobalt	228.62	2.9	50.0	2.9	U	1	ICP	10/19/01	20:38
Copper	**324.75**	**2.4**	**25.0**	**11.8**	**B**	**1**	**ICP**	**10/19/01**	**20:38**
Iron	**259.94**	**4.9**	**1000**	**3800**		**1**	**ICP**	**10/19/01**	**20:38**
Lead	**220.35**	**2.5**	**3.0**	**7.8**		**1**	**ICPST**	**10/19/01**	**14:29**
Magnesium	**279.08**	**21.4**	**5000**	**29500**		**1**	**ICP**	**10/19/01**	**20:38**
Manganese	**257.61**	**0.89**	**15.0**	**121**		**1**	**ICP**	**10/19/01**	**20:38**
Nickel	231.60	10.4	40.0	10.4	U	1	ICP	10/19/01	20:38
Potassium	**766.49**	**438**	**5000**	**5150**		**1**	**ICP**	**10/19/01**	**20:38**
Selenium	220.35	3.3	5.0	3.3	U	1	ICPST	10/19/01	14:29
Silver	328.07	0.80	5.0	0.80	U	1	ICPST	10/19/01	14:29
Sodium	**589**	**11.9**	**5000**	**55900**		**1**	**ICP**	**10/19/01**	**20:38**
Thallium	190.86	5.7	10.0	5.7	U	1	ICPST	10/19/01	14:29
Vanadium	**292.40**	**2.5**	**50.0**	**6.7**	**B**	**1**	**ICP**	**10/19/01**	**20:38**
Zinc	**213.86**	**2.4**	**20.0**	**28.0**	**E**	**1**	**ICP**	**10/19/01**	**20:38**

Comments: Lot #: C1I250277 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3MQ **Client ID:** NTC17PCSW0101

Matrix: Water **Units:** ug/L **Prep Date:** 10/13/01 **Prep Batch:** 1285135

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**21.1**	**200**	**450**		**1**	**ICP**	**10/19/01**	**20:41**
Antimony	220.35	2.4	10.0	2.4	U	1	ICPST	10/19/01	14:34
Arsenic	189.04	3.2	10.0	3.2	U	1	ICPST	10/19/01	14:34
Barium	**493.41**	**0.37**	**200**	**58.7**	**B**	**1**	**ICP**	**10/19/01**	**20:41**
Beryllium	313.04	0.17	5.0	0.17	U	1	ICP	10/19/01	20:41
Cadmium	226.50	0.51	5.0	0.51	U	1	ICPST	10/19/01	14:34
Calcium	**317.93**	**13.1**	**5000**	**91600**		**1**	**ICP**	**10/19/01**	**20:41**
Chromium	**267.72**	**0.74**	**5.0**	**2.2**	**B**	**1**	**ICPST**	**10/19/01**	**14:34**
Cobalt	228.62	2.9	50.0	2.9	U	1	ICP	10/19/01	20:41
Copper	**324.75**	**2.4**	**25.0**	**22.2**	**B**	**1**	**ICP**	**10/19/01**	**20:41**
Iron	**259.94**	**4.9**	**1000**	**818**	**B**	**1**	**ICP**	**10/19/01**	**20:41**
Lead	**220.35**	**2.5**	**3.0**	**6.4**		**1**	**ICPST**	**10/19/01**	**14:34**
Magnesium	**279.08**	**21.4**	**5000**	**37400**		**1**	**ICP**	**10/19/01**	**20:41**
Manganese	**257.61**	**0.89**	**15.0**	**64.2**		**1**	**ICP**	**10/19/01**	**20:41**
Nickel	231.60	10.4	40.0	10.4	U	1	ICP	10/19/01	20:41
Potassium	**766.49**	**438**	**5000**	**5560**		**1**	**ICP**	**10/19/01**	**20:41**
Selenium	220.35	3.3	5.0	3.3	U	1	ICPST	10/19/01	14:34
Silver	**328.07**	**0.80**	**5.0**	**0.87**	**B**	**1**	**ICPST**	**10/19/01**	**14:34**
Sodium	**589**	**11.9**	**5000**	**122000**		**1**	**ICP**	**10/19/01**	**20:41**
Thallium	190.86	5.7	10.0	5.7	U	1	ICPST	10/19/01	14:34
Vanadium	292.40	2.5	50.0	2.5	U	1	ICP	10/19/01	20:41
Zinc	**213.86**	**2.4**	**20.0**	**150**	**E**	**1**	**ICP**	**10/19/01**	**20:41**

Comments: Lot #: C1I250277 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 011
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK3KG1AA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:17

QC Batch: 1271536

Client Sample Id: NTC17PCSD2901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
67-64-1	Acetone	24	U
71-43-2	Benzene	6.0	U
75-27-4	Bromodichloromethane	6.0	U
75-25-2	Bromoform	6.0	U
74-83-9	Bromomethane	12	U
78-93-3	2-Butanone	24	U
75-15-0	Carbon disulfide	6.0	U
56-23-5	Carbon tetrachloride	6.0	U
108-90-7	Chlorobenzene	6.0	U
75-00-3	Chloroethane	12	U
67-66-3	Chloroform	6.0	U
74-87-3	Chloromethane	12	U
110-82-7	Cyclohexane	6.0	U
124-48-1	Dibromochloromethane	6.0	U
96-12-8	1,2-Dibromo-3-chloropropane	12	U
106-93-4	1,2-Dibromoethane	6.0	U
541-73-1	1,3-Dichlorobenzene	6.0	U
106-46-7	1,4-Dichlorobenzene	6.0	U
95-50-1	1,2-Dichlorobenzene	6.0	U
75-71-8	Dichlorodifluoromethane	12	U
75-34-3	1,1-Dichloroethane	6.0	U
107-06-2	1,2-Dichloroethane	6.0	U
75-35-4	1,1-Dichloroethene	6.0	U
156-59-2	cis-1,2-Dichloroethene	6.0	U
156-60-5	trans-1,2-Dichloroethene	6.0	U
78-87-5	1,2-Dichloropropane	6.0	U
10061-01-5	cis-1,3-Dichloropropene	6.0	U
10061-02-6	trans-1,3-Dichloropropene	6.0	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 011
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK3KG1AA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:17

QC Batch: 1271536

Client Sample Id: NTC17PCSD2901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-41-4	Ethylbenzene	6.0	U
591-78-6	2-Hexanone	24	U
98-82-8	Isopropylbenzene	6.0	U
79-20-9	Methyl acetate	6.0	U
75-09-2	**Methylene chloride**	**8.9**	
108-87-2	Methylcyclohexane	6.0	U
108-10-1	4-Methyl-2-pentanone	24	U
1634-04-4	Methyl tert-butyl ether	6.0	U
100-42-5	Styrene	6.0	U
79-34-5	1,1,2,2-Tetrachloroethane	6.0	U
120-82-1	1,2,4-Trichlorobenzene	6.0	U
127-18-4	Tetrachloroethene	6.0	U
71-55-6	1,1,1-Trichloroethane	6.0	U
79-00-5	1,1,2-Trichloroethane	6.0	U
79-01-6	Trichloroethene	6.0	U
75-69-4	Trichlorofluoromethane	12	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	6.0	U
108-88-3	Toluene	6.0	U
75-01-4	Vinyl chloride	12	U
1330-20-7	Xylenes (total)	18	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 011
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KG1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:17

QC Batch: 1276519

Client Sample Id: NTC17PCSD2901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
83-32-9	Acenaphthene	400	U
208-96-8	Acenaphthylene	400	U
98-86-2	Acetophenone	400	U
120-12-7	Anthracene	93	J
1912-24-9	Atrazine	400	U
56-55-3	Benzo(a)anthracene	200	J
50-32-8	Benzo(a)pyrene	180	J
205-99-2	Benzo(b)fluoranthene	190	J
191-24-2	Benzo(ghi)perylene	63	J
207-08-9	Benzo(k)fluoranthene	190	J
100-52-7	Benzaldehyde	400	U
92-52-4	1,1'-Biphenyl	400	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
111-44-4	bis(2-Chloroethyl) ether	400	U
117-81-7	bis(2-Ethylhexyl) phthalate	130	J
101-55-3	4-Bromophenyl phenyl ether	400	U
85-68-7	Butyl benzyl phthalate	400	U
105-60-2	Caprolactam	400	U
86-74-8	Carbazole	400	U
106-47-8	4-Chloroaniline	400	U
59-50-7	4-Chloro-3-methylphenol	400	U
91-58-7	2-Chloronaphthalene	400	U
95-57-8	2-Chlorophenol	400	U
7005-72-3	4-Chlorophenyl phenyl ether	400	U
218-01-9	Chrysene	220	J
53-70-3	Dibenz(a,h)anthracene	400	U
132-64-9	Dibenzofuran	400	U
91-94-1	3,3'-Dichlorobenzidine	1900	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 011
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KG1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:17

QC Batch: 1276519

Client Sample Id: NTC17PCSD2901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
120-83-2	2,4-Dichlorophenol	400	U
84-66-2	Diethyl phthalate	400	U
105-67-9	2,4-Dimethylphenol	400	U
131-11-3	Dimethyl phthalate	400	U
84-74-2	Di-n-butyl phthalate	400	U
534-52-1	4,6-Dinitro-2-methylphenol	1900	U
51-28-5	2,4-Dinitrophenol	1900	U
121-14-2	2,4-Dinitrotoluene	400	U
606-20-2	2,6-Dinitrotoluene	400	U
117-84-0	Di-n-octyl phthalate	400	U
206-44-0	**Fluoranthene**	**600**	
86-73-7	**Fluorene**	**39**	**J**
118-74-1	Hexachlorobenzene	400	U
87-68-3	Hexachlorobutadiene	400	U
77-47-4	Hexachlorocyclopentadiene	1900	U
67-72-1	Hexachloroethane	400	U
193-39-5	**Indeno(1,2,3-cd)pyrene**	**67**	**J**
78-59-1	Isophorone	400	U
91-57-6	2-Methylnaphthalene	400	U
95-48-7	2-Methylphenol	400	U
106-44-5	4-Methylphenol	400	U
91-20-3	Naphthalene	400	U
88-74-4	2-Nitroaniline	1900	U
99-09-2	3-Nitroaniline	1900	U
100-01-6	4-Nitroaniline	1900	U
98-95-3	Nitrobenzene	400	U
88-75-5	2-Nitrophenol	400	U
100-02-7	4-Nitrophenol	1900	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 011
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KG1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:17

QC Batch: 1276519

Client Sample Id: NTC17PCSD2901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
621-64-7	N-Nitrosodi-n-propylamine	400	U
86-30-6	N-Nitrosodiphenylamine	400	U
108-60-1	2,2'-oxybis(1-Chloropropane)	400	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	**Phenanthrene**	**350**	**J**
108-95-2	Phenol	400	U
129-00-0	**Pyrene**	**320**	**J**
95-95-4	2,4,5-Trichlorophenol	400	U
88-06-2	2,4,6-Trichlorophenol	400	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:CII250270 001
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3HR1AC Date Extracted:10/02/01
Dilution factor: 10 Date Analyzed: 10/16/01
Moisture %:7.7

QC Batch: 1275112

Client Sample Id: NTC17PCSD1301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	18	U
319-84-6	alpha-BHC	18	U
319-85-7	beta-BHC	18	U
319-86-8	delta-BHC	18	U
58-89-9	gamma-BHC (Lindane)	18	U
5103-71-9	alpha-Chlordane	18	U
5103-74-2	gamma-Chlordane	1.6	J P
72-54-8	4,4'-DDD	100	
72-55-9	4,4'-DDE	110	
50-29-3	4,4'-DDT	150	
60-57-1	Dieldrin	18	U
959-98-8	Endosulfan I	18	U
33213-65-9	Endosulfan II	18	U
53494-70-5	Endrin ketone	18	U
1031-07-8	Endosulfan sulfate	18	U
72-20-8	Endrin	18	U
7421-93-4	Endrin aldehyde	18	U
76-44-8	Heptachlor	18	U
1024-57-3	Heptachlor epoxide	18	U
8001-35-2	Toxaphene	730	U
72-43-5	Methoxychlor	180	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 002
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JF1A8 Date Extracted:10/02/01
Dilution factor: 10 Date Analyzed: 10/16/01
Moisture %:6.4

QC Batch: 1275112

Client Sample Id: NTC17PCSD1201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	18	U
319-84-6	alpha-BHC	18	U
319-85-7	beta-BHC	18	U
319-86-8	delta-BHC	18	U
58-89-9	gamma-BHC (Lindane)	18	U
5103-71-9	alpha-Chlordane	18	U
5103-74-2	gamma-Chlordane	18	U
72-54-8	**4,4'-DDD**	**73**	
72-55-9	**4,4'-DDE**	**53**	
50-29-3	**4,4'-DDT**	**160**	
60-57-1	Dieldrin	18	U
959-98-8	**Endosulfan I**	**1.1**	**J P**
33213-65-9	Endosulfan II	18	U
53494-70-5	Endrin ketone	18	U
1031-07-8	Endosulfan sulfate	18	U
72-20-8	Endrin	18	U
7421-93-4	Endrin aldehyde	18	U
76-44-8	Heptachlor	18	U
1024-57-3	Heptachlor epoxide	18	U
8001-35-2	Toxaphene	720	U
72-43-5	Methoxychlor	180	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 003
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JK1AM Date Extracted:10/02/01
Dilution factor: 4 Date Analyzed: 10/16/01
Moisture %:6.9

QC Batch: 1275112

Client Sample Id: NTC17PCSD1202

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	7.3	U
319-84-6	alpha-BHC	7.3	U
319-85-7	beta-BHC	7.3	U
319-86-8	delta-BHC	7.3	U
58-89-9	gamma-BHC (Lindane)	7.3	U
5103-71-9	alpha-Chlordane	3.8	J
5103-74-2	gamma-Chlordane	1.3	J P
72-54-8	4,4'-DDD	48	
72-55-9	4,4'-DDE	51	
50-29-3	4,4'-DDT	55	
60-57-1	Dieldrin	7.3	U
959-98-8	Endosulfan I	7.3	U
33213-65-9	Endosulfan II	1.9	J
53494-70-5	Endrin ketone	7.3	U
1031-07-8	Endosulfan sulfate	7.3	U
72-20-8	Endrin	7.3	U
7421-93-4	Endrin aldehyde	7.3	U
76-44-8	Heptachlor	7.3	U
1024-57-3	Heptachlor epoxide	7.3	U
8001-35-2	Toxaphene	290	U
72-43-5	Methoxychlor	73	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250270 004

Sample WT/Vol: 30 / g
Work Order: EK3JL1AC
Dilution factor: 10
Moisture %:11

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/16/01

QC Batch: 1275112

Client Sample Id: NTC17PCSD1101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	19	U
319-84-6	alpha-BHC	19	U
319-85-7	beta-BHC	19	U
319-86-8	delta-BHC	19	U
58-89-9	gamma-BHC (Lindane)	19	U
5103-71-9	alpha-Chlordane	19	U
5103-74-2	gamma-Chlordane	19	U
72-54-8	**4,4'-DDD**	**58**	
72-55-9	**4,4'-DDE**	**110**	
50-29-3	**4,4'-DDT**	**170**	
60-57-1	Dieldrin	19	U
959-98-8	Endosulfan I	19	U
33213-65-9	Endosulfan II	19	U
53494-70-5	Endrin ketone	19	U
1031-07-8	Endosulfan sulfate	19	U
72-20-8	Endrin	19	U
7421-93-4	Endrin aldehyde	19	U
76-44-8	Heptachlor	19	U
1024-57-3	Heptachlor epoxide	19	U
8001-35-2	Toxaphene	750	U
72-43-5	Methoxychlor	190	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 005
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JR1AM Date Extracted:10/02/01
Dilution factor: 20 Date Analyzed: 10/16/01
Moisture %:17

QC Batch: 1275112

Client Sample Id: NTC17PCSD1102

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	41	U
319-84-6	alpha-BHC	41	U
319-85-7	beta-BHC	41	U
319-86-8	delta-BHC	41	U
58-89-9	gamma-BHC (Lindane)	41	U
5103-71-9	alpha-Chlordane	13	J
5103-74-2	gamma-Chlordane	3.5	J P
72-54-8	4,4'-DDD	76	
72-55-9	4,4'-DDE	160	
50-29-3	4,4'-DDT	190	
60-57-1	Dieldrin	41	U
959-98-8	Endosulfan I	41	U
33213-65-9	Endosulfan II	41	U
53494-70-5	Endrin ketone	41	U
1031-07-8	Endosulfan sulfate	41	U
72-20-8	Endrin	41	U
7421-93-4	Endrin aldehyde	41	U
76-44-8	Heptachlor	41	U
1024-57-3	Heptachlor epoxide	41	U
8001-35-2	Toxaphene	1600	U
72-43-5	Methoxychlor	410	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250270 006

Sample WT/Vol: 30 / g
Work Order: EK3JT1AM
Dilution factor: 1
Moisture %:28

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/16/01

QC Batch: 1275112

Client Sample Id: NTC17PCSD3301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	2.4	U
319-84-6	alpha-BHC	2.4	U
319-85-7	beta-BHC	2.4	U
319-86-8	delta-BHC	2.4	U
58-89-9	gamma-BHC (Lindane)	2.4	U
5103-71-9	alpha-Chlordane	0.92	J
5103-74-2	gamma-Chlordane	0.99	J
72-54-8	4,4'-DDD	17	
72-55-9	4,4'-DDE	18	
50-29-3	4,4'-DDT	17	
60-57-1	Dieldrin	0.68	J P
959-98-8	Endosulfan I	2.4	U
33213-65-9	Endosulfan II	1.9	J P
53494-70-5	Endrin ketone	2.4	U
1031-07-8	Endosulfan sulfate	2.4	U
72-20-8	Endrin	1.0	J
7421-93-4	Endrin aldehyde	2.4	U
76-44-8	Heptachlor	2.4	U
1024-57-3	Heptachlor epoxide	0.16	J
8001-35-2	Toxaphene	93	U
72-43-5	Methoxychlor	24	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 007
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JW1AM Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:17

QC Batch: 1275112

Client Sample Id: NTC17PCSD3201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	2.0	U
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	2.0	U
5103-71-9	**alpha-Chlordane**	**0.43**	**J**
5103-74-2	gamma-Chlordane	2.0	U
72-54-8	**4,4'-DDD**	**11**	
72-55-9	**4,4'-DDE**	**10**	
50-29-3	**4,4'-DDT**	**8.5**	
60-57-1	**Dieldrin**	**0.16**	**J P**
959-98-8	Endosulfan I	2.0	U
33213-65-9	Endosulfan II	2.0	U
53494-70-5	Endrin ketone	2.0	U
1031-07-8	Endosulfan sulfate	2.0	U
72-20-8	Endrin	2.0	U
7421-93-4	Endrin aldehyde	2.0	U
76-44-8	Heptachlor	2.0	U
1024-57-3	Heptachlor epoxide	2.0	U
8001-35-2	Toxaphene	81	U
72-43-5	Methoxychlor	20	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 008
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3J31AM Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:15

QC Batch: 1275112

Client Sample Id: NTC17PCSD3202

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	2.0	U
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	2.0	U
5103-71-9	alpha-Chlordane	1.0	J
5103-74-2	gamma-Chlordane	0.76	J
72-54-8	4,4'-DDD	15	
72-55-9	4,4'-DDE	14	
50-29-3	4,4'-DDT	9.0	
60-57-1	Dieldrin	0.49	J P
959-98-8	Endosulfan I	2.0	U
33213-65-9	Endosulfan II	0.44	J P
53494-70-5	Endrin ketone	2.0	U
1031-07-8	Endosulfan sulfate	2.0	U
72-20-8	Endrin	0.46	J P
7421-93-4	Endrin aldehyde	2.0	U
76-44-8	Heptachlor	2.0	U
1024-57-3	Heptachlor epoxide	2.0	U
8001-35-2	Toxaphene	79	U
72-43-5	Methoxychlor	20	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 009
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3J61AM Date Extracted:10/02/01
Dilution factor: 10 Date Analyzed: 10/16/01
Moisture %:15

QC Batch: 1275112

Client Sample Id: NTC17PCSD3101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	20	U
319-84-6	alpha-BHC	20	U
319-85-7	beta-BHC	20	U
319-86-8	delta-BHC	20	U
58-89-9	gamma-BHC (Lindane)	20	U
5103-71-9	alpha-Chlordane	20	U
5103-74-2	gamma-Chlordane	20	U
72-54-8	**4,4'-DDD**	**20**	
72-55-9	**4,4'-DDE**	**12**	**J**
50-29-3	**4,4'-DDT**	**290**	
60-57-1	Dieldrin	20	U
959-98-8	Endosulfan I	20	U
33213-65-9	Endosulfan II	20	U
53494-70-5	Endrin ketone	20	U
1031-07-8	Endosulfan sulfate	20	U
72-20-8	Endrin	20	U
7421-93-4	Endrin aldehyde	20	U
76-44-8	Heptachlor	20	U
1024-57-3	Heptachlor epoxide	20	U
8001-35-2	Toxaphene	780	U
72-43-5	Methoxychlor	200	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 010
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KC1AM Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:27

QC Batch: 1275112

Client Sample Id: NTC17PCSD3001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	2.3	U
319-84-6	alpha-BHC	2.3	U
319-85-7	beta-BHC	2.3	U
319-86-8	delta-BHC	2.3	U
58-89-9	gamma-BHC (Lindane)	2.3	U
5103-71-9	alpha-Chlordane	1.0	J
5103-74-2	gamma-Chlordane	1.1	J
72-54-8	4,4'-DDD	20	
72-55-9	4,4'-DDE	20	
50-29-3	4,4'-DDT	28	
60-57-1	Dieldrin	0.66	J P
959-98-8	Endosulfan I	2.3	U
33213-65-9	Endosulfan II	0.75	J
53494-70-5	Endrin ketone	2.3	U
1031-07-8	Endosulfan sulfate	2.3	U
72-20-8	Endrin	0.57	J P
7421-93-4	Endrin aldehyde	2.3	U
76-44-8	Heptachlor	2.3	U
1024-57-3	Heptachlor epoxide	0.15	J P
8001-35-2	Toxaphene	91	U
72-43-5	Methoxychlor	23	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 011
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KG1AE Date Extracted:10/02/01
Dilution factor: 4 Date Analyzed: 10/16/01
Moisture %:17

QC Batch: 1275112

Client Sample Id: NTC17PCSD2901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	8.2	U
319-84-6	alpha-BHC	8.2	U
319-85-7	beta-BHC	8.2	U
319-86-8	delta-BHC	8.2	U
58-89-9	gamma-BHC (Lindane)	8.2	U
5103-71-9	alpha-Chlordane	2.4	J
5103-74-2	gamma-Chlordane	1.3	J P
72-54-8	4,4'-DDD	31	
72-55-9	4,4'-DDE	26	
50-29-3	4,4'-DDT	26	
60-57-1	Dieldrin	2.2	J P
959-98-8	Endosulfan I	8.2	U
33213-65-9	Endosulfan II	8.2	U
53494-70-5	Endrin ketone	8.2	U
1031-07-8	Endosulfan sulfate	8.2	U
72-20-8	Endrin	8.2	U
7421-93-4	Endrin aldehyde	8.2	U
76-44-8	Heptachlor	8.2	U
1024-57-3	Heptachlor epoxide	8.2	U
8001-35-2	Toxaphene	320	U
72-43-5	Methoxychlor	82	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250270 012

Sample WT/Vol: 30 / g
Work Order: EK3KL1AM
Dilution factor: 4
Moisture %:25

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/16/01

QC Batch: 1275112

Client Sample Id: NTC17PCSD2902

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	9.0	U
319-84-6	alpha-BHC	9.0	U
319-85-7	beta-BHC	9.0	U
319-86-8	delta-BHC	9.0	U
58-89-9	gamma-BHC (Lindane)	9.0	U
5103-71-9	alpha-Chlordane	1.3	J
5103-74-2	gamma-Chlordane	1.1	J P
72-54-8	4,4'-DDD	20	
72-55-9	4,4'-DDE	22	
50-29-3	4,4'-DDT	36	
60-57-1	Dieldrin	0.87	J P
959-98-8	Endosulfan I	9.0	U
33213-65-9	Endosulfan II	0.92	J P
53494-70-5	Endrin ketone	9.0	U
1031-07-8	Endosulfan sulfate	9.0	U
72-20-8	Endrin	9.0	U
7421-93-4	Endrin aldehyde	9.0	U
76-44-8	Heptachlor	9.0	U
1024-57-3	Heptachlor epoxide	9.0	U
8001-35-2	Toxaphene	360	U
72-43-5	Methoxychlor	90	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 013
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KM1AM Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:19

QC Batch: 1275112

Client Sample Id: NTC17PCSD2801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	2.1	U
319-84-6	alpha-BHC	2.1	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	2.1	U
58-89-9	gamma-BHC (Lindane)	2.1	U
5103-71-9	alpha-Chlordane	2.2	
5103-74-2	gamma-Chlordane	1.3	J P
72-54-8	4,4'-DDD	24	
72-55-9	4,4'-DDE	20	
50-29-3	4,4'-DDT	20	
60-57-1	Dieldrin	2.9	
959-98-8	Endosulfan I	2.1	U
33213-65-9	Endosulfan II	1.3	J P
53494-70-5	Endrin ketone	2.1	U
1031-07-8	Endosulfan sulfate	2.1	U
72-20-8	Endrin	1.3	J
7421-93-4	Endrin aldehyde	2.1	U
76-44-8	Heptachlor	2.1	U
1024-57-3	Heptachlor epoxide	0.46	J
8001-35-2	Toxaphene	83	U
72-43-5	Methoxychlor	21	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 014
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KN1AM Date Extracted:10/02/01
Dilution factor: 4 Date Analyzed: 10/16/01
Moisture %:19

QC Batch: 1275112

Client Sample Id: NTC17PCSD2701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	8.4	U
319-84-6	alpha-BHC	8.4	U
319-85-7	beta-BHC	8.4	U
319-86-8	delta-BHC	8.4	U
58-89-9	gamma-BHC (Lindane)	8.4	U
5103-71-9	alpha-Chlordane	1.1	J P
5103-74-2	gamma-Chlordane	1.6	J
72-54-8	4,4'-DDD	14	
72-55-9	4,4'-DDE	31	
50-29-3	4,4'-DDT	39	
60-57-1	Dieldrin	0.55	J P
959-98-8	Endosulfan I	8.4	U
33213-65-9	Endosulfan II	8.4	U
53494-70-5	Endrin ketone	8.4	U
1031-07-8	Endosulfan sulfate	8.4	U
72-20-8	Endrin	8.4	U
7421-93-4	Endrin aldehyde	8.4	U
76-44-8	Heptachlor	8.4	U
1024-57-3	Heptachlor epoxide	8.4	U
8001-35-2	Toxaphene	330	U
72-43-5	Methoxychlor	84	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250270 015

Sample WT/Vol: 30 / g
Work Order: EK3KQ1AM
Dilution factor: 1
Moisture %:18

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/16/01

QC Batch: 1275112

Client Sample Id: NTC17PCSD2601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	2.1	U
319-84-6	alpha-BHC	2.1	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	2.1	U
58-89-9	gamma-BHC (Lindane)	2.1	U
5103-71-9	alpha-Chlordane	0.66	J P
5103-74-2	gamma-Chlordane	0.92	J
72-54-8	4,4'-DDD	8.4	
72-55-9	4,4'-DDE	24	
50-29-3	4,4'-DDT	25	
60-57-1	Dieldrin	0.52	J P
959-98-8	Endosulfan I	2.1	U
33213-65-9	Endosulfan II	0.30	J P
53494-70-5	Endrin ketone	2.1	U
1031-07-8	Endosulfan sulfate	2.1	U
72-20-8	Endrin	2.1	U
7421-93-4	Endrin aldehyde	2.1	U
76-44-8	Heptachlor	2.1	U
1024-57-3	Heptachlor epoxide	0.15	J P
8001-35-2	Toxaphene	82	U
72-43-5	Methoxychlor	21	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250270 016

Sample WT/Vol: 30 / g
Work Order: EK3KR1AM
Dilution factor: 2
Moisture %:18

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/16/01

QC Batch: 1275112

Client Sample Id: NTC17PCSD2501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	4.1	U
319-84-6	alpha-BHC	4.1	U
319-85-7	beta-BHC	4.1	U
319-86-8	delta-BHC	4.1	U
58-89-9	gamma-BHC (Lindane)	4.1	U
5103-71-9	alpha-Chlordane	0.72	J P
5103-74-2	gamma-Chlordane	0.83	J
72-54-8	4,4'-DDD	7.6	
72-55-9	4,4'-DDE	28	
50-29-3	4,4'-DDT	35	
60-57-1	Dieldrin	0.41	J P
959-98-8	Endosulfan I	4.1	U
33213-65-9	Endosulfan II	0.32	J P
53494-70-5	Endrin ketone	4.1	U
1031-07-8	Endosulfan sulfate	4.1	U
72-20-8	Endrin	4.1	U
7421-93-4	Endrin aldehyde	4.1	U
76-44-8	Heptachlor	4.1	U
1024-57-3	Heptachlor epoxide	4.1	U
8001-35-2	Toxaphene	160	U
72-43-5	Methoxychlor	41	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250270 018

Sample WT/Vol: 30 / g
Work Order: EK3K41AM
Dilution factor: 1
Moisture %:24

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/16/01

QC Batch: 1275112

Client Sample Id: NTC17PCSD3801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	2.2	U
319-84-6	alpha-BHC	2.2	U
319-85-7	beta-BHC	2.2	U
319-86-8	delta-BHC	2.2	U
58-89-9	gamma-BHC (Lindane)	2.2	U
5103-71-9	alpha-Chlordane	0.35	J
5103-74-2	gamma-Chlordane	0.31	J P
72-54-8	4,4'-DDD	8.9	
72-55-9	4,4'-DDE	12	
50-29-3	4,4'-DDT	14	
60-57-1	Dieldrin	0.16	J P
959-98-8	Endosulfan I	2.2	U
33213-65-9	Endosulfan II	2.2	U
53494-70-5	Endrin ketone	2.2	U
1031-07-8	Endosulfan sulfate	2.2	U
72-20-8	Endrin	2.2	U
7421-93-4	Endrin aldehyde	2.2	U
76-44-8	Heptachlor	2.2	U
1024-57-3	Heptachlor epoxide	2.2	U
8001-35-2	Toxaphene	88	U
72-43-5	Methoxychlor	22	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 019
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3LC1AM Date Extracted:10/02/01
Dilution factor: 2 Date Analyzed: 10/16/01
Moisture %:21

QC Batch: 1275112

Client Sample Id: NTC17PCSD3701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	4.3	U
319-84-6	alpha-BHC	4.3	U
319-85-7	beta-BHC	4.3	U
319-86-8	delta-BHC	4.3	U
58-89-9	gamma-BHC (Lindane)	4.3	U
5103-71-9	**alpha-Chlordane**	**0.85**	**J**
5103-74-2	**gamma-Chlordane**	**0.82**	**J P**
72-54-8	**4,4'-DDD**	**16**	
72-55-9	**4,4'-DDE**	**21**	
50-29-3	**4,4'-DDT**	**29**	
60-57-1	**Dieldrin**	**0.61**	**J P**
959-98-8	Endosulfan I	4.3	U
33213-65-9	Endosulfan II	4.3	U
53494-70-5	Endrin ketone	4.3	U
1031-07-8	Endosulfan sulfate	4.3	U
72-20-8	Endrin	4.3	U
7421-93-4	Endrin aldehyde	4.3	U
76-44-8	Heptachlor	4.3	U
1024-57-3	Heptachlor epoxide	4.3	U
8001-35-2	Toxaphene	170	U
72-43-5	Methoxychlor	43	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 001
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3HR1AD Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/13/01
Moisture %:7.7

QC Batch: 1275113

Client Sample Id: NTC17PCSD1301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	36	U
11104-28-2	Aroclor 1221	36	U
11141-16-5	Aroclor 1232	36	U
53469-21-9	Aroclor 1242	36	U
12672-29-6	Aroclor 1248	36	U
11097-69-1	**Aroclor 1254**	**140**	
11096-82-5	**Aroclor 1260**	**41**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250270 002

Sample WT/Vol: 30 / g
Work Order: EK3JF1CC
Dilution factor: 1
Moisture %:6.4

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/13/01

QC Batch: 1275113

Client Sample Id: NTC17PCSD1201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	35	U
11104-28-2	Aroclor 1221	35	U
11141-16-5	Aroclor 1232	35	U
53469-21-9	Aroclor 1242	35	U
12672-29-6	Aroclor 1248	35	U
11097-69-1	Aroclor 1254	35	U
11096-82-5	Aroclor 1260	35	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 003
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JK1AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/13/01
Moisture %:6.9

QC Batch: 1275113

Client Sample Id: NTC17PCSD1202

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	35	U
11104-28-2	Aroclor 1221	35	U
11141-16-5	Aroclor 1232	35	U
53469-21-9	Aroclor 1242	35	U
12672-29-6	Aroclor 1248	380	
11097-69-1	Aroclor 1254	150	
11096-82-5	Aroclor 1260	47	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 004
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JL1AD Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/13/01
Moisture %:11

QC Batch: 1275113

Client Sample Id: NTC17PCSD1101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	37	U
11104-28-2	Aroclor 1221	37	U
11141-16-5	Aroclor 1232	37	U
53469-21-9	Aroclor 1242	37	U
12672-29-6	Aroclor 1248	37	U
11097-69-1	Aroclor 1254	37	U
11096-82-5	**Aroclor 1260**	**46**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 005
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JR1AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/13/01
Moisture %:17

QC Batch: 1275113

Client Sample Id: NTC17PCSD1102

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	40	U
11104-28-2	Aroclor 1221	40	U
11141-16-5	Aroclor 1232	40	U
53469-21-9	Aroclor 1242	40	U
12672-29-6	Aroclor 1248	40	U
11097-69-1	**Aroclor 1254**	**790**	
11096-82-5	Aroclor 1260	40	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 006
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JT1AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/13/01
Moisture %:28

QC Batch: 1275113

Client Sample Id: NTC17PCSD3301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	46	U
11104-28-2	Aroclor 1221	46	U
11141-16-5	Aroclor 1232	46	U
53469-21-9	Aroclor 1242	46	U
12672-29-6	Aroclor 1248	46	U
11097-69-1	Aroclor 1254	46	U
11096-82-5	**Aroclor 1260**	55	

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250270 007

Sample WT/Vol: 30 / g
Work Order: EK3JW1AN
Dilution factor: 1
Moisture %:17

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/13/01

QC Batch: 1275113

Client Sample Id: NTC17PCSD3201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	40	U
11104-28-2	Aroclor 1221	40	U
11141-16-5	Aroclor 1232	40	U
53469-21-9	Aroclor 1242	40	U
12672-29-6	Aroclor 1248	40	U
11097-69-1	Aroclor 1254	40	U
11096-82-5	Aroclor 1260	40	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250270 008

Sample WT/Vol: 30 / g
Work Order: EK3J31AN
Dilution factor: 1
Moisture %:15

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/13/01

QC Batch: 1275113

Client Sample Id: NTC17PCSD3202

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg		Q
12674-11-2	Aroclor 1016		39	U
11104-28-2	Aroclor 1221		39	U
11141-16-5	Aroclor 1232		39	U
53469-21-9	Aroclor 1242		39	U
12672-29-6	Aroclor 1248		39	U
11097-69-1	Aroclor 1254		39	U
11096-82-5	Aroclor 1260		39	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250270 009

Sample WT/Vol: 30 / g
Work Order: EK3J61AN
Dilution factor: 1
Moisture %:15

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/13/01

QC Batch: 1275113

Client Sample Id: NTC17PCSD3101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	39	U
11104-28-2	Aroclor 1221	39	U
11141-16-5	Aroclor 1232	39	U
53469-21-9	Aroclor 1242	39	U
12672-29-6	**Aroclor 1248**	**50**	
11097-69-1	**Aroclor 1254**	**84**	
11096-82-5	Aroclor 1260	39	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 010
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KC1AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/13/01
Moisture %:27

QC Batch: 1275113

Client Sample Id: NTC17PCSD3001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	45	U
11104-28-2	Aroclor 1221	45	U
11141-16-5	Aroclor 1232	45	U
53469-21-9	Aroclor 1242	45	U
12672-29-6	Aroclor 1248	45	U
11097-69-1	Aroclor 1254	45	U
11096-82-5	Aroclor 1260	45	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 011
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KG1AF Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/13/01
Moisture %:17

QC Batch: 1275113

Client Sample Id: NTC17PCSD2901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	40	U
11104-28-2	Aroclor 1221	40	U
11141-16-5	Aroclor 1232	40	U
53469-21-9	Aroclor 1242	40	U
12672-29-6	Aroclor 1248	40	U
11097-69-1	**Aroclor 1254**	**140**	
11096-82-5	Aroclor 1260	40	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250270 012

Sample WT/Vol: 30 / g
Work Order: EK3KL1AN
Dilution factor: 1
Moisture %:25

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/13/01

QC Batch: 1275113

Client Sample Id: NTC17PCSD2902

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	44	U
11104-28-2	Aroclor 1221	44	U
11141-16-5	Aroclor 1232	44	U
53469-21-9	Aroclor 1242	44	U
12672-29-6	Aroclor 1248	44	U
11097-69-1	Aroclor 1254	44	U
11096-82-5	Aroclor 1260	44	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250270 013

Sample WT/Vol: 30 / g
Work Order: EK3KM1AN
Dilution factor: 1
Moisture %:19

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/13/01

QC Batch: 1275113

Client Sample Id: NTC17PCSD2801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	41	U
11104-28-2	Aroclor 1221	41	U
11141-16-5	Aroclor 1232	41	U
53469-21-9	Aroclor 1242	41	U
12672-29-6	Aroclor 1248	41	U
11097-69-1	**Aroclor 1254**	**110**	
11096-82-5	Aroclor 1260	41	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 014
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KN1AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/13/01
Moisture %:19

QC Batch: 1275113

Client Sample Id: NTC17PCSD2701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	41	U
11104-28-2	Aroclor 1221	41	U
11141-16-5	Aroclor 1232	41	U
53469-21-9	Aroclor 1242	41	U
12672-29-6	Aroclor 1248	41	U
11097-69-1	Aroclor 1254	41	U
11096-82-5	Aroclor 1260	41	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 015
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KQ1AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/13/01
Moisture %:18

QC Batch: 1275113

Client Sample Id: NTC17PCSD2601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	40	U
11104-28-2	Aroclor 1221	40	U
11141-16-5	Aroclor 1232	40	U
53469-21-9	Aroclor 1242	40	U
12672-29-6	Aroclor 1248	40	U
11097-69-1	Aroclor 1254	40	U
11096-82-5	Aroclor 1260	40	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 016
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KR1AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/13/01
Moisture %:18

QC Batch: 1275113

Client Sample Id: NTC17PCSD2501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	40	U
11104-28-2	Aroclor 1221	40	U
11141-16-5	Aroclor 1232	40	U
53469-21-9	Aroclor 1242	40	U
12672-29-6	Aroclor 1248	40	U
11097-69-1	Aroclor 1254	40	U
11096-82-5	Aroclor 1260	40	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 018
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3K41AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/13/01
Moisture %:24

QC Batch: 1275113

Client Sample Id: NTC17PCSD3801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg		Q
12674-11-2	Aroclor 1016		43	U
11104-28-2	Aroclor 1221		43	U
11141-16-5	Aroclor 1232		43	U
53469-21-9	Aroclor 1242		43	U
12672-29-6	Aroclor 1248		43	U
11097-69-1	Aroclor 1254		43	U
11096-82-5	Aroclor 1260		43	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250270 019

Sample WT/Vol: 30 / g
Work Order: EK3LC1AN
Dilution factor: 1
Moisture %:21

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/13/01

QC Batch: 1275113

Client Sample Id: NTC17PCSD3701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	42	U
11104-28-2	Aroclor 1221	42	U
11141-16-5	Aroclor 1232	42	U
53469-21-9	Aroclor 1242	42	U
12672-29-6	Aroclor 1248	42	U
11097-69-1	Aroclor 1254	42	U
11096-82-5	Aroclor 1260	42	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 001
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3HR1A8 Date Extracted:10/03/01
Dilution factor: 40 Date Analyzed: 10/15/01
Moisture %:7.7

QC Batch: 1276508

Client Sample Id: NTC17PCSD1301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	1400		U
208-96-8	Acenaphthylene	1400		U
83-32-9	Acenaphthene	1400		U
86-73-7	Fluorene	280	J	P
85-01-8	Phenanthrene	3100		
120-12-7	Anthracene	600		
206-44-0	Fluoranthene	5200		
129-00-0	Pyrene	4200		
56-55-3	Benzo(a)anthracene	2000		
218-01-9	Chrysene	1900		
205-99-2	Benzo(b)fluoranthene	1900		
207-08-9	Benzo(k)fluoranthene	1100		
50-32-8	Benzo(a)pyrene	1900		
193-39-5	Indeno(1,2,3-cd)pyrene	920		P
53-70-3	Dibenzo(a,h)anthracene	290		U
191-24-2	Benzo(ghi)perylene	1300		P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 002
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JF1D7 Date Extracted:10/03/01
Dilution factor: 20 Date Analyzed: 10/15/01
Moisture %:6.4

QC Batch: 1276508

Client Sample Id: NTC17PCSD1201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	710	U
208-96-8	Acenaphthylene	710	U
83-32-9	Acenaphthene	710	U
86-73-7	Fluorene	110	J
85-01-8	Phenanthrene	820	
120-12-7	Anthracene	120	J
206-44-0	Fluoranthene	1000	P
129-00-0	Pyrene	850	
56-55-3	Benzo(a)anthracene	340	
218-01-9	Chrysene	360	
205-99-2	Benzo(b)fluoranthene	300	
207-08-9	Benzo(k)fluoranthene	150	
50-32-8	Benzo(a)pyrene	300	P
193-39-5	Indeno(1,2,3-cd)pyrene	170	
53-70-3	Dibenzo(a,h)anthracene	140	U
191-24-2	Benzo(ghi)perylene	200	P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 003
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JK1A9 Date Extracted:10/03/01
Dilution factor: 7 Date Analyzed: 10/15/01
Moisture %:6.9

QC Batch: 1276508

Client Sample Id: NTC17PCSD1202

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	250	U
208-96-8	Acenaphthylene	250	U
83-32-9	Acenaphthene	250	U
86-73-7	Fluorene	47	J
85-01-8	Phenanthrene	360	
120-12-7	Anthracene	67	
206-44-0	Fluoranthene	600	
129-00-0	Pyrene	480	
56-55-3	Benzo(a)anthracene	230	
218-01-9	Chrysene	240	
205-99-2	Benzo(b)fluoranthene	270	
207-08-9	Benzo(k)fluoranthene	130	
50-32-8	Benzo(a)pyrene	230	P
193-39-5	Indeno(1,2,3-cd)pyrene	170	
53-70-3	Dibenzo(a,h)anthracene	50	U
191-24-2	Benzo(ghi)perylene	170	P

TETRA TECH NUS, INC.

Lab Name: Severn Trent Laboratories, Inc. SDG Number: GL008

Matrix: (soil/water) SOLID Lab Sample ID: C1I250270 004
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JL1A9 Date Extracted: 10/03/01
Dilution factor: 100 Date Analyzed: 10/15/01
Moisture %: 11

QC Batch: 1276508

Client Sample Id: NTC17PCSD1101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	3700	U
208-96-8	Acenaphthylene	3700	U
83-32-9	Acenaphthene	3700	U
86-73-7	Fluorene	850	
85-01-8	Phenanthrene	6400	
120-12-7	Anthracene	1100	
206-44-0	Fluoranthene	8400	
129-00-0	Pyrene	6600	
56-55-3	Benzo(a)anthracene	2900	
218-01-9	Chrysene	2900	
205-99-2	Benzo(b)fluoranthene	2800	
207-08-9	Benzo(k)fluoranthene	1600	
50-32-8	Benzo(a)pyrene	2700	
193-39-5	Indeno(1,2,3-cd)pyrene	1500	
53-70-3	Dibenzo(a,h)anthracene	750	U
191-24-2	Benzo(ghi)perylene	1500	P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 005
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JR1A9 Date Extracted:10/03/01
Dilution factor: 20 Date Analyzed: 10/16/01
Moisture %:17

QC Batch: 1276508

Client Sample Id: NTC17PCSD1102

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	790	U
208-96-8	Acenaphthylene	790	U
83-32-9	Acenaphthene	790	U
86-73-7	Fluorene	160	P
85-01-8	Phenanthrene	1800	
120-12-7	Anthracene	310	
206-44-0	Fluoranthene	2700	
129-00-0	Pyrene	2100	
56-55-3	Benzo(a)anthracene	950	
218-01-9	Chrysene	950	
205-99-2	Benzo(b)fluoranthene	1000	
207-08-9	Benzo(k)fluoranthene	560	
50-32-8	Benzo(a)pyrene	1200	
193-39-5	Indeno(1,2,3-cd)pyrene	590	P
53-70-3	Dibenzo(a,h)anthracene	160	U
191-24-2	Benzo(ghi)perylene	1100	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 006
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JT1A9 Date Extracted:10/03/01
Dilution factor: 5 Date Analyzed: 10/16/01
Moisture %:28

QC Batch: 1276508

Client Sample Id: NTC17PCSD3301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	230	U
208-96-8	Acenaphthylene	230	U
83-32-9	Acenaphthene	230	U
86-73-7	Fluorene	22	J P
85-01-8	Phenanthrene	230	
120-12-7	Anthracene	44	J P
206-44-0	Fluoranthene	510	
129-00-0	Pyrene	400	
56-55-3	Benzo(a)anthracene	200	
218-01-9	Chrysene	210	
205-99-2	Benzo(b)fluoranthene	240	
207-08-9	Benzo(k)fluoranthene	130	
50-32-8	Benzo(a)pyrene	250	
193-39-5	Indeno(1,2,3-cd)pyrene	150	
53-70-3	Dibenzo(a,h)anthracene	46	U
191-24-2	Benzo(ghi)perylene	160	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 007
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3JW1A9 Date Extracted:10/03/01
Dilution factor: 2 Date Analyzed: 10/16/01
Moisture %:17

QC Batch: 1276508

Client Sample Id: NTC17PCSD3201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	79	U
208-96-8	Acenaphthylene	79	U
83-32-9	Acenaphthene	79	U
86-73-7	Fluorene	13	J
85-01-8	Phenanthrene	85	
120-12-7	Anthracene	19	P
206-44-0	Fluoranthene	190	
129-00-0	Pyrene	150	
56-55-3	Benzo(a)anthracene	75	
218-01-9	Chrysene	73	
205-99-2	Benzo(b)fluoranthene	68	
207-08-9	Benzo(k)fluoranthene	35	
50-32-8	Benzo(a)pyrene	69	P
193-39-5	Indeno(1,2,3-cd)pyrene	37	
53-70-3	Dibenzo(a,h)anthracene	16	U
191-24-2	Benzo(ghi)perylene	35	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 008
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3J31A9 Date Extracted:10/03/01
Dilution factor: 2 Date Analyzed: 10/16/01
Moisture %:15

QC Batch: 1276508

Client Sample Id: NTC17PCSD3202

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	78	U
208-96-8	Acenaphthylene	78	U
83-32-9	Acenaphthene	78	U
86-73-7	Fluorene	17	
85-01-8	Phenanthrene	110	
120-12-7	Anthracene	20	P
206-44-0	Fluoranthene	240	
129-00-0	Pyrene	200	
56-55-3	Benzo(a)anthracene	110	
218-01-9	Chrysene	110	
205-99-2	Benzo(b)fluoranthene	120	
207-08-9	Benzo(k)fluoranthene	62	
50-32-8	Benzo(a)pyrene	120	
193-39-5	Indeno(1,2,3-cd)pyrene	66	
53-70-3	Dibenzo(a,h)anthracene	16	U
191-24-2	Benzo(ghi)perylene	98	

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 009
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3J61A9 Date Extracted:10/03/01
Dilution factor: 5 Date Analyzed: 10/16/01
Moisture %:15

QC Batch: 1276508

Client Sample Id: NTC17PCSD3101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	190	U
208-96-8	Acenaphthylene	190	U
83-32-9	Acenaphthene	190	U
86-73-7	Fluorene	24	J
85-01-8	Phenanthrene	270	
120-12-7	Anthracene	51	P
206-44-0	Fluoranthene	590	
129-00-0	Pyrene	470	
56-55-3	Benzo(a)anthracene	220	
218-01-9	Chrysene	230	
205-99-2	Benzo(b)fluoranthene	230	
207-08-9	Benzo(k)fluoranthene	130	
50-32-8	Benzo(a)pyrene	240	
193-39-5	Indeno(1,2,3-cd)pyrene	130	
53-70-3	Dibenzo(a,h)anthracene	39	U
191-24-2	Benzo(ghi)perylene	140	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 010
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KC1A9 Date Extracted:10/03/01
Dilution factor: 10 Date Analyzed: 10/16/01
Moisture %:27

QC Batch: 1276508

Client Sample Id: NTC17PCSD3001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	450	U
208-96-8	Acenaphthylene	450	U
83-32-9	Acenaphthene	450	U
86-73-7	Fluorene	110	
85-01-8	Phenanthrene	840	
120-12-7	Anthracene	220	
206-44-0	Fluoranthene	1300	
129-00-0	Pyrene	1000	
56-55-3	Benzo(a)anthracene	500	
218-01-9	Chrysene	460	
205-99-2	Benzo(b)fluoranthene	480	
207-08-9	Benzo(k)fluoranthene	260	
50-32-8	Benzo(a)pyrene	530	
193-39-5	Indeno(1,2,3-cd)pyrene	240	
53-70-3	Dibenzo(a,h)anthracene	91	U
191-24-2	Benzo(ghi)perylene	290	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 011
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KG1CC Date Extracted:10/03/01
Dilution factor: 3 Date Analyzed: 10/16/01
Moisture %:17

QC Batch: 1276508

Client Sample Id: NTC17PCSD2901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	120	U
208-96-8	Acenaphthylene	120	U
83-32-9	Acenaphthene	120	U
86-73-7	Fluorene	25	
85-01-8	Phenanthrene	150	
120-12-7	Anthracene	33	P
206-44-0	Fluoranthene	290	P
129-00-0	Pyrene	250	
56-55-3	Benzo(a)anthracene	140	
218-01-9	Chrysene	140	
205-99-2	Benzo(b)fluoranthene	150	
207-08-9	Benzo(k)fluoranthene	84	
50-32-8	Benzo(a)pyrene	170	
193-39-5	Indeno(1,2,3-cd)pyrene	90	
53-70-3	Dibenzo(a,h)anthracene	24	U
191-24-2	Benzo(ghi)perylene	100	P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 012
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KL1A9 Date Extracted:10/03/01
Dilution factor: 10 Date Analyzed: 10/16/01
Moisture %:25

QC Batch: 1276508

Client Sample Id: NTC17PCSD2902

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	440	U
208-96-8	Acenaphthylene	440	U
83-32-9	Acenaphthene	440	U
86-73-7	Fluorene	49	J
85-01-8	Phenanthrene	360	
120-12-7	Anthracene	93	
206-44-0	Fluoranthene	700	
129-00-0	Pyrene	570	
56-55-3	Benzo(a)anthracene	310	
218-01-9	Chrysene	290	
205-99-2	Benzo(b)fluoranthene	310	
207-08-9	Benzo(k)fluoranthene	170	
50-32-8	Benzo(a)pyrene	340	P
193-39-5	Indeno(1,2,3-cd)pyrene	180	
53-70-3	Dibenzo(a,h)anthracene	89	U
191-24-2	Benzo(ghi)perylene	190	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 013
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KM1A9 Date Extracted:10/03/01
Dilution factor: 4 Date Analyzed: 10/16/01
Moisture %:19

QC Batch: 1276508

Client Sample Id: NTC17PCSD2801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	160	U
208-96-8	Acenaphthylene	160	U
83-32-9	Acenaphthene	160	U
86-73-7	Fluorene	21	J
85-01-8	Phenanthrene	160	
120-12-7	Anthracene	34	
206-44-0	Fluoranthene	330	
129-00-0	Pyrene	260	
56-55-3	Benzo(a)anthracene	130	
218-01-9	Chrysene	140	
205-99-2	Benzo(b)fluoranthene	150	
207-08-9	Benzo(k)fluoranthene	75	
50-32-8	Benzo(a)pyrene	160	
193-39-5	Indeno(1,2,3-cd)pyrene	95	
53-70-3	Dibenzo(a,h)anthracene	33	U
191-24-2	Benzo(ghi)perylene	93	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 014
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KN1A9 Date Extracted:10/03/01
Dilution factor: 100 Date Analyzed: 10/16/01
Moisture %:19

QC Batch: 1276508

Client Sample Id: NTC17PCSD2701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	4100	U
208-96-8	Acenaphthylene	4100	U
83-32-9	Acenaphthene	4100	U
86-73-7	Fluorene	410	J P
85-01-8	Phenanthrene	6300	
120-12-7	Anthracene	1100	
206-44-0	Fluoranthene	9000	
129-00-0	Pyrene	6400	
56-55-3	Benzo(a)anthracene	2800	
218-01-9	Chrysene	2900	
205-99-2	Benzo(b)fluoranthene	2200	
207-08-9	Benzo(k)fluoranthene	1300	
50-32-8	Benzo(a)pyrene	2100	P
193-39-5	Indeno(1,2,3-cd)pyrene	880	
53-70-3	Dibenzo(a,h)anthracene	830	U
191-24-2	Benzo(ghi)perylene	990	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 015
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3KQ1A9 Date Extracted:10/03/01
Dilution factor: 5 Date Analyzed: 10/17/01
Moisture %:18

QC Batch: 1276508

Client Sample Id: NTC17PCSD2601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	200	U
208-96-8	Acenaphthylene	200	U
83-32-9	Acenaphthene	200	U
86-73-7	Fluorene	26	J
85-01-8	Phenanthrene	180	
120-12-7	Anthracene	43	
206-44-0	Fluoranthene	340	
129-00-0	Pyrene	290	
56-55-3	Benzo(a)anthracene	150	
218-01-9	Chrysene	150	
205-99-2	Benzo(b)fluoranthene	150	
207-08-9	Benzo(k)fluoranthene	76	
50-32-8	Benzo(a)pyrene	150	
193-39-5	Indeno(1,2,3-cd)pyrene	91	
53-70-3	Dibenzo(a,h)anthracene	41	U
191-24-2	Benzo(ghi)perylene	81	P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 016
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g
Work Order: EK3KR1A9
Dilution factor: 10
Moisture %:18

Date Received: 09/25/01
Date Extracted:10/03/01
Date Analyzed: 10/16/01

QC Batch: 1276508

Client Sample Id: NTC17PCSD2501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	400	U
208-96-8	Acenaphthylene	400	U
83-32-9	Acenaphthene	400	U
86-73-7	Fluorene	35	J P
85-01-8	Phenanthrene	440	
120-12-7	Anthracene	86	
206-44-0	Fluoranthene	690	
129-00-0	Pyrene	540	
56-55-3	Benzo(a)anthracene	260	
218-01-9	Chrysene	270	
205-99-2	Benzo(b)fluoranthene	240	
207-08-9	Benzo(k)fluoranthene	130	
50-32-8	Benzo(a)pyrene	300	
193-39-5	Indeno(1,2,3-cd)pyrene	140	
53-70-3	Dibenzo(a,h)anthracene	81	U
191-24-2	Benzo(ghi)perylene	110	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 018
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3K41CA Date Extracted:10/03/01
Dilution factor: 5 Date Analyzed: 10/16/01
Moisture %:24

QC Batch: 1276508

Client Sample Id: NTC17PCSD3801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	220	U
208-96-8	Acenaphthylene	220	U
83-32-9	Acenaphthene	220	U
86-73-7	Fluorene	17	J
85-01-8	Phenanthrene	160	
120-12-7	Anthracene	29	J P
206-44-0	Fluoranthene	360	
129-00-0	Pyrene	280	
56-55-3	Benzo(a)anthracene	130	
218-01-9	Chrysene	140	
205-99-2	Benzo(b)fluoranthene	140	
207-08-9	Benzo(k)fluoranthene	71	
50-32-8	Benzo(a)pyrene	140	
193-39-5	Indeno(1,2,3-cd)pyrene	89	
53-70-3	Dibenzo(a,h)anthracene	44	U
191-24-2	Benzo(ghi)perylene	100	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL008

Matrix: (soil/water) SOLID Lab Sample ID:C1I250270 019
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3LC1A9 Date Extracted:10/03/01
Dilution factor: 5 Date Analyzed: 10/17/01
Moisture %:21

QC Batch: 1276508

Client Sample Id: NTC17PCSD3701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	210	U
208-96-8	Acenaphthylene	210	U
83-32-9	Acenaphthene	210	U
86-73-7	Fluorene	36	J
85-01-8	Phenanthrene	260	
120-12-7	Anthracene	64	
206-44-0	Fluoranthene	460	
129-00-0	Pyrene	330	
56-55-3	Benzo(a)anthracene	140	
218-01-9	Chrysene	160	
205-99-2	Benzo(b)fluoranthene	150	
207-08-9	Benzo(k)fluoranthene	84	
50-32-8	Benzo(a)pyrene	140	
193-39-5	Indeno(1,2,3-cd)pyrene	81	
53-70-3	Dibenzo(a,h)anthracene	42	U
191-24-2	Benzo(ghi)perylene	100	

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3HR **Client ID:** NTC17PCSD1301

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 7.72

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.3	21.7	2500	*	1	ICP	10/19/01	17:40
Antimony	220.35	0.26	6.5	0.41	BN*	1	ICPST	10/18/01	16:57
Arsenic	189.04	0.35	1.1	9.1		1	ICPST	10/18/01	16:57
Barium	493.41	0.040	21.7	25.9	N*	1	ICP	10/19/01	17:40
Beryllium	313.04	0.018	0.54	0.78	N*	1	ICP	10/19/01	17:40
Cadmium	226.50	0.055	0.54	0.50	B	1	ICPST	10/18/01	16:57
Calcium	317.93	1.4	542	57400		1	ICP	10/19/01	17:40
Chromium	267.72	0.080	1.1	29.6		1	ICPST	10/18/01	16:57
Cobalt	228.62	0.31	5.4	5.7		1	ICP	10/19/01	17:40
Copper	324.75	0.26	2.7	197	*	1	ICP	10/19/01	17:40
Iron	259.94	0.53	108	12500	E	1	ICP	10/19/01	17:40
Lead	220.35	0.27	0.33	155	N*	1	ICPST	10/18/01	16:57
Magnesium	279.08	2.3	542	30500		1	ICP	10/19/01	17:40
Manganese	257.61	0.096	1.6	396		1	ICP	10/19/01	17:40
Nickel	231.60	1.1	4.3	23.0	N*	1	ICP	10/19/01	17:40
Potassium	766.49	47.5	542	312	B	1	ICP	10/19/01	17:40
Selenium	220.35	0.36	0.54	0.36	U	1	ICPST	10/18/01	16:57
Silver	328.07	0.087	1.1	0.98	BN*	1	ICPST	10/18/01	16:57
Sodium	589	1.3	542	255	B	1	ICP	10/19/01	17:40
Thallium	190.86	0.62	1.1	0.62	U	1	ICPST	10/18/01	16:57
Vanadium	292.40	0.27	5.4	8.3		1	ICP	10/19/01	17:40
Zinc	213.86	0.26	2.2	856	*	1	ICP	10/19/01	17:40

Comments: Lot #: C1I250270 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3J3 **Client ID:** NTC17PCSD3202

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 15.06

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.5	23.6	2030	*	1	ICP	10/19/01	18:19
Antimony	220.35	0.28	7.1	0.28	UN*	1	ICPST	10/18/01	17:55
Arsenic	189.04	0.38	1.2	2.8		1	ICPST	10/18/01	17:55
Barium	493.41	0.044	23.6	16.9	BN*	1	ICP	10/19/01	18:19
Beryllium	313.04	0.020	0.59	0.13	BN*	1	ICP	10/19/01	18:19
Cadmium	226.50	0.060	0.59	0.060	U	1	ICPST	10/18/01	17:55
Calcium	317.93	1.5	589	43800		1	ICP	10/19/01	18:19
Chromium	267.72	0.087	1.2	7.7		1	ICPST	10/18/01	17:55
Cobalt	228.62	0.34	5.9	4.0	B	1	ICP	10/19/01	18:19
Copper	324.75	0.28	2.9	9.2	*	1	ICP	10/19/01	18:19
Iron	259.94	0.58	118	7900	E	1	ICP	10/19/01	18:19
Lead	220.35	0.29	0.35	18.5	N*	1	ICPST	10/18/01	17:55
Magnesium	279.08	2.5	589	24000		1	ICP	10/19/01	18:19
Manganese	257.61	0.11	1.8	323		1	ICP	10/19/01	18:19
Nickel	231.60	1.2	4.7	8.5	N*	1	ICP	10/19/01	18:19
Potassium	766.49	51.6	589	290	B	1	ICP	10/19/01	18:19
Selenium	220.35	0.39	0.59	0.39	U	1	ICPST	10/18/01	17:55
Silver	328.07	0.094	1.2	0.094	UN*	1	ICPST	10/18/01	17:55
Sodium	589	1.4	589	79.1	B	1	ICP	10/19/01	18:19
Thallium	190.86	0.67	1.2	0.67	U	1	ICPST	10/18/01	17:55
Vanadium	292.40	0.29	5.9	6.6		1	ICP	10/19/01	18:19
Zinc	213.86	0.28	2.4	280	*	1	ICP	10/19/01	18:19

Comments: Lot #: C1I250270 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3J6 **Client ID:** NTC17PCSD3101

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 14.62

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.5	23.4	3660	*	1	ICP	10/19/01	18:23
Antimony	220.35	0.28	7.0	0.28	UN*	1	ICPST	10/18/01	18:00
Arsenic	189.04	0.38	1.2	5.3		1	ICPST	10/18/01	18:00
Barium	493.41	0.043	23.4	31.7	N*	1	ICP	10/19/01	18:23
Beryllium	313.04	0.020	0.59	0.27	BN*	1	ICP	10/19/01	18:23
Cadmium	226.50	0.060	0.59	0.071	B	1	ICPST	10/18/01	18:00
Calcium	317.93	1.5	586	44800		1	ICP	10/19/01	18:23
Chromium	267.72	0.087	1.2	10.5		1	ICPST	10/18/01	18:00
Cobalt	228.62	0.34	5.9	7.6		1	ICP	10/19/01	18:23
Copper	324.75	0.28	2.9	21.5	*	1	ICP	10/19/01	18:23
Iron	259.94	0.57	117	11800	E	1	ICP	10/19/01	18:23
Lead	220.35	0.29	0.35	31.1	N*	1	ICPST	10/18/01	18:00
Magnesium	279.08	2.5	586	24100		1	ICP	10/19/01	18:23
Manganese	257.61	0.10	1.8	348		1	ICP	10/19/01	18:23
Nickel	231.60	1.2	4.7	15.4	N*	1	ICP	10/19/01	18:23
Potassium	766.49	51.3	586	596		1	ICP	10/19/01	18:23
Selenium	220.35	0.39	0.59	0.39	U	1	ICPST	10/18/01	18:00
Silver	328.07	0.094	1.2	0.10	BN*	1	ICPST	10/18/01	18:00
Sodium	589	1.4	586	147	B	1	ICP	10/19/01	18:23
Thallium	190.86	0.67	1.2	0.95	B	1	ICPST	10/18/01	18:00
Vanadium	292.40	0.29	5.9	12.5		1	ICP	10/19/01	18:23
Zinc	213.86	0.28	2.3	74.3	*	1	ICP	10/19/01	18:23

Comments: Lot #: C1I250270 Sample #: 9

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3JF **Client ID:** NTC17PCSD1201

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 6.44

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.3	21.4	1960	*	1	ICP	10/19/01	17:43
Antimony	220.35	0.26	6.4	0.27	BN*	1	ICPST	10/18/01	17:02
Arsenic	189.04	0.34	1.1	4.0		1	ICPST	10/18/01	17:02
Barium	493.41	0.040	21.4	23.1	N*	1	ICP	10/19/01	17:43
Beryllium	313.04	0.018	0.53	0.77	N*	1	ICP	10/19/01	17:43
Cadmium	226.50	0.055	0.53	0.57		1	ICPST	10/18/01	17:02
Calcium	317.93	2.8	1070	91700		2	ICP	10/19/01	19:07
Chromium	267.72	0.079	1.1	16.7		1	ICPST	10/18/01	17:02
Cobalt	228.62	0.31	5.3	4.0	B	1	ICP	10/19/01	17:43
Copper	324.75	0.26	2.7	127	*	1	ICP	10/19/01	17:43
Iron	259.94	0.52	107	9590	E	1	ICP	10/19/01	17:43
Lead	220.35	0.27	0.32	142	N*	1	ICPST	10/18/01	17:02
Magnesium	279.08	2.3	534	51400		1	ICP	10/19/01	17:43
Manganese	257.61	0.095	1.6	370		1	ICP	10/19/01	17:43
Nickel	231.60	1.1	4.3	18.3	N*	1	ICP	10/19/01	17:43
Potassium	766.49	46.8	534	293	B	1	ICP	10/19/01	17:43
Selenium	220.35	0.35	0.53	0.35	U	1	ICPST	10/18/01	17:02
Silver	328.07	0.086	1.1	0.57	BN*	1	ICPST	10/18/01	17:02
Sodium	589	1.3	534	291	B	1	ICP	10/19/01	17:43
Thallium	190.86	0.61	1.1	0.61	U	1	ICPST	10/18/01	17:02
Vanadium	292.40	0.27	5.3	7.1		1	ICP	10/19/01	17:43
Zinc	213.86	0.26	2.1	1110	*	1	ICP	10/19/01	17:43

Comments: Lot #: C1I250270 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3JK **Client ID:** NTC17PCSD1202

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 6.93

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.3	21.5	2500	*	1	ICP	10/19/01	18:04
Antimony	220.35	0.26	6.5	0.83	BN*	1	ICPST	10/18/01	17:33
Arsenic	189.04	0.34	1.1	9.0		1	ICPST	10/18/01	17:33
Barium	493.41	0.040	21.5	19.9	BN*	1	ICP	10/19/01	18:04
Beryllium	313.04	0.018	0.54	1.2	N*	1	ICP	10/19/01	18:04
Cadmium	226.50	0.055	0.54	0.38	B	1	ICPST	10/18/01	17:33
Calcium	317.93	2.8	1070	111000		2	ICP	10/19/01	19:25
Chromium	267.72	0.080	1.1	9.8		1	ICPST	10/18/01	17:33
Cobalt	228.62	0.31	5.4	5.8		1	ICP	10/19/01	18:04
Copper	324.75	0.26	2.7	200	*	1	ICP	10/19/01	18:04
Iron	259.94	0.53	107	14400	E	1	ICP	10/19/01	18:04
Lead	220.35	0.27	0.32	161	N*	1	ICPST	10/18/01	17:33
Magnesium	279.08	2.3	537	56800		1	ICP	10/19/01	18:04
Manganese	257.61	0.096	1.6	490		1	ICP	10/19/01	18:04
Nickel	231.60	1.1	4.3	14.9	N*	1	ICP	10/19/01	18:04
Potassium	766.49	47.1	537	390	B	1	ICP	10/19/01	18:04
Selenium	220.35	0.36	0.54	0.36	U	1	ICPST	10/18/01	17:33
Silver	328.07	0.086	1.1	0.49	BN*	1	ICPST	10/18/01	17:33
Sodium	589	1.3	537	419	B	1	ICP	10/19/01	18:04
Thallium	190.86	0.61	1.1	1.7		1	ICPST	10/18/01	17:33
Vanadium	292.40	0.27	5.4	11.1		1	ICP	10/19/01	18:04
Zinc	213.86	0.26	2.2	1520	*	1	ICP	10/19/01	18:04

Comments: Lot #: C1I250270 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3JL **Client ID:** NTC17PCSD1101

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 10.53

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.4	22.4	2900	*	1	ICP	10/19/01	18:07
Antimony	220.35	0.27	6.7	0.53	BN*	1	ICPST	10/18/01	17:38
Arsenic	189.04	0.36	1.1	6.0		1	ICPST	10/18/01	17:38
Barium	493.41	0.041	22.4	26.3	N*	1	ICP	10/19/01	18:07
Beryllium	313.04	0.019	0.56	0.39	BN*	1	ICP	10/19/01	18:07
Cadmium	226.50	0.057	0.56	0.47	B	1	ICPST	10/18/01	17:38
Calcium	317.93	1.5	559	45900		1	ICP	10/19/01	18:07
Chromium	267.72	0.083	1.1	10.2		1	ICPST	10/18/01	17:38
Cobalt	228.62	0.32	5.6	5.3	B	1	ICP	10/19/01	18:07
Copper	324.75	0.27	2.8	123	*	1	ICP	10/19/01	18:07
Iron	259.94	0.55	112	10900	E	1	ICP	10/19/01	18:07
Lead	220.35	0.28	0.34	120	N*	1	ICPST	10/18/01	17:38
Magnesium	279.08	2.4	559	24000		1	ICP	10/19/01	18:07
Manganese	257.61	0.10	1.7	337		1	ICP	10/19/01	18:07
Nickel	231.60	1.2	4.5	11.9	N*	1	ICP	10/19/01	18:07
Potassium	766.49	49.0	559	392	B	1	ICP	10/19/01	18:07
Selenium	220.35	0.37	0.56	0.37	U	1	ICPST	10/18/01	17:38
Silver	328.07	0.089	1.1	1.5	N*	1	ICPST	10/18/01	17:38
Sodium	589	1.3	559	155	B	1	ICP	10/19/01	18:07
Thallium	190.86	0.64	1.1	0.64	U	1	ICPST	10/18/01	17:38
Vanadium	292.40	0.28	5.6	8.6		1	ICP	10/19/01	18:07
Zinc	213.86	0.27	2.2	570	*	1	ICP	10/19/01	18:07

Comments: Lot #: C1I250270 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3JR **Client ID:** NTC17PCSD1102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 16.86

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.5	24.1	2340	*	1	ICP	10/19/01	18:10
Antimony	220.35	0.29	7.2	0.50	BN*	1	ICPST	10/18/01	17:42
Arsenic	189.04	0.39	1.2	7.5		1	ICPST	10/18/01	17:42
Barium	493.41	0.045	24.1	22.3	BN*	1	ICP	10/19/01	18:10
Beryllium	313.04	0.020	0.60	0.82	N*	1	ICP	10/19/01	18:10
Cadmium	226.50	0.061	0.60	0.27	B	1	ICPST	10/18/01	17:42
Calcium	317.93	3.2	1200	81600		2	ICP	10/19/01	19:29
Chromium	267.72	0.089	1.2	13.9		1	ICPST	10/18/01	17:42
Cobalt	228.62	0.35	6.0	4.9	B	1	ICP	10/19/01	18:10
Copper	324.75	0.29	3.0	182	*	1	ICP	10/19/01	18:10
Iron	259.94	0.59	120	13600	E	1	ICP	10/19/01	18:10
Lead	220.35	0.30	0.36	154	N*	1	ICPST	10/18/01	17:42
Magnesium	279.08	2.6	601	42000		1	ICP	10/19/01	18:10
Manganese	257.61	0.11	1.8	321		1	ICP	10/19/01	18:10
Nickel	231.60	1.3	4.8	15.7	N*	1	ICP	10/19/01	18:10
Potassium	766.49	52.7	601	324	B	1	ICP	10/19/01	18:10
Selenium	220.35	0.40	0.60	62.5		1	ICPST	10/18/01	17:42
Silver	328.07	0.096	1.2	0.27	BN*	1	ICPST	10/18/01	17:42
Sodium	589	1.4	601	405	B	1	ICP	10/19/01	18:10
Thallium	190.86	0.69	1.2	0.80	B	1	ICPST	10/18/01	17:42
Vanadium	292.40	0.30	6.0	8.7		1	ICP	10/19/01	18:10
Zinc	213.86	0.29	2.4	1260	*	1	ICP	10/19/01	18:10

Comments: Lot #: C1I250270 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3JT **Client ID:** NTC17PCSD3301

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 27.93

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.9	27.8	3040	*	1	ICP	10/19/01	18:13
Antimony	220.35	0.33	8.3	0.33	BN*	1	ICPST	10/18/01	17:47
Arsenic	189.04	0.44	1.4	4.3		1	ICPST	10/18/01	17:47
Barium	493.41	0.051	27.8	24.1	BN*	1	ICP	10/19/01	18:13
Beryllium	313.04	0.024	0.69	0.20	BN*	1	ICP	10/19/01	18:13
Cadmium	226.50	0.071	0.69	0.11	B	1	ICPST	10/18/01	17:47
Calcium	317.93	1.8	694	43000		1	ICP	10/19/01	18:13
Chromium	267.72	0.10	1.4	12.2		1	ICPST	10/18/01	17:47
Cobalt	228.62	0.40	6.9	5.6	B	1	ICP	10/19/01	18:13
Copper	324.75	0.33	3.5	18.5	*	1	ICP	10/19/01	18:13
Iron	259.94	0.68	139	9760	E	1	ICP	10/19/01	18:13
Lead	220.35	0.35	0.42	44.8	N*	1	ICPST	10/18/01	17:47
Magnesium	279.08	3.0	694	22500		1	ICP	10/19/01	18:13
Manganese	257.61	0.12	2.1	355		1	ICP	10/19/01	18:13
Nickel	231.60	1.4	5.6	12.6	N*	1	ICP	10/19/01	18:13
Potassium	766.49	60.8	694	499	B	1	ICP	10/19/01	18:13
Selenium	220.35	0.46	0.69	0.46	U	1	ICPST	10/18/01	17:47
Silver	328.07	0.11	1.4	0.19	BN*	1	ICPST	10/18/01	17:47
Sodium	589	1.7	694	99.1	B	1	ICP	10/19/01	18:13
Thallium	190.86	0.79	1.4	0.79	U	1	ICPST	10/18/01	17:47
Vanadium	292.40	0.35	6.9	10.6		1	ICP	10/19/01	18:13
Zinc	213.86	0.33	2.8	108	*	1	ICP	10/19/01	18:13

Comments: Lot #: C1I250270 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3JW **Client ID:** NTC17PCSD3201

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 16.97

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**2.5**	**24.1**	**1890**	*	**1**	**ICP**	**10/19/01**	**18:16**
Antimony	220.35	0.29	7.2	0.29	UN*	1	ICPST	10/18/01	17:51
Arsenic	**189.04**	**0.39**	**1.2**	**5.3**		**1**	**ICPST**	**10/18/01**	**17:51**
Barium	**493.41**	**0.045**	**24.1**	**12.0**	**BN***	**1**	**ICP**	**10/19/01**	**18:16**
Beryllium	**313.04**	**0.021**	**0.60**	**0.29**	**BN***	**1**	**ICP**	**10/19/01**	**18:16**
Cadmium	226.50	0.061	0.60	0.061	U	1	ICPST	10/18/01	17:51
Calcium	**317.93**	**1.6**	**602**	**63600**		**1**	**ICP**	**10/19/01**	**18:16**
Chromium	**267.72**	**0.089**	**1.2**	**7.9**		**1**	**ICPST**	**10/18/01**	**17:51**
Cobalt	**228.62**	**0.35**	**6.0**	**4.8**	**B**	**1**	**ICP**	**10/19/01**	**18:16**
Copper	**324.75**	**0.29**	**3.0**	**25.6**	*	**1**	**ICP**	**10/19/01**	**18:16**
Iron	**259.94**	**0.59**	**120**	**11900**	**E**	**1**	**ICP**	**10/19/01**	**18:16**
Lead	**220.35**	**0.30**	**0.36**	**50.8**	**N***	**1**	**ICPST**	**10/18/01**	**17:51**
Magnesium	**279.08**	**2.6**	**602**	**34900**		**1**	**ICP**	**10/19/01**	**18:16**
Manganese	**257.61**	**0.11**	**1.8**	**411**		**1**	**ICP**	**10/19/01**	**18:16**
Nickel	**231.60**	**1.3**	**4.8**	**8.7**	**N***	**1**	**ICP**	**10/19/01**	**18:16**
Potassium	**766.49**	**52.8**	**602**	**331**	**B**	**1**	**ICP**	**10/19/01**	**18:16**
Selenium	220.35	0.40	0.60	0.40	U	1	ICPST	10/18/01	17:51
Silver	328.07	0.096	1.2	0.096	UN*	1	ICPST	10/18/01	17:51
Sodium	**589**	**1.4**	**602**	**133**	**B**	**1**	**ICP**	**10/19/01**	**18:16**
Thallium	**190.86**	**0.69**	**1.2**	**1.4**		**1**	**ICPST**	**10/18/01**	**17:51**
Vanadium	**292.40**	**0.30**	**6.0**	**7.7**		**1**	**ICP**	**10/19/01**	**18:16**
Zinc	**213.86**	**0.29**	**2.4**	**245**	*	**1**	**ICP**	**10/19/01**	**18:16**

Comments: Lot #: C1I250270 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3K4 **Client ID:** NTC17PCSD3801

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 23.50

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.8	26.1	1900	*	1	ICP	10/19/01	18:57
Antimony	220.35	0.31	7.8	0.49	BN*	1	ICPST	10/18/01	18:48
Arsenic	189.04	0.42	1.3	2.6		1	ICPST	10/18/01	18:48
Barium	493.41	0.048	26.1	17.5	BN*	1	ICP	10/19/01	18:57
Beryllium	313.04	0.022	0.65	0.13	BN*	1	ICP	10/19/01	18:57
Cadmium	226.50	0.067	0.65	0.067	U	1	ICPST	10/18/01	18:48
Calcium	317.93	1.7	654	31300		1	ICP	10/19/01	18:57
Chromium	267.72	0.097	1.3	7.6		1	ICPST	10/18/01	18:48
Cobalt	228.62	0.38	6.5	3.7	B	1	ICP	10/19/01	18:57
Copper	324.75	0.31	3.3	8.2	*	1	ICP	10/19/01	18:57
Iron	259.94	0.64	131	6540	E	1	ICP	10/19/01	18:57
Lead	220.35	0.33	0.39	15.7	N*	1	ICPST	10/18/01	18:48
Magnesium	279.08	2.8	654	17000		1	ICP	10/19/01	18:57
Manganese	257.61	0.12	2.0	225		1	ICP	10/19/01	18:57
Nickel	231.60	1.4	5.2	6.5	N*	1	ICP	10/19/01	18:57
Potassium	766.49	57.3	654	371	B	1	ICP	10/19/01	18:57
Selenium	220.35	0.43	0.65	0.43	U	1	ICPST	10/18/01	18:48
Silver	328.07	0.11	1.3	0.19	BN*	1	ICPST	10/18/01	18:48
Sodium	589	1.6	654	104	B	1	ICP	10/19/01	18:57
Thallium	190.86	0.75	1.3	0.75	U	1	ICPST	10/18/01	18:48
Vanadium	292.40	0.33	6.5	8.7		1	ICP	10/19/01	18:57
Zinc	213.86	0.31	2.6	51.1	*	1	ICP	10/19/01	18:57

Comments: Lot #: C1I250270 Sample #: 18

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KC **Client ID:** NTC17PCSD3001

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 26.75

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.9	27.3	1970	*	1	ICP	10/19/01	18:26
Antimony	220.35	0.33	8.2	0.33	UN*	1	ICPST	10/18/01	18:04
Arsenic	189.04	0.44	1.4	3.7		1	ICPST	10/18/01	18:04
Barium	493.41	0.051	27.3	17.9	BN*	1	ICP	10/19/01	18:26
Beryllium	313.04	0.023	0.68	0.17	BN*	1	ICP	10/19/01	18:26
Cadmium	226.50	0.070	0.68	0.11	B	1	ICPST	10/18/01	18:04
Calcium	317.93	1.8	683	34800		1	ICP	10/19/01	18:26
Chromium	267.72	0.10	1.4	9.1		1	ICPST	10/18/01	18:04
Cobalt	228.62	0.40	6.8	4.7	B	1	ICP	10/19/01	18:26
Copper	324.75	0.33	3.4	13.4	*	1	ICP	10/19/01	18:26
Iron	259.94	0.67	137	7470	E	1	ICP	10/19/01	18:26
Lead	220.35	0.34	0.41	28.6	N*	1	ICPST	10/18/01	18:04
Magnesium	279.08	2.9	683	18200		1	ICP	10/19/01	18:26
Manganese	257.61	0.12	2.1	267		1	ICP	10/19/01	18:26
Nickel	231.60	1.4	5.5	8.9	N*	1	ICP	10/19/01	18:26
Potassium	766.49	59.8	683	373	B	1	ICP	10/19/01	18:26
Selenium	220.35	0.45	0.68	0.45	U	1	ICPST	10/18/01	18:04
Silver	328.07	0.11	1.4	0.11	UN*	1	ICPST	10/18/01	18:04
Sodium	589	1.6	683	92.5	B	1	ICP	10/19/01	18:26
Thallium	190.86	0.78	1.4	0.78	U	1	ICPST	10/18/01	18:04
Vanadium	292.40	0.34	6.8	6.8	B	1	ICP	10/19/01	18:26
Zinc	213.86	0.33	2.7	74.9	*	1	ICP	10/19/01	18:26

Comments: Lot #: C1I250270 Sample #: 10

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KG **Client ID:** NTC17PCSD2901

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 16.83

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.5	24.1	2310	*	1	ICP	10/19/01	18:29
Antimony	220.35	0.29	7.2	0.40	BN*	1	ICPST	10/18/01	18:09
Arsenic	189.04	0.39	1.2	3.7		1	ICPST	10/18/01	18:09
Barium	493.41	0.045	24.1	19.4	BN*	1	ICP	10/19/01	18:29
Beryllium	313.04	0.020	0.60	0.20	BN*	1	ICP	10/19/01	18:29
Cadmium	226.50	0.061	0.60	0.061	U	1	ICPST	10/18/01	18:09
Calcium	317.93	1.6	601	30400		1	ICP	10/19/01	18:29
Chromium	267.72	0.089	1.2	10.7		1	ICPST	10/18/01	18:09
Cobalt	228.62	0.35	6.0	3.9	B	1	ICP	10/19/01	18:29
Copper	324.75	0.29	3.0	10.4	*	1	ICP	10/19/01	18:29
Iron	259.94	0.59	120	8020	E	1	ICP	10/19/01	18:29
Lead	220.35	0.30	0.36	32.1	N*	1	ICPST	10/18/01	18:09
Magnesium	279.08	2.6	601	16100		1	ICP	10/19/01	18:29
Manganese	257.61	0.11	1.8	233		1	ICP	10/19/01	18:29
Nickel	231.60	1.3	4.8	7.3	N*	1	ICP	10/19/01	18:29
Potassium	766.49	52.7	601	348	B	1	ICP	10/19/01	18:29
Selenium	220.35	0.40	0.60	0.40	U	1	ICPST	10/18/01	18:09
Silver	328.07	0.096	1.2	0.12	BN*	1	ICPST	10/18/01	18:09
Sodium	589	1.4	601	81.7	B	1	ICP	10/19/01	18:29
Thallium	190.86	0.69	1.2	0.69	U	1	ICPST	10/18/01	18:09
Vanadium	292.40	0.30	6.0	8.9		1	ICP	10/19/01	18:29
Zinc	213.86	0.29	2.4	57.8	*	1	ICP	10/19/01	18:29

Comments: Lot #: C1I250270 Sample #: 11

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KL **Client ID:** NTC17PCSD2902

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 24.51

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.8	26.5	3570	*	1	ICP	10/19/01	18:38
Antimony	220.35	0.32	8.0	0.32	UN*	1	ICPST	10/18/01	18:22
Arsenic	189.04	0.42	1.3	4.9		1	ICPST	10/18/01	18:22
Barium	493.41	0.049	26.5	30.2	N*	1	ICP	10/19/01	18:38
Beryllium	313.04	0.023	0.66	0.25	BN*	1	ICP	10/19/01	18:38
Cadmium	226.50	0.068	0.66	0.27	B	1	ICPST	10/18/01	18:22
Calcium	317.93	1.7	662	41400		1	ICP	10/19/01	18:38
Chromium	267.72	0.098	1.3	13.4		1	ICPST	10/18/01	18:22
Cobalt	228.62	0.38	6.6	6.4	B	1	ICP	10/19/01	18:38
Copper	324.75	0.32	3.3	24.4	*	1	ICP	10/19/01	18:38
Iron	259.94	0.65	133	11600	E	1	ICP	10/19/01	18:38
Lead	220.35	0.33	0.40	46.1	N*	1	ICPST	10/18/01	18:22
Magnesium	279.08	2.8	662	22400		1	ICP	10/19/01	18:38
Manganese	257.61	0.12	2.0	433		1	ICP	10/19/01	18:38
Nickel	231.60	1.4	5.3	13.5	N*	1	ICP	10/19/01	18:38
Potassium	766.49	58.0	662	511	B	1	ICP	10/19/01	18:38
Selenium	220.35	0.44	0.66	0.50	B	1	ICPST	10/18/01	18:22
Silver	328.07	0.11	1.3	0.22	BN*	1	ICPST	10/18/01	18:22
Sodium	589	1.6	662	96.4	B	1	ICP	10/19/01	18:38
Thallium	190.86	0.76	1.3	0.97	B	1	ICPST	10/18/01	18:22
Vanadium	292.40	0.33	6.6	12.3		1	ICP	10/19/01	18:38
Zinc	213.86	0.32	2.7	117	*	1	ICP	10/19/01	18:38

Comments: Lot #: C1I250270 Sample #: 12

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KM **Client ID:** NTC17PCSD2801

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 19.45

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	24.8	1670	*	1	ICP	10/19/01	18:41
Antimony	220.35	0.30	7.5	0.30	UN*	1	ICPST	10/18/01	18:26
Arsenic	189.04	0.40	1.2	2.7		1	ICPST	10/18/01	18:26
Barium	493.41	0.046	24.8	22.3	BN*	1	ICP	10/19/01	18:41
Beryllium	313.04	0.021	0.62	0.13	BN*	1	ICP	10/19/01	18:41
Cadmium	226.50	0.063	0.62	0.082	B	1	ICPST	10/18/01	18:26
Calcium	317.93	1.6	621	31400		1	ICP	10/19/01	18:41
Chromium	267.72	0.092	1.2	6.8		1	ICPST	10/18/01	18:26
Cobalt	228.62	0.36	6.2	3.3	B	1	ICP	10/19/01	18:41
Copper	324.75	0.30	3.1	9.2	*	1	ICP	10/19/01	18:41
Iron	259.94	0.61	124	6410	E	1	ICP	10/19/01	18:41
Lead	220.35	0.31	0.37	18.2	N*	1	ICPST	10/18/01	18:26
Magnesium	279.08	2.7	621	16900		1	ICP	10/19/01	18:41
Manganese	257.61	0.11	1.9	213		1	ICP	10/19/01	18:41
Nickel	231.60	1.3	5.0	7.0	N*	1	ICP	10/19/01	18:41
Potassium	766.49	54.4	621	330	B	1	ICP	10/19/01	18:41
Selenium	220.35	0.41	0.62	0.41	U	1	ICPST	10/18/01	18:26
Silver	328.07	0.099	1.2	0.11	BN*	1	ICPST	10/18/01	18:26
Sodium	589	1.5	621	78.3	B	1	ICP	10/19/01	18:41
Thallium	190.86	0.71	1.2	0.71	U	1	ICPST	10/18/01	18:26
Vanadium	292.40	0.31	6.2	7.9		1	ICP	10/19/01	18:41
Zinc	213.86	0.30	2.5	55.0	*	1	ICP	10/19/01	18:41

Comments: Lot #: C1I250270 Sample #: 13

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KN **Client ID:** NTC17PCSD2701

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 19.29

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	24.8	2460	*	1	ICP	10/19/01	18:45
Antimony	220.35	0.30	7.4	0.30	UN*	1	ICPST	10/18/01	18:31
Arsenic	189.04	0.40	1.2	5.2		1	ICPST	10/18/01	18:31
Barium	493.41	0.046	24.8	19.2	BN*	1	ICP	10/19/01	18:45
Beryllium	313.04	0.021	0.62	0.23	BN*	1	ICP	10/19/01	18:45
Cadmium	226.50	0.063	0.62	0.083	B	1	ICPST	10/18/01	18:31
Calcium	317.93	1.6	620	66300		1	ICP	10/19/01	18:45
Chromium	267.72	0.092	1.2	10.0		1	ICPST	10/18/01	18:31
Cobalt	228.62	0.36	6.2	4.7	B	1	ICP	10/19/01	18:45
Copper	324.75	0.30	3.1	27.3	*	1	ICP	10/19/01	18:45
Iron	259.94	0.61	124	13100	E	1	ICP	10/19/01	18:45
Lead	220.35	0.31	0.37	53.9	N*	1	ICPST	10/18/01	18:31
Magnesium	279.08	2.7	620	36400		1	ICP	10/19/01	18:45
Manganese	257.61	0.11	1.9	381		1	ICP	10/19/01	18:45
Nickel	231.60	1.3	5.0	8.1	N*	1	ICP	10/19/01	18:45
Potassium	766.49	54.3	620	375	B	1	ICP	10/19/01	18:45
Selenium	220.35	0.41	0.62	0.41	U	1	ICPST	10/18/01	18:31
Silver	328.07	0.099	1.2	0.099	UN*	1	ICPST	10/18/01	18:31
Sodium	589	1.5	620	186	B	1	ICP	10/19/01	18:45
Thallium	190.86	0.71	1.2	0.73	B	1	ICPST	10/18/01	18:31
Vanadium	292.40	0.31	6.2	8.7		1	ICP	10/19/01	18:45
Zinc	213.86	0.30	2.5	206	*	1	ICP	10/19/01	18:45

Comments: Lot #: C1I250270 Sample #: 14

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KQ **Client ID:** NTC17PCSD2601

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 18.22

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	24.5	2710	*	1	ICP	10/19/01	18:48
Antimony	220.35	0.29	7.3	0.29	UN*	1	ICPST	10/18/01	18:35
Arsenic	189.04	0.39	1.2	4.7		1	ICPST	10/18/01	18:35
Barium	493.41	0.045	24.5	40.4	N*	1	ICP	10/19/01	18:48
Beryllium	313.04	0.021	0.61	0.44	BN*	1	ICP	10/19/01	18:48
Cadmium	226.50	0.062	0.61	0.067	B	1	ICPST	10/18/01	18:35
Calcium	317.93	1.6	611	50800		1	ICP	10/19/01	18:48
Chromium	267.72	0.091	1.2	14.7		1	ICPST	10/18/01	18:35
Cobalt	228.62	0.36	6.1	5.2	B	1	ICP	10/19/01	18:48
Copper	324.75	0.29	3.1	46.2	*	1	ICP	10/19/01	18:48
Iron	259.94	0.60	122	12400	E	1	ICP	10/19/01	18:48
Lead	220.35	0.31	0.37	57.9	N*	1	ICPST	10/18/01	18:35
Magnesium	279.08	2.6	611	27100		1	ICP	10/19/01	18:48
Manganese	257.61	0.11	1.8	350		1	ICP	10/19/01	18:48
Nickel	231.60	1.3	4.9	11.3	N*	1	ICP	10/19/01	18:48
Potassium	766.49	53.6	611	400	B	1	ICP	10/19/01	18:48
Selenium	220.35	0.40	0.61	0.40	U	1	ICPST	10/18/01	18:35
Silver	328.07	0.098	1.2	0.098	UN*	1	ICPST	10/18/01	18:35
Sodium	589	1.5	611	205	B	1	ICP	10/19/01	18:48
Thallium	190.86	0.70	1.2	1.4		1	ICPST	10/18/01	18:35
Vanadium	292.40	0.31	6.1	10.7		1	ICP	10/19/01	18:48
Zinc	213.86	0.29	2.5	253	*	1	ICP	10/19/01	18:48

Comments: Lot #: C11250270 Sample #: 15

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KR **Client ID:** NTC17PCSD2501

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 17.59

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	24.3	2460	*	1	ICP	10/19/01	18:51
Antimony	220.35	0.29	7.3	0.29	UN*	1	ICPST	10/18/01	18:39
Arsenic	189.04	0.39	1.2	3.9		1	ICPST	10/18/01	18:39
Barium	493.41	0.045	24.3	32.0	N*	1	ICP	10/19/01	18:51
Beryllium	313.04	0.021	0.61	0.19	BN*	1	ICP	10/19/01	18:51
Cadmium	226.50	0.062	0.61	0.062	U	1	ICPST	10/18/01	18:39
Calcium	317.93	3.2	1210	99100		2	ICP	10/19/01	19:32
Chromium	267.72	0.090	1.2	9.1		1	ICPST	10/18/01	18:39
Cobalt	228.62	0.35	6.1	4.0	B	1	ICP	10/19/01	18:51
Copper	324.75	0.29	3.0	22.3	*	1	ICP	10/19/01	18:51
Iron	259.94	0.60	121	9710	E	1	ICP	10/19/01	18:51
Lead	220.35	0.30	0.36	27.5	N*	1	ICPST	10/18/01	18:39
Magnesium	279.08	2.6	607	54500		1	ICP	10/19/01	18:51
Manganese	257.61	0.11	1.8	504		1	ICP	10/19/01	18:51
Nickel	231.60	1.3	4.9	8.1	N*	1	ICP	10/19/01	18:51
Potassium	766.49	53.2	607	387	B	1	ICP	10/19/01	18:51
Selenium	220.35	0.40	0.61	0.40	U	1	ICPST	10/18/01	18:39
Silver	328.07	0.097	1.2	0.14	BN*	1	ICPST	10/18/01	18:39
Sodium	589	1.4	607	197	B	1	ICP	10/19/01	18:51
Thallium	190.86	0.69	1.2	0.82	B	1	ICPST	10/18/01	18:39
Vanadium	292.40	0.30	6.1	8.2		1	ICP	10/19/01	18:51
Zinc	213.86	0.29	2.4	102	*	1	ICP	10/19/01	18:51

Comments: Lot #: C1I250270 Sample #: 16

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3LC **Client ID:** NTC17PCSD3701

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277123

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 21.03

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.7	25.3	2200	*	1	ICP	10/19/01	19:00
Antimony	220.35	0.30	7.6	0.47	BN*	1	ICPST	10/18/01	18:53
Arsenic	189.04	0.41	1.3	3.3		1	ICPST	10/18/01	18:53
Barium	493.41	0.047	25.3	24.4	BN*	1	ICP	10/19/01	19:00
Beryllium	313.04	0.022	0.63	0.15	BN*	1	ICP	10/19/01	19:00
Cadmium	226.50	0.065	0.63	0.076	B	1	ICPST	10/18/01	18:53
Calcium	317.93	1.7	633	34700		1	ICP	10/19/01	19:00
Chromium	267.72	0.094	1.3	11.3		1	ICPST	10/18/01	18:53
Cobalt	228.62	0.37	6.3	4.7	B	1	ICP	10/19/01	19:00
Copper	324.75	0.30	3.2	18.3	*	1	ICP	10/19/01	19:00
Iron	259.94	0.62	127	8190	E	1	ICP	10/19/01	19:00
Lead	220.35	0.32	0.38	32.9	N*	1	ICPST	10/18/01	18:53
Magnesium	279.08	2.7	633	18700		1	ICP	10/19/01	19:00
Manganese	257.61	0.11	1.9	269		1	ICP	10/19/01	19:00
Nickel	231.60	1.3	5.1	7.5	N*	1	ICP	10/19/01	19:00
Potassium	766.49	55.5	633	347	B	1	ICP	10/19/01	19:00
Selenium	220.35	0.42	0.63	0.42	U	1	ICPST	10/18/01	18:53
Silver	328.07	0.10	1.3	0.50	BN*	1	ICPST	10/18/01	18:53
Sodium	589	1.5	633	84.8	B	1	ICP	10/19/01	19:00
Thallium	190.86	0.72	1.3	0.72	U	1	ICPST	10/18/01	18:53
Vanadium	292.40	0.32	6.3	7.8		1	ICP	10/19/01	19:00
Zinc	213.86	0.30	2.5	85.0	*	1	ICP	10/19/01	19:00

Comments: Lot #: C1I250270 Sample #: 19

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3HR **Client ID:** NTC17PCSD1301

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 7.72

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0085	0.036	0.22		1	CVAA	10/9/01	16:03

Comments: Lot #: C1I250270 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3J3 **Client ID:** NTC17PCSD3202

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.06

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0092	0.039	0.15		1	CVAA	10/9/01	16:20

Comments: Lot #: C1I250270 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3J6 **Client ID:** NTC17PCSD3101

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 14.62

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0092	0.039	0.18		1	CVAA	10/9/01	16:21

Comments: Lot #: C1I250270 Sample #: 9

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3JF **Client ID:** NTC17PCSD1201

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 6.44

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0084	0.036	0.13		1	CVAA	10/9/01	16:04

Comments: Lot #: C1I250270 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3JK **Client ID:** NTC17PCSD1202

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 6.93

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0084	0.036	0.28		1	CVAA	10/9/01	16:09

Comments: Lot #: C1I250270 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3JL **Client ID:** NTC17PCSD1101

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.53

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0088	0.037	0.45		1	CVAA	10/9/01	16:11

Comments: Lot #: C1I250270 Sample #: 4

Version 4.10.2

U Result is less than the IDL
B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3JR **Client ID:** NTC17PCSD1102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.86

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0094	0.040	0.14		1	CVAA	10/9/01	16:13

Comments: Lot #: C1I250270 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3JT **Client ID:** NTC17PCSD3301

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 27.93

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.046	0.17		1	CVAA	10/9/01	16:17

Comments: Lot #: C1I250270 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3JW **Client ID:** NTC17PCSD3201

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.97

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0094	0.040	0.048		1	CVAA	10/9/01	16:18

Comments: Lot #: C1I250270 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3K4 **Client ID:** NTC17PCSD3801

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 23.50

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.044	0.12		1	CVAA	10/9/01	16:38

Comments: Lot #: C1I250270 Sample #: 18

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KC **Client ID:** NTC17PCSD3001

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 26.75

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.046	0.11		1	CVAA	10/9/01	16:23

Comments: Lot #: C1I250270 Sample #: 10

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KG **Client ID:** NTC17PCSD2901

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.83

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0094	0.040	0.093		1	CVAA	10/9/01	16:24

Comments: Lot #: C1I250270 Sample #: 11

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KL **Client ID:** NTC17PCSD2902

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 24.51

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.044	0.31		1	CVAA	10/9/01	16:26

Comments: Lot #: C1I250270 Sample #: 12

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KM **Client ID:** NTC17PCSD2801

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 19.45

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0097	0.041	0.14		1	CVAA	10/9/01	16:27

Comments: Lot #: C1I250270 Sample #: 13

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KN **Client ID:** NTC17PCSD2701

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 19.29

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0097	0.041	0.033	B	1	CVAA	10/9/01	16:29

Comments: Lot #: C1I250270 Sample #: 14

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KQ **Client ID:** NTC17PCSD2601

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 18.22

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0096	0.041	0.019	B	1	CVAA	10/9/01	16:30

Comments: Lot #: C1I250270 Sample #: 15

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3KR **Client ID:** NTC17PCSD2501

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.59

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0095	0.040	0.024	B	1	CVAA	10/9/01	16:35

Comments: Lot #: C1I250270 Sample #: 16

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3LC **Client ID:** NTC17PCSD3701

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/9/01 **Prep Batch:** 1282150

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 21.03

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0099	0.042	0.18		1	CVAA	10/9/01	16:39

Comments: Lot #: C1I250270 Sample #: 19

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

NTC Great Lakes, Illinois

Total Organic Carbon

Lab Name:	STL PITTSBURGH	**Method:**	MSA WALKLEY-B
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I250270
Matrix:	SOLID	**Date/Time Received:**	9/25/01 9:30:00AM
		SDG Number:	GL008

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17PCSD1301	001	EK3HR1A7	3340	mg/kg	54.2	1	10/15/01 - 10/15/01	1289138
NTC17PCSD1201	002	EK3JF1AX	2190	mg/kg	53.4	1	10/15/01 - 10/15/01	1289138
NTC17PCSD1202	003	EK3JK1AJ	1640	mg/kg	53.7	1	10/15/01 - 10/15/01	1289138
NTC17PCSD1101	004	EK3JL1A7	4590	mg/kg	55.9	1	10/15/01 - 10/15/01	1289138
NTC17PCSD1102	005	EK3JR1AJ	3630	mg/kg	60.1	1	10/15/01 - 10/15/01	1289138
NTC17PCSD3301	006	EK3JT1AJ	16400	mg/kg	69.4	1	10/15/01 - 10/15/01	1289138
NTC17PCSD3201	007	EK3JW1AJ	2920	mg/kg	60.2	1	10/15/01 - 10/15/01	1289138
NTC17PCSD3202	008	EK3J31AJ	5180	mg/kg	58.9	1	10/15/01 - 10/15/01	1289138
NTC17PCSD3101	009	EK3J61AJ	4600	mg/kg	58.6	1	10/15/01 - 10/15/01	1289138
NTC17PCSD3001	010	EK3KC1AJ	5720	mg/kg	68.3	1	10/15/01 - 10/15/01	1289138
NTC17PCSD2901	011	EK3KG1A9	5430	mg/kg	60.1	1	10/15/01 - 10/15/01	1289138
NTC17PCSD2902	012	EK3KL1AJ	7180	mg/kg	66.2	1	10/15/01 - 10/15/01	1289138
NTC17PCSD2801	013	EK3KM1AJ	6110	mg/kg	62.1	1	10/15/01 - 10/15/01	1289138
NTC17PCSD2701	014	EK3KN1AJ	2690	mg/kg	62.0	1	10/15/01 - 10/15/01	1289138
NTC17PCSD2601	015	EK3KQ1AJ	2570	mg/kg	61.1	1	10/15/01 - 10/15/01	1289138
NTC17PCSD2501	016	EK3KR1AJ	2400	mg/kg	60.7	1	10/15/01 - 10/15/01	1289138
NTCFD09230101	017	EK3KV1AJ	1890	mg/kg	59.3	1	10/15/01 - 10/15/01	1289138
NTC17PCSD3801	018	EK3K41AJ	6320	mg/kg	65.4	1	10/15/01 - 10/15/01	1289138
NTC17PCSD3701	019	EK3LC1AJ	5550	mg/kg	63.3	1	10/15/01 - 10/15/01	1289138
NTCFD09240101	020	EK3LG1AJ	4390	mg/kg	65.6	1	10/15/01 - 10/15/01	1289138

NTC Great Lakes, Illinois

pH

Lab Name:	STL PITTSBURGH	**Method:**	SW846 9045C
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I250270
Matrix:	SOLID	**Date/Time Received:**	9/25/01 9:30:00AM
		SDG Number:	GL008

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17PCSD1301	001	EK3HR1AA	8.4	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD1201	002	EK3JF1A5	8.4	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD1202	003	EK3JK1AL	8.6	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD1101	004	EK3JL1AA	8.3	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD1102	005	EK3JR1AL	8.3	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD3301	006	EK3JT1AL	8.2	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD3201	007	EK3JW1AL	8.3	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD3202	008	EK3J31AL	7.8	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD3101	009	EK3J61AL	7.9	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD3001	010	EK3KC1AL	8.0	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD2901	011	EK3KG1AD	8.0	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD2902	012	EK3KL1AL	8.1	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD2801	013	EK3KM1AL	8.0	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD2701	014	EK3KN1AL	8.3	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD2601	015	EK3KQ1AL	8.3	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD2501	016	EK3KR1AL	8.5	No Units		1	9/26/01 -9/26/01	1269278
NTCFD09230101	017	EK3KV1AL	8.5	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD3801	018	EK3K41AL	8.2	No Units		1	9/26/01 -9/26/01	1269278
NTC17PCSD3701	019	EK3LC1AL	8.1	No Units		1	9/26/01 -9/26/01	1269278
NTCFD09240101	020	EK3LG1AL	8.2	No Units		1	9/26/01 -9/26/01	1269278

NTC Great Lakes, Illinois

Percent Solids

Lab Name:	STL PITTSBURGH	**Method:**	MCAWW 160.3 MOD
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I250270
Matrix:	SOLID	**Date/Time Received:**	9/25/01 9:30:00AM
		SDG Number:	GL008

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17PCSD1301	001	EK3HR1A6	92.3	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD1201	002	EK3JF1AW	93.6	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD1202	003	EK3JK1AH	93.1	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD1101	004	EK3JL1A6	89.5	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD1102	005	EK3JR1AH	83.1	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD3301	006	EK3JT1AH	72.1	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD3201	007	EK3JW1AH	83.0	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD3202	008	EK3J31AH	84.9	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD3101	009	EK3J61AH	85.4	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD3001	010	EK3KC1AH	73.3	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD2901	011	EK3KG1A8	83.2	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD2902	012	EK3KL1AH	75.5	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD2801	013	EK3KM1AH	80.6	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD2701	014	EK3KN1AH	80.7	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD2601	015	EK3KQ1AH	81.8	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD2501	016	EK3KR1AH	82.4	%	1.0	1	9/26/01 -9/27/01	1269106
NTCFD09230101	017	EK3KV1AH	84.4	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD3801	018	EK3K41AH	76.5	%	1.0	1	9/26/01 -9/27/01	1269106
NTC17PCSD3701	019	EK3LC1AH	79.0	%	1.0	1	9/26/01 -9/27/01	1269106
NTCFD09240101	020	EK3LG1AH	76.2	%	1.0	1	9/26/01 -9/27/01	1269106

Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250224
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD1901
Lab ID	2001-270-05-01	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	201	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	562.40	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	462.40	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.28	Weight of Tare (gm)	NA
Weight of Water (gm)	100.00	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	454.12	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**22.0**	**Moisture Content (%)**	**NA**

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	454.12
Dry Weight - 3/4" Sample (gm)	392.10	Weight of minus #200 material (gm)	62.02
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	392.10
Dry Weight + 3/4" Sample (gm)	0.00		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	**Accumulated Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	0.00	0.00	0.00	100.00	**100.00**
1/2"	12.5	0.00	0.00	0.00	100.00	**100.00**
3/8"	9.50	2.02	0.44	0.44	99.56	**99.56**
#4	4.75	2.98	0.66	1.10	98.90	**98.90**
#10	2.00	13.99	3.08	4.18	95.82	**95.82**
#20	0.85	40.35	8.89	13.07	86.93	**86.93**
#40	0.425	77.68	17.11	30.17	69.83	**69.83**
#60	0.250	131.64	28.99	59.16	40.84	**40.84**
#140	0.106	110.38	24.31	83.47	16.53	**16.53**
#200	0.075	13.06	2.88	86.34	13.66	**13.66**
Pan	-	62.02	13.66	100.00	-	-

Tested By JP Date 10/8/01 Checked By RJO Date 10-12-01

DCN: CT-S3A DATE:02/06/01 REVISION: 4

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Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250224
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD1501
Lab ID	2001-270-05-02	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	1741	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	421.80	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	394.30	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.59	Weight of Tare (gm)	NA
Weight of Water (gm)	27.50	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	385.71	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**7.1**	**Moisture Content (%)**	**NA**

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	385.71
Dry Weight - 3/4" Sample (gm)	383.0	Weight of minus #200 material (gm)	2.68
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	383.03
Dry Weight + 3/4" Sample (gm)	0.00		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	Accumulated **Percent Finer** (%)
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	0.00	0.00	0.00	100.00	**100.00**
1/2"	12.50	0.00	0.00	0.00	100.00	**100.00**
3/8"	9.50	0.00	0.00	0.00	100.00	**100.00**
#4	4.75	8.47	2.20	2.20	97.80	**97.80**
#10	2.00	27.79	7.20	9.40	90.60	**90.60**
#20	0.850	74.75	19.38	28.78	71.22	**71.22**
#40	0.425	141.63	36.72	65.50	34.50	**34.50**
#60	0.250	112.57	29.19	94.69	5.31	**5.31**
#140	0.106	17.57	4.56	99.24	0.76	**0.76**
#200	0.075	0.25	0.06	99.31	0.69	**0.69**
Pan	-	2.68	0.69	100.00	-	-

Tested By JP Date 10/8/01 Checked By RJO Date 10-12-01

DCN: CT-S3C DATE 6-25-98 REVISION: 2

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WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250224
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD3801
Lab ID	2001-270-05-03	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	1704	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	522.80	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	423.00	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.39	Weight of Tare (gm)	NA
Weight of Water (gm)	99.80	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	414.61	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**24.1**	**Moisture Content (%)**	NA

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	414.61
Dry Weight - 3/4" Sample (gm)	364.84	Weight of minus #200 material (gm)	49.77
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	364.84
Dry Weight + 3/4" Sample (gm)	0.00		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	**Accumulated Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	0.00	0.00	0.00	100.00	**100.00**
1/2"	12.5	0.00	0.00	0.00	100.00	**100.00**
3/8"	9.50	0.00	0.00	0.00	100.00	**100.00**
#4	4.75	1.26	0.30	0.30	99.70	**99.70**
#10	2.00	3.37	0.81	1.12	98.88	**98.88**
#20	0.85	7.16	1.73	2.84	97.16	**97.16**
#40	0.425	22.26	5.37	8.21	91.79	**91.79**
#60	0.250	174.34	42.05	50.26	49.74	**49.74**
#140	0.106	144.63	34.88	85.15	14.85	**14.85**
#200	0.075	11.82	2.85	88.00	12.00	**12.00**
Pan	-	49.77	12.00	100.00	-	-

Tested By JP Date 10/8/01 Checked By RJO Date 10-12-01

DCN: CT-S3A DATE:02/06/01 REVISION: 4

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Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250290
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD0301
Lab ID	2001-270-05-04	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	611	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	485.30	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	396.66	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.70	Weight of Tare (gm)	NA
Weight of Water (gm)	88.64	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	387.96	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**22.8**	**Moisture Content (%)**	**NA**

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	387.96
Dry Weight - 3/4" Sample (gm)	343.75	Weight of minus #200 material (gm)	44.21
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	343.75
Dry Weight + 3/4" Sample (gm)	0.00		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	**Accumulated Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	0.00	0.00	0.00	100.00	**100.00**
1/2"	12.5	0.00	0.00	0.00	100.00	**100.00**
3/8"	9.50	0.00	0.00	0.00	100.00	**100.00**
#4	4.75	1.05	0.27	0.27	99.73	**99.73**
#10	2.00	0.57	0.15	0.42	99.58	**99.58**
#20	0.85	3.76	0.97	1.39	98.61	**98.61**
#40	0.425	46.45	11.97	13.36	86.64	**86.64**
#60	0.250	151.47	39.04	52.40	47.60	**47.60**
#140	0.106	128.91	33.23	85.63	14.37	**14.37**
#200	0.075	11.54	2.97	88.60	11.40	**11.40**
Pan	-	44.21	11.40	100.00	-	-

Tested By JP Date 10/8/01 Checked By Jam Date 10-12-01

DCN: CT-S3A DATE:02/06/01 REVISION: 4

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Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250290
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD0102
Lab ID	2001-270-05-05	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	595	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	422.80	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	391.30	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.33	Weight of Tare (gm)	NA
Weight of Water (gm)	31.50	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	382.97	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**8.2**	**Moisture Content (%)**	NA

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	382.97
Dry Weight - 3/4" Sample (gm)	374.4	Weight of minus #200 material (gm)	2.49
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	380.48
Dry Weight + 3/4" Sample (gm)	6.04		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	**Accumulated Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	6.04	1.58	1.58	98.42	**98.42**
1/2"	12.50	2.07	0.54	2.12	97.88	**97.88**
3/8"	9.50	12.14	3.17	5.29	94.71	**94.71**
#4	4.75	31.41	8.20	13.49	86.51	**86.51**
#10	2.00	114.64	29.93	43.42	56.58	**56.58**
#20	0.850	129.28	33.76	77.18	22.82	**22.82**
#40	0.425	46.62	12.17	89.35	10.65	**10.65**
#60	0.250	23.84	6.23	95.58	4.42	**4.42**
#140	0.106	13.92	3.63	99.21	0.79	**0.79**
#200	0.075	0.52	0.14	99.35	0.65	**0.65**
Pan	-	2.49	0.65	100.00	-	-

Tested By JP Date 10/8/01 Checked By RJD Date 10-12-01

DCN: CT-S3C DATE 6-25-98 REVISION: 2

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STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248

SEVERN TRENT SERVICES
STL Burlington

Analytical Report

Severn Trent Laboratories
450 William Pitt Way

Pittsburgh, PA 15238

Attention : Veronica Bortot

Date : 10/08/01
ETR Number : 84855
Project No.: 21000
No. Samples: 3
Arrived : 09/27/01

Page 1

Case:NTCGL SDG:C1I250270

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater. All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter		Result
465889	NTC17PCSD1101:09/23/01 @0900(Solid)		
	AVS	Acid Volatile Sulfide	<8.7 f
	IN623	Solids, Percent	87.9 c
465890	NTC17PCSD2701:09/23/01 @1446(Solid)		
	AVS	Acid Volatile Sulfide	<9.2 f
	IN623	Solids, Percent	79.0 c
465891	NTC17PCSD3701:09/24/01 @0805(Solid)		
	AVS	Acid Volatile Sulfide	11.5 f
	IN623	Solids, Percent	77.0 c

Comments/Notes

f = mg/Kg dry weight
c = %W/W as received

< Last Page > Submitted By : STL Burlington

Kristine Dusablon

STL Burlington is a part of Severn Trent Laboratories, Inc.

STL-8123

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

NTC17PCSD1101

ab Name: STL BURLINGTON Contract: 21000

ab Code: STLVT Case No.: NTCGL SAS No.: SDG No.: C1I250270

atrix (soil/water): SOLID Lab Sample ID: 465889

evel (low/med): LOW Date Received: 09/27/01

Solids: 87.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-43-9	Cadmium	0.55		E	P
7440-50-8	Copper	128		E	P
7439-92-1	Lead	63.7		E	P
7439-97-6	Mercury	0.11			CV
7440-02-0	Nickel	7.3		E	P
7440-66-6	Zinc	248		E	P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

NTC17PCSD2701

Name: STL BURLINGTON Contract: 21000

Lab Code: STLVT Case No.: NTCGL SAS No.: SDG No.: C1I250270

Matrix (soil/water): SOLID Lab Sample ID: 465890

Level (low/med): LOW Date Received: 09/27/01

% Solids: 79.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-43-9	Cadmium	0.28		E	P
7440-50-8	Copper	29.0		E	P
7439-92-1	Lead	30.2		E	P
7439-97-6	Mercury	0.03			CV
7440-02-0	Nickel	3.5		E	P
7440-66-6	Zinc	137		E	P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

NTC17PCSD3701

ab Name: STL BURLINGTON Contract: 21000

ab Code: STLVT Case No.: NTCGL SAS No.: SDG No.: C1I250270

atrix (soil/water): SOLID Lab Sample ID: 465891

evel (low/med): LOW Date Received: 09/27/01

Solids: 77.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-43-9	Cadmium	0.15		E	P
7440-50-8	Copper	9.1		E	P
7439-92-1	Lead	19.2		E	P
7439-97-6	Mercury	0.09			CV
7440-02-0	Nickel	2.9		E	P
7440-66-6	Zinc	41.8		E	P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 001
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK3QM1AA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:21

QC Batch: 1271536

Client Sample Id: NTC17PCSD3601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
67-64-1	Acetone	25	U
71-43-2	Benzene	6.3	U
75-27-4	Bromodichloromethane	6.3	U
75-25-2	Bromoform	6.3	U
74-83-9	Bromomethane	13	U
78-93-3	2-Butanone	25	U
75-15-0	Carbon disulfide	6.3	U
56-23-5	Carbon tetrachloride	6.3	U
108-90-7	Chlorobenzene	6.3	U
75-00-3	Chloroethane	13	U
67-66-3	Chloroform	6.3	U
74-87-3	Chloromethane	13	U
110-82-7	Cyclohexane	6.3	U
124-48-1	Dibromochloromethane	6.3	U
96-12-8	1,2-Dibromo-3-chloropropane	13	U
106-93-4	1,2-Dibromoethane	6.3	U
541-73-1	1,3-Dichlorobenzene	6.3	U
106-46-7	1,4-Dichlorobenzene	6.3	U
95-50-1	1,2-Dichlorobenzene	6.3	U
75-71-8	Dichlorodifluoromethane	13	U
75-34-3	1,1-Dichloroethane	6.3	U
107-06-2	1,2-Dichloroethane	6.3	U
75-35-4	1,1-Dichloroethene	6.3	U
156-59-2	cis-1,2-Dichloroethene	6.3	U
156-60-5	trans-1,2-Dichloroethene	6.3	U
78-87-5	1,2-Dichloropropane	6.3	U
10061-01-5	cis-1,3-Dichloropropene	6.3	U
10061-02-6	trans-1,3-Dichloropropene	6.3	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 001
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK3QM1AA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:21

QC Batch: 1271536

Client Sample Id: NTC17PCSD3601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-41-4	Ethylbenzene	6.3	U
591-78-6	2-Hexanone	25	U
98-82-8	Isopropylbenzene	6.3	U
79-20-9	Methyl acetate	6.3	U
75-09-2	Methylene chloride	6.3	U
108-87-2	Methylcyclohexane	6.3	U
108-10-1	4-Methyl-2-pentanone	25	U
1634-04-4	Methyl tert-butyl ether	6.3	U
100-42-5	Styrene	6.3	U
79-34-5	1,1,2,2-Tetrachloroethane	6.3	U
120-82-1	1,2,4-Trichlorobenzene	6.3	U
127-18-4	Tetrachloroethene	6.3	U
71-55-6	1,1,1-Trichloroethane	6.3	U
79-00-5	1,1,2-Trichloroethane	6.3	U
79-01-6	Trichloroethene	6.3	U
75-69-4	Trichlorofluoromethane	13	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	6.3	U
108-88-3	Toluene	6.3	U
75-01-4	Vinyl chloride	13	U
1330-20-7	Xylenes (total)	19	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 006
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK3Q71AA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:11

QC Batch: 1271536

Client Sample Id: NTC17PCSD0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
67-64-1	Acetone	23	U
71-43-2	Benzene	5.6	U
75-27-4	Bromodichloromethane	5.6	U
75-25-2	Bromoform	5.6	U
74-83-9	Bromomethane	11	U
78-93-3	2-Butanone	23	U
75-15-0	Carbon disulfide	5.6	U
56-23-5	Carbon tetrachloride	5.6	U
108-90-7	Chlorobenzene	5.6	U
75-00-3	Chloroethane	11	U
67-66-3	Chloroform	5.6	U
74-87-3	Chloromethane	11	U
110-82-7	Cyclohexane	5.6	U
124-48-1	Dibromochloromethane	5.6	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
106-93-4	1,2-Dibromoethane	5.6	U
541-73-1	1,3-Dichlorobenzene	5.6	U
106-46-7	1,4-Dichlorobenzene	5.6	U
95-50-1	1,2-Dichlorobenzene	5.6	U
75-71-8	Dichlorodifluoromethane	11	U
75-34-3	1,1-Dichloroethane	5.6	U
107-06-2	1,2-Dichloroethane	5.6	U
75-35-4	1,1-Dichloroethene	5.6	U
156-59-2	cis-1,2-Dichloroethene	5.6	U
156-60-5	trans-1,2-Dichloroethene	5.6	U
78-87-5	1,2-Dichloropropane	5.6	U
10061-01-5	cis-1,3-Dichloropropene	5.6	U
10061-02-6	trans-1,3-Dichloropropene	5.6	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 006
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK3Q71AA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:11

QC Batch: 1271536

Client Sample Id: NTC17PCSD0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-41-4	Ethylbenzene	5.6	U
591-78-6	2-Hexanone	23	U
98-82-8	Isopropylbenzene	5.6	U
79-20-9	Methyl acetate	5.6	U
75-09-2	**Methylene chloride**	11	
108-87-2	Methylcyclohexane	5.6	U
108-10-1	4-Methyl-2-pentanone	23	U
1634-04-4	Methyl tert-butyl ether	5.6	U
100-42-5	Styrene	5.6	U
79-34-5	1,1,2,2-Tetrachloroethane	5.6	U
120-82-1	1,2,4-Trichlorobenzene	5.6	U
127-18-4	Tetrachloroethene	5.6	U
71-55-6	1,1,1-Trichloroethane	5.6	U
79-00-5	1,1,2-Trichloroethane	5.6	U
79-01-6	Trichloroethene	5.6	U
75-69-4	Trichlorofluoromethane	11	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	5.6	U
108-88-3	Toluene	5.6	U
75-01-4	Vinyl chloride	11	U
1330-20-7	Xylenes (total)	17	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) WATER Lab Sample ID:C1I250290 021
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / mL Date Received: 09/25/01
Work Order: EK3TQ1AA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:NA

QC Batch: 1271510

Client Sample Id: NTCTB09240101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
100-41-4	Ethylbenzene	1.0	U
591-78-6	2-Hexanone	5.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	10	U
75-09-2	Methylene chloride	2.0	U
108-87-2	Methylcyclohexane	10	U
108-10-1	4-Methyl-2-pentanone	5.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
127-18-4	Tetrachloroethene	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
75-69-4	Trichlorofluoromethane	2.0	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	10	U
108-88-3	Toluene	1.0	U
75-01-4	Vinyl chloride	2.0	U
1330-20-7	Xylenes (total)	3.0	U
1634-04-4	Methyl tert-butyl ether (MTB	1.0	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 001
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3QM1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:21

QC Batch: 1276519

Client Sample Id: NTC17PCSD3601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
83-32-9	Acenaphthene	420	U
208-96-8	Acenaphthylene	420	U
98-86-2	Acetophenone	420	U
120-12-7	Anthracene	420	U
1912-24-9	Atrazine	420	U
56-55-3	**Benzo(a)anthracene**	**63**	**J**
50-32-8	**Benzo(a)pyrene**	**55**	**J**
205-99-2	**Benzo(b)fluoranthene**	**56**	**J**
191-24-2	Benzo(ghi)perylene	420	U
207-08-9	**Benzo(k)fluoranthene**	**68**	**J**
100-52-7	Benzaldehyde	420	U
92-52-4	1,1'-Biphenyl	420	U
111-91-1	bis(2-Chloroethoxy)methane	420	U
111-44-4	bis(2-Chloroethyl) ether	420	U
117-81-7	**bis(2-Ethylhexyl) phthalate**	**80**	**J**
101-55-3	4-Bromophenyl phenyl ether	420	U
85-68-7	Butyl benzyl phthalate	420	U
105-60-2	Caprolactam	420	U
86-74-8	Carbazole	420	U
106-47-8	4-Chloroaniline	420	U
59-50-7	4-Chloro-3-methylphenol	420	U
91-58-7	2-Chloronaphthalene	420	U
95-57-8	2-Chlorophenol	420	U
7005-72-3	4-Chlorophenyl phenyl ether	420	U
218-01-9	**Chrysene**	**83**	**J**
53-70-3	Dibenz(a,h)anthracene	420	U
132-64-9	Dibenzofuran	420	U
91-94-1	3,3'-Dichlorobenzidine	2000	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 001
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3QM1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:21

QC Batch: 1276519

Client Sample Id: NTC17PCSD3601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
120-83-2	2,4-Dichlorophenol	420	U
84-66-2	Diethyl phthalate	420	U
105-67-9	2,4-Dimethylphenol	420	U
131-11-3	Dimethyl phthalate	420	U
84-74-2	Di-n-butyl phthalate	420	U
534-52-1	4,6-Dinitro-2-methylphenol	2000	U
51-28-5	2,4-Dinitrophenol	2000	U
121-14-2	2,4-Dinitrotoluene	420	U
606-20-2	2,6-Dinitrotoluene	420	U
117-84-0	Di-n-octyl phthalate	420	U
206-44-0	**Fluoranthene**	**190**	J
86-73-7	Fluorene	420	U
118-74-1	Hexachlorobenzene	420	U
87-68-3	Hexachlorobutadiene	420	U
77-47-4	Hexachlorocyclopentadiene	2000	U
67-72-1	Hexachloroethane	420	U
193-39-5	Indeno(1,2,3-cd)pyrene	420	U
78-59-1	Isophorone	420	U
91-57-6	2-Methylnaphthalene	420	U
95-48-7	2-Methylphenol	420	U
106-44-5	4-Methylphenol	420	U
91-20-3	Naphthalene	420	U
88-74-4	2-Nitroaniline	2000	U
99-09-2	3-Nitroaniline	2000	U
100-01-6	4-Nitroaniline	2000	U
98-95-3	Nitrobenzene	420	U
88-75-5	2-Nitrophenol	420	U
100-02-7	4-Nitrophenol	2000	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 001
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3QM1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:21

QC Batch: 1276519

Client Sample Id: NTC17PCSD3601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
621-64-7	N-Nitrosodi-n-propylamine	420	U
86-30-6	N-Nitrosodiphenylamine	420	U
108-60-1	2,2'-oxybis(1-Chloropropane)	420	U
87-86-5	Pentachlorophenol	2000	U
85-01-8	**Phenanthrene**	**110**	**J**
108-95-2	Phenol	420	U
129-00-0	**Pyrene**	**110**	**J**
95-95-4	2,4,5-Trichlorophenol	420	U
88-06-2	2,4,6-Trichlorophenol	420	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 006
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q71CC Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:11

QC Batch: 1276519

Client Sample Id: NTC17PCSD0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
83-32-9	Acenaphthene	64	J
208-96-8	Acenaphthylene	370	U
98-86-2	Acetophenone	370	U
120-12-7	Anthracene	250	J
1912-24-9	Atrazine	370	U
56-55-3	Benzo(a)anthracene	890	
50-32-8	Benzo(a)pyrene	930	
205-99-2	Benzo(b)fluoranthene	1200	
191-24-2	Benzo(ghi)perylene	320	J
207-08-9	Benzo(k)fluoranthene	740	
100-52-7	Benzaldehyde	1500	
92-52-4	1,1'-Biphenyl	370	U
111-91-1	bis(2-Chloroethoxy)methane	370	U
111-44-4	bis(2-Chloroethyl) ether	370	U
117-81-7	bis(2-Ethylhexyl) phthalate	670	
101-55-3	4-Bromophenyl phenyl ether	370	U
85-68-7	Butyl benzyl phthalate	370	U
105-60-2	Caprolactam	370	U
86-74-8	Carbazole	150	J
106-47-8	4-Chloroaniline	370	U
59-50-7	4-Chloro-3-methylphenol	370	U
91-58-7	2-Chloronaphthalene	370	U
95-57-8	2-Chlorophenol	370	U
7005-72-3	4-Chlorophenyl phenyl ether	370	U
218-01-9	Chrysene	990	
53-70-3	Dibenz(a,h)anthracene	130	J
132-64-9	Dibenzofuran	37	J
91-94-1	3,3'-Dichlorobenzidine	1800	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 006
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q71CC *Date Extracted:10/03/01*
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:11

QC Batch: 1276519

Client Sample Id: NTC17PCSD0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
120-83-2	2,4-Dichlorophenol	370	U
84-66-2	Diethyl phthalate	370	U
105-67-9	2,4-Dimethylphenol	370	U
131-11-3	Dimethyl phthalate	370	U
84-74-2	Di-n-butyl phthalate	370	U
534-52-1	4,6-Dinitro-2-methylphenol	1800	U
51-28-5	2,4-Dinitrophenol	1800	U
121-14-2	2,4-Dinitrotoluene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
117-84-0	Di-n-octyl phthalate	370	U
206-44-0	**Fluoranthene**	**2500**	
86-73-7	**Fluorene**	**79**	**J**
118-74-1	Hexachlorobenzene	370	U
87-68-3	Hexachlorobutadiene	370	U
77-47-4	Hexachlorocyclopentadiene	1800	U
67-72-1	Hexachloroethane	370	U
193-39-5	**Indeno(1,2,3-cd)pyrene**	**340**	**J**
78-59-1	Isophorone	370	U
91-57-6	2-Methylnaphthalene	370	U
95-48-7	2-Methylphenol	370	U
106-44-5	4-Methylphenol	370	U
91-20-3	Naphthalene	370	U
88-74-4	2-Nitroaniline	1800	U
99-09-2	3-Nitroaniline	1800	U
100-01-6	4-Nitroaniline	1800	U
98-95-3	Nitrobenzene	370	U
88-75-5	2-Nitrophenol	370	U
100-02-7	4-Nitrophenol	1800	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 006
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q71CC Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:11

QC Batch: 1276519

Client Sample Id: NTC17PCSD0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
621-64-7	N-Nitrosodi-n-propylamine	370	U
86-30-6	N-Nitrosodiphenylamine	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	1100	
108-95-2	Phenol	94	J
129-00-0	Pyrene	1200	
95-95-4	2,4,5-Trichlorophenol	370	U
88-06-2	2,4,6-Trichlorophenol	370	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 001
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3QM1AE Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/15/01
Moisture %:21

QC Batch: 1275505

Client Sample Id: NTC17PCSD3601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	2.1	U
319-84-6	alpha-BHC	2.1	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	2.1	U
58-89-9	gamma-BHC (Lindane)	2.1	U
5103-71-9	alpha-Chlordane	0.92	J P
5103-74-2	gamma-Chlordane	0.86	J
72-54-8	4,4'-DDD	16	
72-55-9	4,4'-DDE	16	
50-29-3	4,4'-DDT	12	
60-57-1	Dieldrin	0.73	J P
959-98-8	Endosulfan I	2.1	U
33213-65-9	Endosulfan II	0.61	J
53494-70-5	Endrin ketone	2.1	U
1031-07-8	Endosulfan sulfate	2.1	U
72-20-8	Endrin	2.1	U
7421-93-4	Endrin aldehyde	2.1	U
76-44-8	Heptachlor	2.1	U
1024-57-3	Heptachlor epoxide	2.1	U
8001-35-2	Toxaphene	84	U
72-43-5	Methoxychlor	21	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 002
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3QV1AD Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/15/01
Moisture %:22

QC Batch: 1275505

Client Sample Id: NTC17PCSD3602

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	2.2	U
319-84-6	alpha-BHC	2.2	U
319-85-7	beta-BHC	2.2	U
319-86-8	delta-BHC	0.095	J P
58-89-9	gamma-BHC (Lindane)	2.2	U
5103-71-9	alpha-Chlordane	1.5	J P
5103-74-2	gamma-Chlordane	1.2	J
72-54-8	4,4'-DDD	21	
72-55-9	4,4'-DDE	26	
50-29-3	4,4'-DDT	16	
60-57-1	Dieldrin	1.2	J P
959-98-8	Endosulfan I	2.2	U
33213-65-9	Endosulfan II	0.88	J
53494-70-5	Endrin ketone	2.2	U
1031-07-8	Endosulfan sulfate	2.2	U
72-20-8	Endrin	2.2	U
7421-93-4	Endrin aldehyde	0.67	J P
76-44-8	Heptachlor	2.2	U
1024-57-3	Heptachlor epoxide	2.2	U
8001-35-2	Toxaphene	86	U
72-43-5	Methoxychlor	22	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250290 003

Sample WT/Vol: 30 / g
Work Order: EK3Q01AN
Dilution factor: 4
Moisture %:24

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/15/01

QC Batch: 1275505

Client Sample Id: NTC17PCSD3501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	8.9	U
319-84-6	alpha-BHC	8.9	U
319-85-7	beta-BHC	8.9	U
319-86-8	delta-BHC	8.9	U
58-89-9	gamma-BHC (Lindane)	8.9	U
5103-71-9	alpha-Chlordane	1.8	J
5103-74-2	gamma-Chlordane	1.4	J
72-54-8	4,4'-DDD	32	
72-55-9	4,4'-DDE	17	
50-29-3	4,4'-DDT	12	
60-57-1	Dieldrin	1.4	J P
959-98-8	Endosulfan I	8.9	U
33213-65-9	Endosulfan II	8.9	U
53494-70-5	Endrin ketone	8.9	U
1031-07-8	Endosulfan sulfate	8.9	U
72-20-8	Endrin	8.9	U
7421-93-4	Endrin aldehyde	8.9	U
76-44-8	Heptachlor	8.9	U
1024-57-3	Heptachlor epoxide	8.9	U
8001-35-2	Toxaphene	350	U
72-43-5	Methoxychlor	89	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 004
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q31AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/15/01
Moisture %:27

QC Batch: 1275505

Client Sample Id: NTC17PCSD3401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	2.3	U
319-84-6	alpha-BHC	2.3	U
319-85-7	beta-BHC	2.3	U
319-86-8	delta-BHC	2.3	U
58-89-9	gamma-BHC (Lindane)	2.3	U
5103-71-9	alpha-Chlordane	0.79	J P
5103-74-2	gamma-Chlordane	1.1	J P
72-54-8	4,4'-DDD	17	
72-55-9	4,4'-DDE	23	
50-29-3	4,4'-DDT	29	
60-57-1	Dieldrin	0.95	J P
959-98-8	Endosulfan I	2.3	U
33213-65-9	Endosulfan II	1.1	J
53494-70-5	Endrin ketone	2.3	U
1031-07-8	Endosulfan sulfate	2.3	U
72-20-8	Endrin	0.42	J P
7421-93-4	Endrin aldehyde	4.0	
76-44-8	Heptachlor	2.3	U
1024-57-3	Heptachlor epoxide	2.3	U
8001-35-2	Toxaphene	91	U
72-43-5	Methoxychlor	23	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 005
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q61CC Date Extracted:10/02/01
Dilution factor: 100 Date Analyzed: 10/15/01
Moisture %:18

QC Batch: 1275505

Client Sample Id: NTC17PCSD0501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	210	U
319-84-6	alpha-BHC	210	U
319-85-7	beta-BHC	210	U
319-86-8	delta-BHC	210	U
58-89-9	gamma-BHC (Lindane)	210	U
5103-71-9	alpha-Chlordane	210	U
5103-74-2	gamma-Chlordane	210	U
72-54-8	**4,4'-DDD**	**150**	J
72-55-9	**4,4'-DDE**	**200**	J
50-29-3	**4,4'-DDT**	**1800**	
60-57-1	Dieldrin	210	U
959-98-8	Endosulfan I	210	U
33213-65-9	Endosulfan II	210	U
53494-70-5	Endrin ketone	210	U
1031-07-8	Endosulfan sulfate	210	U
72-20-8	Endrin	210	U
7421-93-4	Endrin aldehyde	210	U
76-44-8	Heptachlor	210	U
1024-57-3	Heptachlor epoxide	210	U
8001-35-2	Toxaphene	8200	U
72-43-5	Methoxychlor	2100	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250290 006

Sample WT/Vol: 30 / g
Work Order: EK3Q71AF
Dilution factor: 10
Moisture %:11

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/16/01

QC Batch: 1275505

Client Sample Id: NTC17PCSD0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	19	U
319-84-6	alpha-BHC	19	U
319-85-7	beta-BHC	19	U
319-86-8	delta-BHC	19	U
58-89-9	gamma-BHC (Lindane)	19	U
5103-71-9	alpha-Chlordane	4.3	J
5103-74-2	gamma-Chlordane	2.9	J P
72-54-8	4,4'-DDD	120	
72-55-9	4,4'-DDE	130	
50-29-3	4,4'-DDT	240	
60-57-1	Dieldrin	19	U
959-98-8	Endosulfan I	19	U
33213-65-9	Endosulfan II	7.4	J
53494-70-5	Endrin ketone	19	U
1031-07-8	Endosulfan sulfate	19	U
72-20-8	Endrin	2.6	J P
7421-93-4	Endrin aldehyde	19	U
76-44-8	Heptachlor	19	U
1024-57-3	Heptachlor epoxide	19	U
8001-35-2	Toxaphene	750	U
72-43-5	Methoxychlor	190	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 007
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q81AN Date Extracted:10/02/01
Dilution factor: 40 Date Analyzed: 10/16/01
Moisture %:22

QC Batch: 1275505

Client Sample Id: NTC17PCSD0402

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	87	U
319-84-6	alpha-BHC	87	U
319-85-7	beta-BHC	87	U
319-86-8	delta-BHC	87	U
58-89-9	gamma-BHC (Lindane)	87	U
5103-71-9	**alpha-Chlordane**	**13**	**J**
5103-74-2	gamma-Chlordane	87	U
72-54-8	**4,4'-DDD**	**180**	
72-55-9	**4,4'-DDE**	**240**	
50-29-3	**4,4'-DDT**	**580**	
60-57-1	Dieldrin	87	U
959-98-8	Endosulfan I	87	U
33213-65-9	Endosulfan II	87	U
53494-70-5	Endrin ketone	87	U
1031-07-8	Endosulfan sulfate	87	U
72-20-8	Endrin	87	U
7421-93-4	Endrin aldehyde	87	U
76-44-8	Heptachlor	87	U
1024-57-3	Heptachlor epoxide	87	U
8001-35-2	Toxaphene	3400	U
72-43-5	Methoxychlor	870	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 008
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3RF1AN Date Extracted:10/02/01
Dilution factor: 10 Date Analyzed: 10/16/01
Moisture %:18

QC Batch: 1275505

Client Sample Id: NTC17PCSD0301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	21	U
319-84-6	alpha-BHC	21	U
319-85-7	beta-BHC	21	U
319-86-8	delta-BHC	21	U
58-89-9	gamma-BHC (Lindane)	21	U
5103-71-9	alpha-Chlordane	3.7	J
5103-74-2	gamma-Chlordane	2.1	J P
72-54-8	4,4'-DDD	63	
72-55-9	4,4'-DDE	110	
50-29-3	4,4'-DDT	190	
60-57-1	Dieldrin	21	U
959-98-8	Endosulfan I	21	U
33213-65-9	Endosulfan II	4.1	J P
53494-70-5	Endrin ketone	21	U
1031-07-8	Endosulfan sulfate	21	U
72-20-8	Endrin	21	U
7421-93-4	Endrin aldehyde	21	U
76-44-8	Heptachlor	21	U
1024-57-3	Heptachlor epoxide	21	U
8001-35-2	Toxaphene	820	U
72-43-5	Methoxychlor	210	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250290 010

Sample WT/Vol: 30 / g
Work Order: EK3RV1AN
Dilution factor: 10
Moisture %:5.6

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/16/01

QC Batch: 1275505

Client Sample Id: NTC17PCSD0201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	18	U
319-84-6	alpha-BHC	18	U
319-85-7	beta-BHC	18	U
319-86-8	delta-BHC	18	U
58-89-9	gamma-BHC (Lindane)	18	U
5103-71-9	**alpha-Chlordane**	**2.5**	**J**
5103-74-2	gamma-Chlordane	18	U
72-54-8	**4,4'-DDD**	**7.2**	**J P**
72-55-9	**4,4'-DDE**	**66**	
50-29-3	**4,4'-DDT**	**51**	
60-57-1	Dieldrin	18	U
959-98-8	Endosulfan I	18	U
33213-65-9	Endosulfan II	18	U
53494-70-5	Endrin ketone	18	U
1031-07-8	Endosulfan sulfate	18	U
72-20-8	Endrin	18	U
7421-93-4	Endrin aldehyde	18	U
76-44-8	Heptachlor	18	U
1024-57-3	Heptachlor epoxide	18	U
8001-35-2	Toxaphene	710	U
72-43-5	Methoxychlor	180	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 012
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3R31AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/17/01
Moisture %:15

QC Batch: 1275505

Client Sample Id: NTCPCSD0101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	**Aldrin**	**6.4**	**P**
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	2.0	U
5103-71-9	**alpha-Chlordane**	**8.4**	**P**
5103-74-2	gamma-Chlordane	2.0	U
72-54-8	**4,4'-DDD**	**25**	
72-55-9	**4,4'-DDE**	**36**	
50-29-3	**4,4'-DDT**	**32**	
60-57-1	**Dieldrin**	**12**	**P**
959-98-8	Endosulfan I	2.0	U
33213-65-9	**Endosulfan II**	**12**	
53494-70-5	Endrin ketone	2.0	U
1031-07-8	Endosulfan sulfate	2.0	U
72-20-8	Endrin	2.0	U
7421-93-4	Endrin aldehyde	2.0	U
76-44-8	Heptachlor	2.0	U
1024-57-3	Heptachlor epoxide	2.0	U
8001-35-2	Toxaphene	79	U
72-43-5	Methoxychlor	20	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 013
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3R61A0 Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:7.9

QC Batch: 1275505

Client Sample Id: NTCPCSD0102

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	**Aldrin**	**0.97**	**J P**
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
5103-71-9	**alpha-Chlordane**	**2.4**	
5103-74-2	gamma-Chlordane	1.8	U
72-54-8	**4,4'-DDD**	**3.8**	**P**
72-55-9	**4,4'-DDE**	**8.5**	
50-29-3	**4,4'-DDT**	**9.5**	**P**
60-57-1	Dieldrin	1.8	U
959-98-8	Endosulfan I	1.8	U
33213-65-9	**Endosulfan II**	**2.8**	
53494-70-5	Endrin ketone	1.8	U
1031-07-8	Endosulfan sulfate	1.8	U
72-20-8	Endrin	1.8	U
7421-93-4	Endrin aldehyde	1.8	U
76-44-8	Heptachlor	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
8001-35-2	Toxaphene	73	U
72-43-5	Methoxychlor	18	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 014
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3R71AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:24

QC Batch: 1275505

Client Sample Id: NTCPCSD1001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	2.2	U
319-84-6	alpha-BHC	2.2	U
319-85-7	beta-BHC	2.2	U
319-86-8	delta-BHC	2.2	U
58-89-9	gamma-BHC (Lindane)	2.2	U
5103-71-9	alpha-Chlordane	0.48	J P
5103-74-2	gamma-Chlordane	1.0	J
72-54-8	4,4'-DDD	7.5	
72-55-9	4,4'-DDE	20	
50-29-3	4,4'-DDT	18	
60-57-1	Dieldrin	0.49	J P
959-98-8	Endosulfan I	2.2	U
33213-65-9	Endosulfan II	0.82	J P
53494-70-5	Endrin ketone	2.2	U
1031-07-8	Endosulfan sulfate	2.2	U
72-20-8	Endrin	2.2	U
7421-93-4	Endrin aldehyde	3.3	
76-44-8	Heptachlor	2.2	U
1024-57-3	Heptachlor epoxide	0.20	J P
8001-35-2	Toxaphene	88	U
72-43-5	Methoxychlor	22	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250290 015

Sample WT/Vol: 30 / g
Work Order: EK3R91AN
Dilution factor: 1
Moisture %:23

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/16/01

QC Batch: 1275505

Client Sample Id: NTCPCSD1002

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	0.34	J P
319-84-6	alpha-BHC	2.2	U
319-85-7	beta-BHC	2.2	U
319-86-8	delta-BHC	0.90	U
58-89-9	gamma-BHC (Lindane)	2.2	U
5103-71-9	alpha-Chlordane	0.85	J P
5103-74-2	gamma-Chlordane	1.9	J
72-54-8	4,4'-DDD	15	
72-55-9	4,4'-DDE	15	
50-29-3	4,4'-DDT	11	
60-57-1	Dieldrin	0.88	J P
959-98-8	Endosulfan I	2.2	U
33213-65-9	Endosulfan II	2.6	P
53494-70-5	Endrin ketone	2.2	U
1031-07-8	Endosulfan sulfate	2.2	U
72-20-8	Endrin	1.3	J
7421-93-4	Endrin aldehyde	3.9	P
76-44-8	Heptachlor	2.2	U
1024-57-3	Heptachlor epoxide	0.41	J P
8001-35-2	Toxaphene	87	U
72-43-5	Methoxychlor	22	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250290 016

Sample WT/Vol: 30 / g
Work Order: EK3TA1AN
Dilution factor: 2
Moisture %:18

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/16/01

QC Batch: 1275505

Client Sample Id: NTCPCSD0901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	4.1	U
319-84-6	alpha-BHC	4.1	U
319-85-7	beta-BHC	4.1	U
319-86-8	delta-BHC	4.1	U
58-89-9	gamma-BHC (Lindane)	4.1	U
5103-71-9	alpha-Chlordane	0.44	J
5103-74-2	gamma-Chlordane	4.1	U
72-54-8	4,4'-DDD	4.4	
72-55-9	4,4'-DDE	20	
50-29-3	4,4'-DDT	17	
60-57-1	Dieldrin	0.23	J P
959-98-8	Endosulfan I	4.1	U
33213-65-9	Endosulfan II	4.1	U
53494-70-5	Endrin ketone	4.1	U
1031-07-8	Endosulfan sulfate	4.1	U
72-20-8	Endrin	4.1	U
7421-93-4	Endrin aldehyde	4.1	U
76-44-8	Heptachlor	4.1	U
1024-57-3	Heptachlor epoxide	4.1	U
8001-35-2	Toxaphene	160	U
72-43-5	Methoxychlor	41	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250290 017

Sample WT/Vol: 30 / g
Work Order: EK3TE1AN
Dilution factor: 1
Moisture %:17

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/16/01

QC Batch: 1275505

Client Sample Id: NTCPCSD0801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	2.0	U
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	2.0	U
5103-71-9	**alpha-Chlordane**	**0.81**	**J**
5103-74-2	gamma-Chlordane	2.0	U
72-54-8	**4,4'-DDD**	**4.7**	
72-55-9	**4,4'-DDE**	**11**	
50-29-3	**4,4'-DDT**	**7.5**	
60-57-1	**Dieldrin**	**0.55**	**J P**
959-98-8	Endosulfan I	2.0	U
33213-65-9	**Endosulfan II**	**0.55**	**J**
53494-70-5	Endrin ketone	2.0	U
1031-07-8	Endosulfan sulfate	2.0	U
72-20-8	Endrin	2.0	U
7421-93-4	Endrin aldehyde	2.0	U
76-44-8	Heptachlor	2.0	U
1024-57-3	**Heptachlor epoxide**	**0.17**	**J**
8001-35-2	Toxaphene	81	U
72-43-5	Methoxychlor	20	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 018
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3TM1AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:26

QC Batch: 1275505

Client Sample Id: NTCPCSD0802

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	1.1	J P
319-84-6	alpha-BHC	2.3	U
319-85-7	beta-BHC	2.3	U
319-86-8	delta-BHC	0.11	J P
58-89-9	gamma-BHC (Lindane)	2.3	U
5103-71-9	alpha-Chlordane	1.2	J P
5103-74-2	gamma-Chlordane	0.63	J P
72-54-8	4,4'-DDD	14	
72-55-9	4,4'-DDE	22	
50-29-3	4,4'-DDT	15	
60-57-1	Dieldrin	0.57	J P
959-98-8	Endosulfan I	2.3	U
33213-65-9	Endosulfan II	0.90	J
53494-70-5	Endrin ketone	2.3	U
1031-07-8	Endosulfan sulfate	2.3	U
72-20-8	Endrin	2.3	U
7421-93-4	Endrin aldehyde	2.7	P
76-44-8	Heptachlor	2.3	U
1024-57-3	Heptachlor epoxide	0.29	J P
8001-35-2	Toxaphene	91	U
72-43-5	Methoxychlor	23	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 019
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3TN1AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/17/01
Moisture %:12

QC Batch: 1275505

Client Sample Id: NTCPCSD0701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	1.9	U
319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
72-54-8	4,4'-DDD	2.3	
72-55-9	4,4'-DDE	4.3	
50-29-3	4,4'-DDT	5.6	
60-57-1	Dieldrin	0.46	J P
959-98-8	Endosulfan I	1.9	U
33213-65-9	Endosulfan II	0.58	J
53494-70-5	Endrin ketone	1.9	U
1031-07-8	Endosulfan sulfate	1.9	U
72-20-8	Endrin	1.9	U
7421-93-4	Endrin aldehyde	1.9	U
76-44-8	Heptachlor	1.9	U
1024-57-3	Heptachlor epoxide	0.13	J P
8001-35-2	Toxaphene	76	U
72-43-5	Methoxychlor	19	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 020
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3TP1AN Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/16/01
Moisture %:12

QC Batch: 1275505

Client Sample Id: NTCPCSD0601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	1.9	U
319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
5103-71-9	**alpha-Chlordane**	**0.16**	**J P**
5103-74-2	gamma-Chlordane	1.9	U
72-54-8	**4,4'-DDD**	**3.7**	
72-55-9	**4,4'-DDE**	**5.1**	
50-29-3	**4,4'-DDT**	**4.9**	
60-57-1	**Dieldrin**	**0.25**	**J P**
959-98-8	Endosulfan I	1.9	U
33213-65-9	**Endosulfan II**	**0.52**	**J**
53494-70-5	Endrin ketone	1.9	U
1031-07-8	Endosulfan sulfate	1.9	U
72-20-8	Endrin	1.9	U
7421-93-4	Endrin aldehyde	1.9	U
76-44-8	Heptachlor	1.9	U
1024-57-3	Heptachlor epoxide	1.9	U
8001-35-2	Toxaphene	76	U
72-43-5	Methoxychlor	19	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250290 001

Sample WT/Vol: 30 / g
Work Order: EK3QM1AF
Dilution factor: 1
Moisture %:21

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/12/01

QC Batch: 1275508

Client Sample Id: NTC17PCSD3601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	42	U
11104-28-2	Aroclor 1221	42	U
11141-16-5	Aroclor 1232	42	U
53469-21-9	Aroclor 1242	42	U
12672-29-6	Aroclor 1248	42	U
11097-69-1	Aroclor 1254	42	U
11096-82-5	Aroclor 1260	42	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250290 002

Sample WT/Vol: 30 / g
Work Order: EK3QV1AE
Dilution factor: 1
Moisture %:22

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/12/01

QC Batch: 1275508

Client Sample Id: NTC17PCSD3602

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	42	U
11104-28-2	Aroclor 1221	42	U
11141-16-5	Aroclor 1232	42	U
53469-21-9	Aroclor 1242	42	U
12672-29-6	Aroclor 1248	42	U
11097-69-1	Aroclor 1254	42	U
11096-82-5	Aroclor 1260	42	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250290 003

Sample WT/Vol: 30 / g
Work Order: EK3Q01AP
Dilution factor: 1
Moisture %:24

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/12/01

QC Batch: 1275508

Client Sample Id: NTC17PCSD3501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	43	U
11104-28-2	Aroclor 1221	43	U
11141-16-5	Aroclor 1232	43	U
53469-21-9	Aroclor 1242	43	U
12672-29-6	Aroclor 1248	43	U
11097-69-1	Aroclor 1254	43	U
11096-82-5	Aroclor 1260	43	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 004
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q31AP Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/12/01
Moisture %:27

QC Batch: 1275508

Client Sample Id: NTC17PCSD3401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	45	U
11104-28-2	Aroclor 1221	45	U
11141-16-5	Aroclor 1232	45	U
53469-21-9	Aroclor 1242	45	U
12672-29-6	Aroclor 1248	45	U
11097-69-1	Aroclor 1254	45	U
11096-82-5	Aroclor 1260	45	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 005
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q61CF Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/12/01
Moisture %:18

QC Batch: 1275508

Client Sample Id: NTC17PCSD0501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	40	U
11104-28-2	Aroclor 1221	40	U
11141-16-5	Aroclor 1232	40	U
53469-21-9	Aroclor 1242	40	U
12672-29-6	Aroclor 1248	40	U
11097-69-1	**Aroclor 1254**	**160**	
11096-82-5	**Aroclor 1260**	**110**	

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 006
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q71AG Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/12/01
Moisture %:11

QC Batch: 1275508

Client Sample Id: NTC17PCSD0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	37	U
11104-28-2	Aroclor 1221	37	U
11141-16-5	Aroclor 1232	37	U
53469-21-9	Aroclor 1242	37	U
12672-29-6	Aroclor 1248	37	U
11097-69-1	**Aroclor 1254**	**290**	
11096-82-5	**Aroclor 1260**	**140**	

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 007
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q81AP Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/12/01
Moisture %:22

QC Batch: 1275508

Client Sample Id: NTC17PCSD0402

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	42	U
11104-28-2	Aroclor 1221	42	U
11141-16-5	Aroclor 1232	42	U
53469-21-9	Aroclor 1242	42	U
12672-29-6	Aroclor 1248	42	U
11097-69-1	**Aroclor 1254**	**380**	
11096-82-5	**Aroclor 1260**	**320**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250290 008

Sample WT/Vol: 30 / g
Work Order: EK3RF1AP
Dilution factor: 1
Moisture %:18

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/12/01

QC Batch: 1275508

Client Sample Id: NTC17PCSD0301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	40	U
11104-28-2	Aroclor 1221	40	U
11141-16-5	Aroclor 1232	40	U
53469-21-9	Aroclor 1242	40	U
12672-29-6	Aroclor 1248	40	U
11097-69-1	**Aroclor 1254**	**200**	
11096-82-5	**Aroclor 1260**	**150**	

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Lab Sample ID:C1I250290 010
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g
Date Received: 09/25/01
Work Order: EK3RV1AP
Date Extracted:10/02/01
Dilution factor: 1
Date Analyzed: 10/12/01
Moisture %:5.6

QC Batch: 1275508

Client Sample Id: NTC17PCSD0201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	35	U
11104-28-2	Aroclor 1221	35	U
11141-16-5	Aroclor 1232	35	U
53469-21-9	Aroclor 1242	35	U
12672-29-6	Aroclor 1248	35	U
11097-69-1	**Aroclor 1254**	**110**	
11096-82-5	**Aroclor 1260**	**49**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250290 012

Sample WT/Vol: 30 / g
Work Order: EK3R31AP
Dilution factor: 1
Moisture %:15

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/12/01

QC Batch: 1275508

Client Sample Id: NTCPCSD0101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	39	U
11104-28-2	Aroclor 1221	39	U
11141-16-5	Aroclor 1232	39	U
53469-21-9	Aroclor 1242	39	U
12672-29-6	Aroclor 1248	39	U
11097-69-1	**Aroclor 1254**	**300**	
11096-82-5	Aroclor 1260	39	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 013
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3R61A1 Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/12/01
Moisture %:7.9

QC Batch: 1275508

Client Sample Id: NTCPCSD0102

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	36	U
11104-28-2	Aroclor 1221	36	U
11141-16-5	Aroclor 1232	36	U
53469-21-9	Aroclor 1242	36	U
12672-29-6	Aroclor 1248	36	U
11097-69-1	**Aroclor 1254**	**92**	
11096-82-5	Aroclor 1260	36	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250290 014

Sample WT/Vol: 30 / g
Work Order: EK3R71AP
Dilution factor: 1
Moisture %:24

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/12/01

QC Batch: 1275508

Client Sample Id: NTCPCSD1001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	43	U
11104-28-2	Aroclor 1221	43	U
11141-16-5	Aroclor 1232	43	U
53469-21-9	Aroclor 1242	43	U
12672-29-6	Aroclor 1248	43	U
11097-69-1	Aroclor 1254	43	U
11096-82-5	Aroclor 1260	43	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250290 015

Sample WT/Vol: 30 / g
Work Order: EK3R91AP
Dilution factor: 1
Moisture %:23

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/12/01

QC Batch: 1275508

Client Sample Id: NTCPCSD1002

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	43	U
11104-28-2	Aroclor 1221	43	U
11141-16-5	Aroclor 1232	43	U
53469-21-9	Aroclor 1242	43	U
12672-29-6	Aroclor 1248	43	U
11097-69-1	Aroclor 1254	43	U
11096-82-5	**Aroclor 1260**	**70**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 016
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3TA1AP Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/12/01
Moisture %:18

QC Batch: 1275508

Client Sample Id: NTCPCSD0901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	40	U
11104-28-2	Aroclor 1221	40	U
11141-16-5	Aroclor 1232	40	U
53469-21-9	Aroclor 1242	40	U
12672-29-6	Aroclor 1248	40	U
11097-69-1	Aroclor 1254	40	U
11096-82-5	Aroclor 1260	40	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 017
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3TE1AP Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/13/01
Moisture %:17

QC Batch: 1275508

Client Sample Id: NTCPCSD0801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	40	U
11104-28-2	Aroclor 1221	40	U
11141-16-5	Aroclor 1232	40	U
53469-21-9	Aroclor 1242	40	U
12672-29-6	Aroclor 1248	40	U
11097-69-1	Aroclor 1254	40	U
11096-82-5	Aroclor 1260	40	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 018
Method: SW846 8082
PCBs (8082)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3TM1AP Date Extracted:10/02/01
Dilution factor: 1 Date Analyzed: 10/13/01
Moisture %:26

QC Batch: 1275508

Client Sample Id: NTCPCSD0802

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	45	U
11104-28-2	Aroclor 1221	45	U
11141-16-5	Aroclor 1232	45	U
53469-21-9	Aroclor 1242	45	U
12672-29-6	Aroclor 1248	45	U
11097-69-1	Aroclor 1254	45	U
11096-82-5	Aroclor 1260	45	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250290 019

Sample WT/Vol: 30 / g
Work Order: EK3TN1AP
Dilution factor: 1
Moisture %:12

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/13/01

QC Batch: 1275508

Client Sample Id: NTCPCSD0701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	37	U
11104-28-2	Aroclor 1221	37	U
11141-16-5	Aroclor 1232	37	U
53469-21-9	Aroclor 1242	37	U
12672-29-6	Aroclor 1248	37	U
11097-69-1	Aroclor 1254	37	U
11096-82-5	Aroclor 1260	37	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250290 020

Sample WT/Vol: 30 / g
Work Order: EK3TP1AP
Dilution factor: 1
Moisture %:12

Date Received: 09/25/01
Date Extracted:10/02/01
Date Analyzed: 10/13/01

QC Batch: 1275508

Client Sample Id: NTCPCSD0601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	37	U
11104-28-2	Aroclor 1221	37	U
11141-16-5	Aroclor 1232	37	U
53469-21-9	Aroclor 1242	37	U
12672-29-6	Aroclor 1248	37	U
11097-69-1	Aroclor 1254	37	U
11096-82-5	Aroclor 1260	37	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 001
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3QM1CD Date Extracted:10/02/01
Dilution factor: 2 Date Analyzed: 10/12/01
Moisture %:21

QC Batch: 1275503

Client Sample Id: NTC17PCSD3601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	83	U
208-96-8	Acenaphthylene	83	U
83-32-9	Acenaphthene	83	U
86-73-7	Fluorene	17	
85-01-8	Phenanthrene	88	
120-12-7	Anthracene	22	P
206-44-0	Fluoranthene	160	P
129-00-0	Pyrene	130	
56-55-3	Benzo(a)anthracene	69	
218-01-9	Chrysene	65	
205-99-2	Benzo(b)fluoranthene	61	P
207-08-9	Benzo(k)fluoranthene	34	
50-32-8	Benzo(a)pyrene	66	
193-39-5	Indeno(1,2,3-cd)pyrene	40	
53-70-3	Dibenzo(a,h)anthracene	17	U
191-24-2	Benzo(ghi)perylene	34	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 002
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3QV1AA Date Extracted:10/02/01
Dilution factor: 5 Date Analyzed: 10/12/01
Moisture %:22

QC Batch: 1275503

Client Sample Id: NTC17PCSD3602

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	210	U
208-96-8	Acenaphthylene	81	J
83-32-9	Acenaphthene	210	U
86-73-7	Fluorene	59	
85-01-8	Phenanthrene	440	
120-12-7	Anthracene	92	
206-44-0	Fluoranthene	580	
129-00-0	Pyrene	440	
56-55-3	Benzo(a)anthracene	230	
218-01-9	Chrysene	220	
205-99-2	Benzo(b)fluoranthene	210	
207-08-9	Benzo(k)fluoranthene	110	
50-32-8	Benzo(a)pyrene	220	
193-39-5	Indeno(1,2,3-cd)pyrene	130	
53-70-3	Dibenzo(a,h)anthracene	43	U
191-24-2	Benzo(ghi)perylene	110	P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 003
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q01AL Date Extracted:10/02/01
Dilution factor: 4 Date Analyzed: 10/12/01
Moisture %:24

QC Batch: 1275503

Client Sample Id: NTC17PCSD3501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	170		U
208-96-8	Acenaphthylene	51	J	
83-32-9	Acenaphthene	170		U
86-73-7	Fluorene	17	J	P
85-01-8	Phenanthrene	160		
120-12-7	Anthracene	28	J	P
206-44-0	Fluoranthene	350		
129-00-0	Pyrene	260		
56-55-3	Benzo(a)anthracene	130		
218-01-9	Chrysene	140		
205-99-2	Benzo(b)fluoranthene	160		
207-08-9	Benzo(k)fluoranthene	82		
50-32-8	Benzo(a)pyrene	150		P
193-39-5	Indeno(1,2,3-cd)pyrene	110		
53-70-3	Dibenzo(a,h)anthracene	35		U
191-24-2	Benzo(ghi)perylene	110		P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 004
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q31AL Date Extracted:10/02/01
Dilution factor: 3 Date Analyzed: 10/12/01
Moisture %:27

QC Batch: 1275503

Client Sample Id: NTC17PCSD3401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	140		U
208-96-8	Acenaphthylene	25	J	
83-32-9	Acenaphthene	140		U
86-73-7	Fluorene	14	J	P
85-01-8	Phenanthrene	130		
120-12-7	Anthracene	24	J	
206-44-0	Fluoranthene	280		
129-00-0	Pyrene	210		
56-55-3	Benzo(a)anthracene	99		
218-01-9	Chrysene	110		
205-99-2	Benzo(b)fluoranthene	110		
207-08-9	Benzo(k)fluoranthene	60		
50-32-8	Benzo(a)pyrene	110		P
193-39-5	Indeno(1,2,3-cd)pyrene	69		
53-70-3	Dibenzo(a,h)anthracene	27		U
191-24-2	Benzo(ghi)perylene	77		P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 005
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q61A5 Date Extracted:10/02/01
Dilution factor: 50 Date Analyzed: 10/11/01
Moisture %:18

QC Batch: 1275503

Client Sample Id: NTC17PCSD0501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	2000	U
208-96-8	Acenaphthylene	2000	U
83-32-9	Acenaphthene	2000	U
86-73-7	Fluorene	190	J
85-01-8	Phenanthrene	1700	
120-12-7	Anthracene	320	J p
206-44-0	Fluoranthene	3000	
129-00-0	Pyrene	2300	
56-55-3	Benzo(a)anthracene	1000	
218-01-9	Chrysene	1000	
205-99-2	Benzo(b)fluoranthene	1200	
207-08-9	Benzo(k)fluoranthene	620	
50-32-8	Benzo(a)pyrene	1100	
193-39-5	Indeno(1,2,3-cd)pyrene	590	p
53-70-3	Dibenzo(a,h)anthracene	410	U
191-24-2	Benzo(ghi)perylene	930	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 006
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q71AD Date Extracted:10/02/01
Dilution factor: 20 Date Analyzed: 10/15/01
Moisture %:11

QC Batch: 1275503

Client Sample Id: NTC17PCSD0401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	740		U
208-96-8	Acenaphthylene	740		U
83-32-9	Acenaphthene	740		U
86-73-7	Fluorene	62	J	P
85-01-8	Phenanthrene	730		
120-12-7	Anthracene	120	J	P
206-44-0	Fluoranthene	1500		
129-00-0	Pyrene	1200		
56-55-3	Benzo(a)anthracene	560		
218-01-9	Chrysene	600		
205-99-2	Benzo(b)fluoranthene	650		
207-08-9	Benzo(k)fluoranthene	350		
50-32-8	Benzo(a)pyrene	570		
193-39-5	Indeno(1,2,3-cd)pyrene	430		
53-70-3	Dibenzo(a,h)anthracene	150		U
191-24-2	Benzo(ghi)perylene	530		P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 007
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3Q81AL Date Extracted:10/02/01
Dilution factor: 50 Date Analyzed: 10/11/01
Moisture %:22

QC Batch: 1275503

Client Sample Id: NTC17PCSD0402

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	2100		U
208-96-8	Acenaphthylene	230	J	
83-32-9	Acenaphthene	2100		U
86-73-7	Fluorene	340	J	P
85-01-8	Phenanthrene	4300		
120-12-7	Anthracene	910		
206-44-0	Fluoranthene	6700		
129-00-0	Pyrene	5100		
56-55-3	Benzo(a)anthracene	2400		
218-01-9	Chrysene	2400		
205-99-2	Benzo(b)fluoranthene	2400		
207-08-9	Benzo(k)fluoranthene	1300		
50-32-8	Benzo(a)pyrene	2300		
193-39-5	Indeno(1,2,3-cd)pyrene	1200		P
53-70-3	Dibenzo(a,h)anthracene	430		U
191-24-2	Benzo(ghi)perylene	2100		

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 008
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3RF1AL Date Extracted:10/02/01
Dilution factor: 50 Date Analyzed: 10/11/01
Moisture %:18

QC Batch: 1275503

Client Sample Id: NTC17PCSD0301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	2000	U
208-96-8	Acenaphthylene	79	J
83-32-9	Acenaphthene	2000	U
86-73-7	Fluorene	320	J
85-01-8	Phenanthrene	2600	
120-12-7	Anthracene	410	P
206-44-0	Fluoranthene	4600	
129-00-0	Pyrene	3400	
56-55-3	Benzo(a)anthracene	1400	
218-01-9	Chrysene	1500	
205-99-2	Benzo(b)fluoranthene	1500	
207-08-9	Benzo(k)fluoranthene	820	
50-32-8	Benzo(a)pyrene	1500	P
193-39-5	Indeno(1,2,3-cd)pyrene	680	P
53-70-3	Dibenzo(a,h)anthracene	410	U
191-24-2	Benzo(ghi)perylene	1200	

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 010
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3RV1AL Date Extracted:10/02/01
Dilution factor: 100 Date Analyzed: 10/11/01
Moisture %:5.6

QC Batch: 1275503

Client Sample Id: NTC17PCSD0201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	3500	U
208-96-8	Acenaphthylene	3500	U
83-32-9	Acenaphthene	3500	U
86-73-7	Fluorene	570	J
85-01-8	Phenanthrene	4800	
120-12-7	Anthracene	930	
206-44-0	Fluoranthene	7400	
129-00-0	Pyrene	5500	
56-55-3	Benzo(a)anthracene	2400	
218-01-9	Chrysene	2400	
205-99-2	Benzo(b)fluoranthene	2400	
207-08-9	Benzo(k)fluoranthene	1300	
50-32-8	Benzo(a)pyrene	2300	P
193-39-5	Indeno(1,2,3-cd)pyrene	940	P
53-70-3	Dibenzo(a,h)anthracene	710	U
191-24-2	Benzo(ghi)perylene	1600	

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 012
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3R31AL Date Extracted:10/02/01
Dilution factor: 400 Date Analyzed: 10/15/01
Moisture %:15

QC Batch: 1275503

Client Sample Id: NTCPCSD0101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	16000	U
208-96-8	Acenaphthylene	16000	U
83-32-9	Acenaphthene	16000	U
86-73-7	Fluorene	2400	J
85-01-8	Phenanthrene	24000	
120-12-7	Anthracene	4000	
206-44-0	Fluoranthene	33000	
129-00-0	Pyrene	27000	
56-55-3	Benzo(a)anthracene	11000	
218-01-9	Chrysene	12000	
205-99-2	Benzo(b)fluoranthene	12000	
207-08-9	Benzo(k)fluoranthene	6300	
50-32-8	Benzo(a)pyrene	11000	
193-39-5	Indeno(1,2,3-cd)pyrene	5800	
53-70-3	Dibenzo(a,h)anthracene	3200	U
191-24-2	Benzo(ghi)perylene	7500	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 013
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3R61AW Date Extracted:10/02/01
Dilution factor: 100 Date Analyzed: 10/11/01
Moisture %:7.9

QC Batch: 1275503

Client Sample Id: NTCPCSD0102

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	3600	U
208-96-8	Acenaphthylene	130	J
83-32-9	Acenaphthene	3600	U
86-73-7	Fluorene	840	
85-01-8	Phenanthrene	8500	
120-12-7	Anthracene	1600	
206-44-0	Fluoranthene	13000	
129-00-0	Pyrene	9700	
56-55-3	Benzo(a)anthracene	4100	
218-01-9	Chrysene	4200	
205-99-2	Benzo(b)fluoranthene	4100	
207-08-9	Benzo(k)fluoranthene	2300	
50-32-8	Benzo(a)pyrene	4000	
193-39-5	Indeno(1,2,3-cd)pyrene	1600	P
53-70-3	Dibenzo(a,h)anthracene	730	U
191-24-2	Benzo(ghi)perylene	2600	

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 014
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3R71AL Date Extracted:10/02/01
Dilution factor: 50 Date Analyzed: 10/11/01
Moisture %:24

QC Batch: 1275503

Client Sample Id: NTCPCSD1001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	2200	U
208-96-8	Acenaphthylene	92	J
83-32-9	Acenaphthene	2200	U
86-73-7	Fluorene	440	
85-01-8	Phenanthrene	3900	
120-12-7	Anthracene	820	
206-44-0	Fluoranthene	5900	
129-00-0	Pyrene	4400	
56-55-3	Benzo(a)anthracene	2000	
218-01-9	Chrysene	2100	
205-99-2	Benzo(b)fluoranthene	2100	
207-08-9	Benzo(k)fluoranthene	1200	
50-32-8	Benzo(a)pyrene	2100	
193-39-5	Indeno(1,2,3-cd)pyrene	990	P
53-70-3	Dibenzo(a,h)anthracene	440	U
191-24-2	Benzo(ghi)perylene	1500	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 015
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3R91AL Date Extracted:10/02/01
Dilution factor: 20 Date Analyzed: 10/15/01
Moisture %:23

QC Batch: 1275503

Client Sample Id: NTCPCSD1002

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	850	U
208-96-8	Acenaphthylene	850	U
83-32-9	Acenaphthene	850	U
86-73-7	Fluorene	120	J
85-01-8	Phenanthrene	1000	
120-12-7	Anthracene	160	J
206-44-0	Fluoranthene	1700	
129-00-0	Pyrene	1400	
56-55-3	Benzo(a)anthracene	620	
218-01-9	Chrysene	670	
205-99-2	Benzo(b)fluoranthene	690	
207-08-9	Benzo(k)fluoranthene	350	
50-32-8	Benzo(a)pyrene	630	P
193-39-5	Indeno(1,2,3-cd)pyrene	430	
53-70-3	Dibenzo(a,h)anthracene	170	U
191-24-2	Benzo(ghi)perylene	520	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 016
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3TA1AL Date Extracted:10/02/01
Dilution factor: 10 Date Analyzed: 10/15/01
Moisture %:18

QC Batch: 1275503

Client Sample Id: NTCPCSD0901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	400		U
208-96-8	Acenaphthylene	400		U
83-32-9	Acenaphthene	400		U
86-73-7	Fluorene	46	J	P
85-01-8	Phenanthrene	490		
120-12-7	Anthracene	61	J	P
206-44-0	Fluoranthene	950		
129-00-0	Pyrene	810		
56-55-3	Benzo(a)anthracene	390		
218-01-9	Chrysene	410		
205-99-2	Benzo(b)fluoranthene	460		
207-08-9	Benzo(k)fluoranthene	260		
50-32-8	Benzo(a)pyrene	470		
193-39-5	Indeno(1,2,3-cd)pyrene	270		
53-70-3	Dibenzo(a,h)anthracene	81		U
191-24-2	Benzo(ghi)perylene	360		P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 017
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3TE1AL Date Extracted:10/02/01
Dilution factor: 15 Date Analyzed: 10/15/01
Moisture %:17

QC Batch: 1275503

Client Sample Id: NTCPCSD0801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	600		U
208-96-8	Acenaphthylene	600		U
83-32-9	Acenaphthene	600		U
86-73-7	Fluorene	74	J	
85-01-8	Phenanthrene	630		
120-12-7	Anthracene	73	J	P
206-44-0	Fluoranthene	1100		
129-00-0	Pyrene	940		
56-55-3	Benzo(a)anthracene	430		
218-01-9	Chrysene	470		
205-99-2	Benzo(b)fluoranthene	510		
207-08-9	Benzo(k)fluoranthene	270		
50-32-8	Benzo(a)pyrene	470		
193-39-5	Indeno(1,2,3-cd)pyrene	370		
53-70-3	Dibenzo(a,h)anthracene	120		U
191-24-2	Benzo(ghi)perylene	420		P

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 018
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3TM1AL Date Extracted:10/02/01
Dilution factor: 50 Date Analyzed: 10/12/01
Moisture %:26

QC Batch: 1275503

Client Sample Id: NTCPCSD0802

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	2200	U
208-96-8	Acenaphthylene	220	J
83-32-9	Acenaphthene	2200	U
86-73-7	Fluorene	450	P
85-01-8	Phenanthrene	4600	
120-12-7	Anthracene	800	P
206-44-0	Fluoranthene	8200	
129-00-0	Pyrene	6100	
56-55-3	Benzo(a)anthracene	2800	
218-01-9	Chrysene	3000	
205-99-2	Benzo(b)fluoranthene	3200	
207-08-9	Benzo(k)fluoranthene	1800	
50-32-8	Benzo(a)pyrene	2900	
193-39-5	Indeno(1,2,3-cd)pyrene	1600	P
53-70-3	Dibenzo(a,h)anthracene	450	U
191-24-2	Benzo(ghi)perylene	2300	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 019
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3TN1AL Date Extracted:10/02/01
Dilution factor: 15 Date Analyzed: 10/15/01
Moisture %:12

QC Batch: 1275503

Client Sample Id: NTCPCSD0701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	560		U
208-96-8	Acenaphthylene	560		U
83-32-9	Acenaphthene	560		U
86-73-7	Fluorene	56	J	P
85-01-8	Phenanthrene	670		
120-12-7	Anthracene	75	J	P
206-44-0	Fluoranthene	1200		
129-00-0	Pyrene	1000		
56-55-3	Benzo(a)anthracene	470		
218-01-9	Chrysene	530		
205-99-2	Benzo(b)fluoranthene	580		
207-08-9	Benzo(k)fluoranthene	310		
50-32-8	Benzo(a)pyrene	530		P
193-39-5	Indeno(1,2,3-cd)pyrene	380		
53-70-3	Dibenzo(a,h)anthracene	110		U
191-24-2	Benzo(ghi)perylene	430		P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL009

Matrix: (soil/water) SOLID Lab Sample ID:C1I250290 020
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK3TP1AL Date Extracted:10/02/01
Dilution factor: 15 Date Analyzed: 10/15/01
Moisture %:12

QC Batch: 1275503

Client Sample Id: NTCPCSD0601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	560	U
208-96-8	Acenaphthylene	560	U
83-32-9	Acenaphthene	560	U
86-73-7	Fluorene	40	J P
85-01-8	Phenanthrene	460	
120-12-7	Anthracene	58	J P
206-44-0	Fluoranthene	1000	
129-00-0	Pyrene	890	
56-55-3	Benzo(a)anthracene	440	
218-01-9	Chrysene	480	
205-99-2	Benzo(b)fluoranthene	490	
207-08-9	Benzo(k)fluoranthene	270	
50-32-8	Benzo(a)pyrene	460	P
193-39-5	Indeno(1,2,3-cd)pyrene	270	
53-70-3	Dibenzo(a,h)anthracene	110	U
191-24-2	Benzo(ghi)perylene	230	P

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q0 **Client ID:** NTC17PCSD3501

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 24.02

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**2.8**	**26.3**	**2720**	*	**1**	**ICP**	**10/19/01**	**14:24**
Antimony	220.35	0.32	7.9	0.32	U	1	ICPST	10/18/01	19:28
Arsenic	**189.04**	**0.42**	**1.3**	**3.7**		**1**	**ICPST**	**10/18/01**	**19:28**
Barium	**493.41**	**0.049**	**26.3**	**19.4**	**B***	**1**	**ICP**	**10/19/01**	**14:24**
Beryllium	**313.04**	**0.022**	**0.66**	**0.20**	**BN***	**1**	**ICP**	**10/19/01**	**14:24**
Cadmium	**226.50**	**0.067**	**0.66**	**0.14**	**B**	**1**	**ICPST**	**10/18/01**	**19:28**
Calcium	**317.93**	**1.7**	**658**	**32200**		**1**	**ICP**	**10/19/01**	**14:24**
Cobalt	**228.62**	**0.38**	**6.6**	**4.8**	**B**	**1**	**ICP**	**10/19/01**	**14:24**
Copper	**324.75**	**0.32**	**3.3**	**11.6**	*	**1**	**ICP**	**10/19/01**	**14:24**
Iron	**259.94**	**0.65**	**132**	**8420**	**E**	**1**	**ICP**	**10/19/01**	**14:24**
Lead	**220.35**	**0.33**	**0.40**	**20.7**	**N***	**1**	**ICPST**	**10/18/01**	**19:28**
Magnesium	**279.08**	**2.8**	**658**	**17500**		**1**	**ICP**	**10/19/01**	**14:24**
Manganese	**257.61**	**0.12**	**2.0**	**297**	*	**1**	**ICP**	**10/19/01**	**14:24**
Nickel	**231.60**	**1.4**	**5.3**	**7.8**	*	**1**	**ICP**	**10/19/01**	**14:24**
Potassium	**766.49**	**57.7**	**658**	**453**	**B**	**1**	**ICP**	**10/19/01**	**14:24**
Selenium	220.35	0.43	0.66	0.43	U	1	ICPST	10/18/01	19:28
Silver	328.07	0.11	1.3	0.11	B	1	ICPST	10/18/01	19:28
Sodium	**589**	**1.6**	**658**	**106**	**B***	**1**	**ICP**	**10/19/01**	**14:24**
Thallium	**190.86**	**0.75**	**1.3**	**0.82**	**B**	**1**	**ICPST**	**10/18/01**	**19:28**
Vanadium	**292.40**	**0.33**	**6.6**	**9.9**		**1**	**ICP**	**10/19/01**	**14:24**
Zinc	**213.86**	**0.32**	**2.6**	**70.1**	*	**1**	**ICP**	**10/19/01**	**14:24**

Comments: Lot #: C1I250290 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q3 **Client ID:** NTC17PCSD3401

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 26.71

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.9	27.3	3760	*	1	ICP	10/19/01	14:27
Antimony	220.35	0.33	8.2	0.33	U	1	ICPST	10/18/01	19:32
Arsenic	189.04	0.44	1.4	5.4		1	ICPST	10/18/01	19:32
Barium	493.41	0.051	27.3	25.5	B*	1	ICP	10/19/01	14:27
Beryllium	313.04	0.023	0.68	0.30	BN*	1	ICP	10/19/01	14:27
Cadmium	226.50	0.070	0.68	0.19	B	1	ICPST	10/18/01	19:32
Calcium	317.93	1.8	682	44300		1	ICP	10/19/01	14:27
Cobalt	228.62	0.40	6.8	5.8	B	1	ICP	10/19/01	14:27
Copper	324.75	0.33	3.4	13.9	*	1	ICP	10/19/01	14:27
Iron	259.94	0.67	136	11400	E	1	ICP	10/19/01	14:27
Lead	220.35	0.34	0.41	30.5	N*	1	ICPST	10/18/01	19:32
Magnesium	279.08	2.9	682	24300		1	ICP	10/19/01	14:27
Manganese	257.61	0.12	2.1	406	*	1	ICP	10/19/01	14:27
Nickel	231.60	1.4	5.5	11.6	*	1	ICP	10/19/01	14:27
Potassium	766.49	59.8	682	602	B	1	ICP	10/19/01	14:27
Selenium	220.35	0.45	0.68	0.45	U	1	ICPST	10/18/01	19:32
Silver	328.07	0.11	1.4	0.15	B	1	ICPST	10/18/01	19:32
Sodium	589	1.6	682	138	B*	1	ICP	10/19/01	14:27
Thallium	190.86	0.78	1.4	1.5		1	ICPST	10/18/01	19:32
Vanadium	292.40	0.34	6.8	13.2		1	ICP	10/19/01	14:27
Zinc	213.86	0.33	2.7	180	*	1	ICP	10/19/01	14:27

Comments: Lot #: C1I250290 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q6 **Client ID:** NTC17PCSD0501

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 18.48

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**2.6**	**24.5**	**2260**	*	1	ICP	10/19/01	14:30
Antimony	220.35	0.29	7.4	0.29	U	1	ICPST	10/18/01	19:37
Arsenic	**189.04**	**0.39**	**1.2**	**5.4**		1	ICPST	10/18/01	19:37
Barium	**493.41**	**0.045**	**24.5**	**21.2**	B*	1	ICP	10/19/01	14:30
Beryllium	**313.04**	**0.021**	**0.61**	**0.88**	N*	1	ICP	10/19/01	14:30
Cadmium	**226.50**	**0.063**	**0.61**	**0.61**	B	1	ICPST	10/18/01	19:37
Calcium	**317.93**	**1.6**	**613**	**67000**		1	ICP	10/19/01	14:30
Cobalt	**228.62**	**0.36**	**6.1**	**4.2**	B	1	ICP	10/19/01	14:30
Copper	**324.75**	**0.29**	**3.1**	**225**	*	1	ICP	10/19/01	14:30
Iron	**259.94**	**0.60**	**123**	**10600**	E	1	ICP	10/19/01	14:30
Lead	**220.35**	**0.31**	**0.37**	**117**	N*	1	ICPST	10/18/01	19:37
Magnesium	**279.08**	**2.6**	**613**	**36200**		1	ICP	10/19/01	14:30
Manganese	**257.61**	**0.11**	**1.8**	**271**	*	1	ICP	10/19/01	14:30
Nickel	**231.60**	**1.3**	**4.9**	**12.0**	*	1	ICP	10/19/01	14:30
Potassium	**766.49**	**53.7**	**613**	**292**	B	1	ICP	10/19/01	14:30
Selenium	**220.35**	**0.41**	**0.61**	**0.46**	B	1	ICPST	10/18/01	19:37
Silver	**328.07**	**0.098**	**1.2**	**0.48**	B	1	ICPST	10/18/01	19:37
Sodium	**589**	**1.5**	**613**	**319**	B*	1	ICP	10/19/01	14:30
Thallium	190.86	0.70	1.2	0.70	U	1	ICPST	10/18/01	19:37
Vanadium	**292.40**	**0.31**	**6.1**	**7.7**		1	ICP	10/19/01	14:30
Zinc	**213.86**	**0.29**	**2.5**	**1030**	*	1	ICP	10/19/01	14:30

Comments: Lot #: C1I250290 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q7 **Client ID:** NTC17PCSD0401

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 11.20

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.4	22.5	2130	*	1	ICP	10/19/01	14:49
Antimony	220.35	0.27	6.8	0.74	B	1	ICPST	10/18/01	20:07
Arsenic	189.04	0.36	1.1	6.2		1	ICPST	10/18/01	20:07
Barium	493.41	0.042	22.5	20.4	B*	1	ICP	10/19/01	14:49
Beryllium	313.04	0.019	0.56	0.65	N*	1	ICP	10/19/01	14:49
Cadmium	226.50	0.057	0.56	0.96		1	ICPST	10/18/01	20:07
Calcium	317.93	1.5	563	45500		1	ICP	10/19/01	14:49
Cobalt	228.62	0.33	5.6	7.8		1	ICP	10/19/01	14:49
Copper	324.75	0.27	2.8	181	*	1	ICP	10/19/01	14:49
Iron	259.94	0.55	113	10300	E	1	ICP	10/19/01	14:49
Lead	220.35	0.28	0.34	181	N*	1	ICPST	10/18/01	20:07
Magnesium	279.08	2.4	563	24400		1	ICP	10/19/01	14:49
Manganese	257.61	0.10	1.7	256	*	1	ICP	10/19/01	14:49
Nickel	231.60	1.2	4.5	14.7	*	1	ICP	10/19/01	14:49
Potassium	766.49	49.3	563	316	B	1	ICP	10/19/01	14:49
Selenium	220.35	0.37	0.56	0.52	B	1	ICPST	10/18/01	20:07
Silver	328.07	0.090	1.1	3.2		1	ICPST	10/18/01	20:07
Sodium	589	1.3	563	142	B*	1	ICP	10/19/01	14:49
Thallium	190.86	0.64	1.1	1.4		1	ICPST	10/18/01	20:07
Vanadium	292.40	0.28	5.6	10.9		1	ICP	10/19/01	14:49
Zinc	213.86	0.27	2.3	836	*	1	ICP	10/19/01	14:49

Comments: Lot #: C1I250290 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q8 **Client ID:** NTC17PCSD0402

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 21.83

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.7	25.6	4630	*	1	ICP	10/19/01	14:52
Antimony	220.35	0.31	7.7	2.7	B	1	ICPST	10/18/01	20:12
Arsenic	189.04	0.41	1.3	34.2		1	ICPST	10/18/01	20:12
Barium	493.41	0.047	25.6	53.4	*	1	ICP	10/19/01	14:52
Beryllium	313.04	0.022	0.64	0.81	N*	1	ICP	10/19/01	14:52
Cadmium	226.50	0.065	0.64	5.7		1	ICPST	10/18/01	20:12
Calcium	317.93	1.7	640	37300		1	ICP	10/19/01	14:52
Cobalt	228.62	0.37	6.4	10.7		1	ICP	10/19/01	14:52
Copper	324.75	0.31	3.2	577	*	1	ICP	10/19/01	14:52
Iron	259.94	0.63	128	16900	E	1	ICP	10/19/01	14:52
Lead	220.35	0.32	0.38	435	N*	1	ICPST	10/18/01	20:12
Magnesium	279.08	2.7	640	19700		1	ICP	10/19/01	14:52
Manganese	257.61	0.11	1.9	308	*	1	ICP	10/19/01	14:52
Nickel	231.60	1.3	5.1	44.0	*	1	ICP	10/19/01	14:52
Potassium	766.49	56.0	640	661		1	ICP	10/19/01	14:52
Selenium	220.35	0.42	0.64	1.8		1	ICPST	10/18/01	20:12
Silver	328.07	0.10	1.3	5.5		1	ICPST	10/18/01	20:12
Sodium	589	1.5	640	157	B*	1	ICP	10/19/01	14:52
Thallium	190.86	0.73	1.3	1.4		1	ICPST	10/18/01	20:12
Vanadium	292.40	0.32	6.4	16.3		1	ICP	10/19/01	14:52
Zinc	213.86	0.31	2.6	2410	*	1	ICP	10/19/01	14:52

Comments: Lot #: C1I250290 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3QM **Client ID:** NTC17PCSD3601

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 20.52

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**2.7**	**25.2**	**1480**	*	1	ICP	10/19/01	14:18
Antimony	220.35	0.30	7.6	0.30	U	1	ICPST	10/18/01	19:19
Arsenic	**189.04**	**0.40**	**1.3**	**1.5**		1	ICPST	10/18/01	19:19
Barium	**493.41**	**0.047**	**25.2**	**6.9**	B*	1	ICP	10/19/01	14:18
Beryllium	**313.04**	**0.021**	**0.63**	**0.096**	BN*	1	ICP	10/19/01	14:18
Cadmium	226.50	0.064	0.63	0.064	U	1	ICPST	10/18/01	19:19
Calcium	**317.93**	**1.7**	**629**	**25700**		1	ICP	10/19/01	14:18
Cobalt	**228.62**	**0.37**	**6.3**	**2.4**	B	1	ICP	10/19/01	14:18
Copper	**324.75**	**0.30**	**3.2**	**3.4**	*	1	ICP	10/19/01	14:18
Iron	**259.94**	**0.62**	**126**	**4900**	E	1	ICP	10/19/01	14:18
Lead	**220.35**	**0.32**	**0.38**	**8.3**	N*	1	ICPST	10/18/01	19:19
Magnesium	**279.08**	**2.7**	**629**	**14100**		1	ICP	10/19/01	14:18
Manganese	**257.61**	**0.11**	**1.9**	**177**	*	1	ICP	10/19/01	14:18
Nickel	**231.60**	**1.3**	**5.0**	**3.6**	B*	1	ICP	10/19/01	14:18
Potassium	**766.49**	**55.1**	**629**	**306**	B	1	ICP	10/19/01	14:18
Selenium	220.35	0.42	0.63	0.42	U	1	ICPST	10/18/01	19:19
Silver	328.07	0.10	1.3	0.10	U	1	ICPST	10/18/01	19:19
Sodium	**589**	**1.5**	**629**	**91.5**	B*	1	ICP	10/19/01	14:18
Thallium	190.86	0.72	1.3	0.72	U	1	ICPST	10/18/01	19:19
Vanadium	**292.40**	**0.32**	**6.3**	**7.0**		1	ICP	10/19/01	14:18
Zinc	**213.86**	**0.30**	**2.5**	**31.0**	*	1	ICP	10/19/01	14:18

Comments: Lot #: C1I250290 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3QV **Client ID:** NTC17PCSD3602

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 22.09

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**2.7**	**25.7**	**2690**	*	**1**	**ICP**	**10/19/01**	**14:21**
Antimony	**220.35**	**0.31**	**7.7**	**0.51**	**B**	**1**	**ICPST**	**10/18/01**	**19:23**
Arsenic	**189.04**	**0.41**	**1.3**	**4.1**		**1**	**ICPST**	**10/18/01**	**19:23**
Barium	**493.41**	**0.048**	**25.7**	**15.2**	**B***	**1**	**ICP**	**10/19/01**	**14:21**
Beryllium	**313.04**	**0.022**	**0.64**	**0.46**	**BN***	**1**	**ICP**	**10/19/01**	**14:21**
Cadmium	226.50	0.066	0.64	0.066	U	1	ICPST	10/18/01	19:23
Calcium	**317.93**	**1.7**	**642**	**38200**		**1**	**ICP**	**10/19/01**	**14:21**
Cobalt	**228.62**	**0.37**	**6.4**	**4.9**	**B**	**1**	**ICP**	**10/19/01**	**14:21**
Copper	**324.75**	**0.31**	**3.2**	**91.1**	*	**1**	**ICP**	**10/19/01**	**14:21**
Iron	**259.94**	**0.63**	**128**	**9950**	**E**	**1**	**ICP**	**10/19/01**	**14:21**
Lead	**220.35**	**0.32**	**0.39**	**47.2**	**N***	**1**	**ICPST**	**10/18/01**	**19:23**
Magnesium	**279.08**	**2.8**	**642**	**19500**		**1**	**ICP**	**10/19/01**	**14:21**
Manganese	**257.61**	**0.11**	**1.9**	**314**	*	**1**	**ICP**	**10/19/01**	**14:21**
Nickel	**231.60**	**1.3**	**5.1**	**10.6**	*	**1**	**ICP**	**10/19/01**	**14:21**
Potassium	**766.49**	**56.2**	**642**	**361**	**B**	**1**	**ICP**	**10/19/01**	**14:21**
Selenium	220.35	0.42	0.64	0.42	U	1	ICPST	10/18/01	19:23
Silver	328.07	0.10	1.3	0.10	U	1	ICPST	10/18/01	19:23
Sodium	**589**	**1.5**	**642**	**255**	**B***	**1**	**ICP**	**10/19/01**	**14:21**
Thallium	**190.86**	**0.73**	**1.3**	**1.0**	**B**	**1**	**ICPST**	**10/18/01**	**19:23**
Vanadium	**292.40**	**0.32**	**6.4**	**11.1**		**1**	**ICP**	**10/19/01**	**14:21**
Zinc	**213.86**	**0.31**	**2.6**	**665**	*	**1**	**ICP**	**10/19/01**	**14:21**

Comments: Lot #: C1I250290 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3R3 **Client ID:** NTCPCSD0101

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 15.23

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.5	23.6	4270	*	1	ICP	10/19/01	15:08
Antimony	220.35	0.28	7.1	1.5	B	1	ICPST	10/18/01	20:34
Arsenic	189.04	0.38	1.2	10.4		1	ICPST	10/18/01	20:34
Barium	493.41	0.044	23.6	54.2	*	1	ICP	10/19/01	15:08
Beryllium	313.04	0.020	0.59	0.73	N*	1	ICP	10/19/01	15:08
Cadmium	226.50	0.060	0.59	3.7		1	ICPST	10/18/01	20:34
Calcium	317.93	1.6	590	50400		1	ICP	10/19/01	15:08
Cobalt	228.62	0.34	5.9	10.1		1	ICP	10/19/01	15:08
Copper	324.75	0.28	3.0	368	*	1	ICP	10/19/01	15:08
Iron	259.94	0.58	118	14900	E	1	ICP	10/19/01	15:08
Lead	220.35	0.30	0.35	322	N*	1	ICPST	10/18/01	20:34
Magnesium	279.08	2.5	590	23600		1	ICP	10/19/01	15:08
Manganese	257.61	0.11	1.8	436	*	1	ICP	10/19/01	15:08
Nickel	231.60	1.2	4.7	20.9	*	1	ICP	10/19/01	15:08
Potassium	766.49	51.7	590	657		1	ICP	10/19/01	15:08
Selenium	220.35	0.39	0.59	0.60		1	ICPST	10/18/01	20:34
Silver	328.07	0.094	1.2	0.95	B	1	ICPST	10/18/01	20:34
Sodium	589	1.4	590	287	B*	1	ICP	10/19/01	15:08
Thallium	190.86	0.67	1.2	1.7		1	ICPST	10/18/01	20:34
Vanadium	292.40	0.30	5.9	14.0		1	ICP	10/19/01	15:08
Zinc	213.86	0.28	2.4	1140	*	1	ICP	10/19/01	15:08

Comments: Lot #: C1I250290 Sample #: 12

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3R6 **Client ID:** NTCPCSD0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 7.86

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.3	21.7	3960	*	1	ICP	10/19/01	15:11
Antimony	220.35	0.26	6.5	0.45	B	1	ICPST	10/18/01	20:38
Arsenic	189.04	0.35	1.1	4.7		1	ICPST	10/18/01	20:38
Barium	493.41	0.040	21.7	45.3	*	1	ICP	10/19/01	15:11
Beryllium	313.04	0.019	0.54	1.8	N*	1	ICP	10/19/01	15:11
Cadmium	226.50	0.055	0.54	0.44	B	1	ICPST	10/18/01	20:38
Calcium	317.93	2.8	1090	95600		2	ICP	10/19/01	15:51
Cobalt	228.62	0.32	5.4	5.4	B	1	ICP	10/19/01	15:11
Copper	324.75	0.26	2.7	370	*	1	ICP	10/19/01	15:11
Iron	259.94	0.53	109	21800	E	1	ICP	10/19/01	15:11
Lead	220.35	0.27	0.33	187	N*	1	ICPST	10/18/01	20:38
Magnesium	279.08	2.3	543	48700		1	ICP	10/19/01	15:11
Manganese	257.61	0.097	1.6	1600	*	1	ICP	10/19/01	15:11
Nickel	231.60	1.1	4.3	18.4	*	1	ICP	10/19/01	15:11
Potassium	766.49	47.5	543	402	B	1	ICP	10/19/01	15:11
Selenium	220.35	0.72	1.1	0.72	U	2	ICPST	10/19/01	11:55
Silver	328.07	0.087	1.1	0.65	B	1	ICPST	10/18/01	20:38
Sodium	589	1.3	543	583	*	1	ICP	10/19/01	15:11
Thallium	190.86	1.2	2.2	1.2	U	2	ICPST	10/19/01	11:55
Vanadium	292.40	0.27	5.4	15.6		1	ICP	10/19/01	15:11
Zinc	213.86	0.26	2.2	2620	*	1	ICP	10/19/01	15:11

Comments: Lot #: C1I250290 Sample #: 13

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3R7 **Client ID:** NTCPCSD1001

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 23.86

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.8	26.3	4810	*	1	ICP	10/19/01	15:15
Antimony	220.35	0.32	7.9	0.32	U	1	ICPST	10/18/01	20:43
Arsenic	189.04	0.42	1.3	7.2		1	ICPST	10/18/01	20:43
Barium	493.41	0.049	26.3	54.7	*	1	ICP	10/19/01	15:15
Beryllium	313.04	0.022	0.66	0.44	BN*	1	ICP	10/19/01	15:15
Cadmium	226.50	0.067	0.66	0.23	B	1	ICPST	10/18/01	20:43
Calcium	317.93	1.7	657	42900		1	ICP	10/19/01	15:15
Cobalt	228.62	0.38	6.6	8.6		1	ICP	10/19/01	15:15
Copper	324.75	0.32	3.3	40.0	*	1	ICP	10/19/01	15:15
Iron	259.94	0.64	131	14200	E	1	ICP	10/19/01	15:15
Lead	220.35	0.33	0.39	68.3	N*	1	ICPST	10/18/01	20:43
Magnesium	279.08	2.8	657	21700		1	ICP	10/19/01	15:15
Manganese	257.61	0.12	2.0	407	*	1	ICP	10/19/01	15:15
Nickel	231.60	1.4	5.3	15.9	*	1	ICP	10/19/01	15:15
Potassium	766.49	57.5	657	798		1	ICP	10/19/01	15:15
Selenium	220.35	0.43	0.66	0.43	U	1	ICPST	10/18/01	20:43
Silver	328.07	0.11	1.3	0.13	B	1	ICPST	10/18/01	20:43
Sodium	589	1.6	657	140	B*	1	ICP	10/19/01	15:15
Thallium	190.86	0.75	1.3	2.1		1	ICPST	10/18/01	20:43
Vanadium	292.40	0.33	6.6	14.7		1	ICP	10/19/01	15:15
Zinc	213.86	0.32	2.6	183	*	1	ICP	10/19/01	15:15

Comments: Lot #: C1I250290 Sample #: 14

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3R9 **Client ID:** NTCPCSD1002

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 22.57

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.7	25.8	5150	*	1	ICP	10/19/01	15:18
Antimony	220.35	0.31	7.8	0.89	B	1	ICPST	10/18/01	20:47
Arsenic	189.04	0.41	1.3	7.4		1	ICPST	10/18/01	20:47
Barium	493.41	0.048	25.8	44.9	*	1	ICP	10/19/01	15:18
Beryllium	313.04	0.022	0.65	0.41	BN*	1	ICP	10/19/01	15:18
Cadmium	226.50	0.066	0.65	0.24	B	1	ICPST	10/18/01	20:47
Calcium	317.93	1.7	646	49600		1	ICP	10/19/01	15:18
Cobalt	228.62	0.38	6.5	8.0		1	ICP	10/19/01	15:18
Copper	324.75	0.31	3.2	39.4	*	1	ICP	10/19/01	15:18
Iron	259.94	0.63	129	13600	E	1	ICP	10/19/01	15:18
Lead	220.35	0.32	0.39	139	N*	1	ICPST	10/18/01	20:47
Magnesium	279.08	2.8	646	25300		1	ICP	10/19/01	15:18
Manganese	257.61	0.12	1.9	394	*	1	ICP	10/19/01	15:18
Nickel	231.60	1.3	5.2	15.3	*	1	ICP	10/19/01	15:18
Potassium	766.49	56.6	646	1100		1	ICP	10/19/01	15:18
Selenium	220.35	0.43	0.65	0.43	U	1	ICPST	10/18/01	20:47
Silver	328.07	0.10	1.3	0.47	B	1	ICPST	10/18/01	20:47
Sodium	589	1.5	646	180	B*	1	ICP	10/19/01	15:18
Thallium	190.86	0.74	1.3	1.8		1	ICPST	10/18/01	20:47
Vanadium	292.40	0.32	6.5	15.2		1	ICP	10/19/01	15:18
Zinc	213.86	0.31	2.6	178	*	1	ICP	10/19/01	15:18

Comments: Lot #: C1I250290 Sample #: 15

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3RF **Client ID:** NTC17PCSD0301

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 17.83

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	24.3	2830	*	1	ICP	10/19/01	14:56
Antimony	220.35	0.29	7.3	1.0	B	1	ICPST	10/18/01	20:16
Arsenic	189.04	0.39	1.2	8.5		1	ICPST	10/18/01	20:16
Barium	493.41	0.045	24.3	40.5	*	1	ICP	10/19/01	14:56
Beryllium	313.04	0.021	0.61	0.58	BN*	1	ICP	10/19/01	14:56
Cadmium	226.50	0.062	0.61	1.4		1	ICPST	10/18/01	20:16
Calcium	317.93	1.6	609	43600		1	ICP	10/19/01	14:56
Cobalt	228.62	0.35	6.1	6.7		1	ICP	10/19/01	14:56
Copper	324.75	0.29	3.0	222	*	1	ICP	10/19/01	14:56
Iron	259.94	0.60	122	14100	E	1	ICP	10/19/01	14:56
Lead	220.35	0.30	0.37	213	N*	1	ICPST	10/18/01	20:16
Magnesium	279.08	2.6	609	21500		1	ICP	10/19/01	14:56
Manganese	257.61	0.11	1.8	295	*	1	ICP	10/19/01	14:56
Nickel	231.60	1.3	4.9	16.6	*	1	ICP	10/19/01	14:56
Potassium	766.49	53.3	609	428	B	1	ICP	10/19/01	14:56
Selenium	220.35	0.40	0.61	0.40	U	1	ICPST	10/18/01	20:16
Silver	328.07	0.097	1.2	2.3		1	ICPST	10/18/01	20:16
Sodium	589	1.5	609	186	B*	1	ICP	10/19/01	14:56
Thallium	190.86	0.69	1.2	0.69	U	1	ICPST	10/18/01	20:16
Vanadium	292.40	0.30	6.1	10.0		1	ICP	10/19/01	14:56
Zinc	213.86	0.29	2.4	774	*	1	ICP	10/19/01	14:56

Comments: Lot #: C1I250290 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3RV **Client ID:** NTC17PCSD0201

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 5.64

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.2	21.2	2820	*	1	ICP	10/19/01	15:02
Antimony	220.35	0.25	6.4	0.45	B	1	ICPST	10/18/01	20:25
Arsenic	189.04	0.34	1.1	5.2		1	ICPST	10/18/01	20:25
Barium	493.41	0.039	21.2	29.3	*	1	ICP	10/19/01	15:02
Beryllium	313.04	0.018	0.53	0.84	N*	1	ICP	10/19/01	15:02
Cadmium	226.50	0.054	0.53	0.58		1	ICPST	10/18/01	20:25
Calcium	317.93	1.4	530	56500		1	ICP	10/19/01	15:02
Cobalt	228.62	0.31	5.3	6.9		1	ICP	10/19/01	15:02
Copper	324.75	0.25	2.7	477	*	1	ICP	10/19/01	15:02
Iron	259.94	0.52	106	12600	E	1	ICP	10/19/01	15:02
Lead	220.35	0.27	0.32	144	N*	1	ICPST	10/18/01	20:25
Magnesium	279.08	2.3	530	29400		1	ICP	10/19/01	15:02
Manganese	257.61	0.094	1.6	339	*	1	ICP	10/19/01	15:02
Nickel	231.60	1.1	4.2	18.3	*	1	ICP	10/19/01	15:02
Potassium	766.49	46.4	530	383	B	1	ICP	10/19/01	15:02
Selenium	220.35	0.35	0.53	0.35	U	1	ICPST	10/18/01	20:25
Silver	328.07	0.085	1.1	0.56	B	1	ICPST	10/18/01	20:25
Sodium	589	1.3	530	281	B*	1	ICP	10/19/01	15:02
Thallium	190.86	0.60	1.1	1.4		1	ICPST	10/18/01	20:25
Vanadium	292.40	0.27	5.3	10.2		1	ICP	10/19/01	15:02
Zinc	213.86	0.25	2.1	1390	*	1	ICP	10/19/01	15:02

Comments: Lot #: C1I250290 Sample #: 10

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TA **Client ID:** NTCPCSD0901

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 17.53

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	24.3	3300	*	1	ICP	10/19/01	15:29
Antimony	220.35	0.29	7.3	0.62	B	1	ICPST	10/18/01	21:00
Arsenic	189.04	0.39	1.2	4.8		1	ICPST	10/18/01	21:00
Barium	493.41	0.045	24.3	27.9	*	1	ICP	10/19/01	15:29
Beryllium	313.04	0.021	0.61	0.26	BN*	1	ICP	10/19/01	15:29
Cadmium	226.50	0.062	0.61	0.11	B	1	ICPST	10/18/01	21:00
Calcium	317.93	1.6	606	49200		1	ICP	10/19/01	15:29
Cobalt	228.62	0.35	6.1	5.6	B	1	ICP	10/19/01	15:29
Copper	324.75	0.29	3.0	42.6	*	1	ICP	10/19/01	15:29
Iron	259.94	0.59	121	12400	E	1	ICP	10/19/01	15:29
Lead	220.35	0.30	0.36	30.8	N*	1	ICPST	10/18/01	21:00
Magnesium	279.08	2.6	606	26500		1	ICP	10/19/01	15:29
Manganese	257.61	0.11	1.8	358	*	1	ICP	10/19/01	15:29
Nickel	231.60	1.3	4.9	14.2	*	1	ICP	10/19/01	15:29
Potassium	766.49	53.1	606	692		1	ICP	10/19/01	15:29
Selenium	220.35	0.40	0.61	0.40	U	1	ICPST	10/18/01	21:00
Silver	328.07	0.097	1.2	0.11	B	1	ICPST	10/18/01	21:00
Sodium	589	1.4	606	138	B*	1	ICP	10/19/01	15:29
Thallium	190.86	0.69	1.2	1.4		1	ICPST	10/18/01	21:00
Vanadium	292.40	0.30	6.1	17.9		1	ICP	10/19/01	15:29
Zinc	213.86	0.29	2.4	126	*	1	ICP	10/19/01	15:29

Comments: Lot #: C1I250290 Sample #: 16

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TE **Client ID:** NTCPCSD0801

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 16.89

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.5	24.1	2950	*	1	ICP	10/19/01	15:32
Antimony	220.35	0.29	7.2	0.31	B	1	ICPST	10/18/01	21:05
Arsenic	189.04	0.39	1.2	5.3		1	ICPST	10/18/01	21:05
Barium	493.41	0.045	24.1	32.0	*	1	ICP	10/19/01	15:32
Beryllium	313.04	0.021	0.60	0.34	BN*	1	ICP	10/19/01	15:32
Cadmium	226.50	0.061	0.60	0.061	U	1	ICPST	10/18/01	21:05
Calcium	317.93	1.6	602	45300		1	ICP	10/19/01	15:32
Cobalt	228.62	0.35	6.0	5.6	B	1	ICP	10/19/01	15:32
Copper	324.75	0.29	3.0	43.1	*	1	ICP	10/19/01	15:32
Iron	259.94	0.59	120	11400	E	1	ICP	10/19/01	15:32
Lead	220.35	0.30	0.36	73.0	N*	1	ICPST	10/18/01	21:05
Magnesium	279.08	2.6	602	23100		1	ICP	10/19/01	15:32
Manganese	257.61	0.11	1.8	341	*	1	ICP	10/19/01	15:32
Nickel	231.60	1.3	4.8	10.2	*	1	ICP	10/19/01	15:32
Potassium	766.49	52.7	602	492	B	1	ICP	10/19/01	15:32
Selenium	220.35	0.40	0.60	0.40	U	1	ICPST	10/18/01	21:05
Silver	328.07	0.096	1.2	0.096	U	1	ICPST	10/18/01	21:05
Sodium	589	1.4	602	128	B*	1	ICP	10/19/01	15:32
Thallium	190.86	0.69	1.2	0.69	U	1	ICPST	10/18/01	21:05
Vanadium	292.40	0.30	6.0	11.0		1	ICP	10/19/01	15:32
Zinc	213.86	0.29	2.4	192	*	1	ICP	10/19/01	15:32

Comments: Lot #: C1I250290 Sample #: 17

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TM **Client ID:** NTCPCSD0802

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 26.12

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.9	27.1	4800	*	1	ICP	10/19/01	15:35
Antimony	220.35	0.33	8.1	0.33	U	1	ICPST	10/18/01	21:09
Arsenic	189.04	0.43	1.4	6.2		1	ICPST	10/18/01	21:09
Barium	493.41	0.050	27.1	61.9	*	1	ICP	10/19/01	15:35
Beryllium	313.04	0.023	0.68	0.33	BN*	1	ICP	10/19/01	15:35
Cadmium	226.50	0.069	0.68	0.59	B	1	ICPST	10/18/01	21:09
Calcium	317.93	1.8	677	62200		1	ICP	10/19/01	15:35
Cobalt	228.62	0.39	6.8	7.7		1	ICP	10/19/01	15:35
Copper	324.75	0.33	3.4	55.8	*	1	ICP	10/19/01	15:35
Iron	259.94	0.66	135	14200	E	1	ICP	10/19/01	15:35
Lead	220.35	0.34	0.41	71.9	N*	1	ICPST	10/18/01	21:09
Magnesium	279.08	2.9	677	30800		1	ICP	10/19/01	15:35
Manganese	257.61	0.12	2.0	522	*	1	ICP	10/19/01	15:35
Nickel	231.60	1.4	5.4	15.5	*	1	ICP	10/19/01	15:35
Potassium	766.49	59.3	677	783		1	ICP	10/19/01	15:35
Selenium	220.35	0.45	0.68	0.46	B	1	ICPST	10/18/01	21:09
Silver	328.07	0.11	1.4	0.18	B	1	ICPST	10/18/01	21:09
Sodium	589	1.6	677	188	B*	1	ICP	10/19/01	15:35
Thallium	190.86	0.77	1.4	2.0		1	ICPST	10/18/01	21:09
Vanadium	292.40	0.34	6.8	14.5		1	ICP	10/19/01	15:35
Zinc	213.86	0.33	2.7	171	*	1	ICP	10/19/01	15:35

Comments: Lot #: C1I250290 Sample #: 18

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TN **Client ID:** NTCPCSD0701

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 11.86

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**2.4**	**22.7**	**2420**	*	1	ICP	10/19/01	15:38
Antimony	**220.35**	**0.27**	**6.8**	**0.48**	B	1	ICPST	10/18/01	21:13
Arsenic	**189.04**	**0.36**	**1.1**	**4.4**		1	ICPST	10/18/01	21:13
Barium	**493.41**	**0.042**	**22.7**	**42.6**	*	1	ICP	10/19/01	15:38
Beryllium	**313.04**	**0.019**	**0.57**	**0.27**	BN*	1	ICP	10/19/01	15:38
Cadmium	226.50	0.058	0.57	0.058	U	1	ICPST	10/18/01	21:13
Calcium	**317.93**	**1.5**	**567**	**62900**		1	ICP	10/19/01	15:38
Cobalt	**228.62**	**0.33**	**5.7**	**4.9**	B	1	ICP	10/19/01	15:38
Copper	**324.75**	**0.27**	**2.8**	**72.5**	*	1	ICP	10/19/01	15:38
Iron	**259.94**	**0.56**	**114**	**12200**	E	1	ICP	10/19/01	15:38
Lead	**220.35**	**0.28**	**0.34**	**76.7**	N*	1	ICPST	10/18/01	21:13
Magnesium	**279.08**	**2.4**	**567**	**32800**		1	ICP	10/19/01	15:38
Manganese	**257.61**	**0.10**	**1.7**	**333**	*	1	ICP	10/19/01	15:38
Nickel	**231.60**	**1.2**	**4.5**	**9.8**	*	1	ICP	10/19/01	15:38
Potassium	**766.49**	**49.7**	**567**	**397**	B	1	ICP	10/19/01	15:38
Selenium	220.35	0.37	0.57	0.37	U	1	ICPST	10/18/01	21:13
Silver	**328.07**	**0.091**	**1.1**	**0.15**	B	1	ICPST	10/18/01	21:13
Sodium	**589**	**1.4**	**567**	**152**	B*	1	ICP	10/19/01	15:38
Thallium	**190.86**	**0.65**	**1.1**	**0.85**	B	1	ICPST	10/18/01	21:13
Vanadium	**292.40**	**0.28**	**5.7**	**9.8**		1	ICP	10/19/01	15:38
Zinc	**213.86**	**0.27**	**2.3**	**538**	*	1	ICP	10/19/01	15:38

Comments: Lot #: C1I250290 Sample #: 19

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TP **Client ID:** NTCPCSD0601

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/5/01 **Prep Batch:** 1277124

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 11.82

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.4	22.7	2480	*	1	ICP	10/19/01	15:42
Antimony	220.35	0.27	6.8	0.51	B	1	ICPST	10/18/01	21:18
Arsenic	189.04	0.36	1.1	5.2		1	ICPST	10/18/01	21:18
Barium	493.41	0.042	22.7	122	*	1	ICP	10/19/01	15:42
Beryllium	313.04	0.019	0.57	0.44	BN*	1	ICP	10/19/01	15:42
Cadmium	226.50	0.058	0.57	0.058	U	1	ICPST	10/18/01	21:18
Calcium	317.93	3.0	1130	110000		2	ICP	10/19/01	15:54
Cobalt	228.62	0.33	5.7	7.9		1	ICP	10/19/01	15:42
Copper	324.75	0.27	2.8	129	*	1	ICP	10/19/01	15:42
Iron	259.94	0.56	113	13000	E	1	ICP	10/19/01	15:42
Lead	220.35	0.28	0.34	123	N*	1	ICPST	10/18/01	21:18
Magnesium	279.08	2.4	567	51200		1	ICP	10/19/01	15:42
Manganese	257.61	0.10	1.7	662	*	1	ICP	10/19/01	15:42
Nickel	231.60	1.2	4.5	9.9	*	1	ICP	10/19/01	15:42
Potassium	766.49	49.7	567	376	B	1	ICP	10/19/01	15:42
Selenium	220.35	0.37	0.57	0.37	U	1	ICPST	10/18/01	21:18
Silver	328.07	0.091	1.1	0.092	B	1	ICPST	10/18/01	21:18
Sodium	589	1.4	567	260	B*	1	ICP	10/19/01	15:42
Thallium	190.86	0.65	1.1	0.74	B	1	ICPST	10/18/01	21:18
Vanadium	292.40	0.28	5.7	12.1		1	ICP	10/19/01	15:42
Zinc	213.86	0.27	2.3	899	*	1	ICP	10/19/01	15:42

Comments: Lot #: C1I250290 Sample #: 20

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q0 **Client ID:** NTC17PCSD3501

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 24.02

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.044	0.17	N*	1	CVAA	10/11/01	14:21

Comments: Lot #: C1I250290 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q3 **Client ID:** NTC17PCSD3401

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 26.71

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.046	0.23	N*	1	CVAA	10/11/01	14:26

Comments: Lot #: C1I250290 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q6 **Client ID:** NTC17PCSD0501

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 18.48

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0096	0.041	0.17	N*	1	CVAA	10/11/01	14:27

Comments: Lot #: C1I250290 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q7 **Client ID:** NTC17PCSD0401

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.20

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0088	0.038	0.32	N*	1	CVAA	10/11/01	14:32

Comments: Lot #: C11250290 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q8 **Client ID:** NTC17PCSD0402

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 21.83

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.043	0.87	N*	1	CVAA	10/11/01	14:34

Comments: Lot #: C1I250290 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3QM **Client ID:** NTC17PCSD3601

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 20.52

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0099	0.042	0.052	N*	1	CVAA	10/11/01	14:18

Comments: Lot #: C1I250290 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3QV **Client ID:** NTC17PCSD3602

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 22.09

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.043	0.074	N*	1	CVAA	10/11/01	14:20

Comments: Lot #: C1I250290 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3R3 **Client ID:** NTCPCSD0101

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 15.23

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0092	0.039	0.94	N*	1	CVAA	10/11/01	14:44

Comments: Lot #: C1I250290 Sample #: 12

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3R6 **Client ID:** NTCPCSD0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 7.86

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0085	0.036	0.31	N*	1	CVAA	10/11/01	14:45

Comments: Lot #: C1I250290 Sample #: 13

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3R7 **Client ID:** NTCPCSD1001

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 23.86

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.044	0.065	N*	1	CVAA	10/11/01	14:47

Comments: Lot #: CII250290 Sample #: 14

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3R9 **Client ID:** NTCPCSD1002

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 22.57

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.043	0.070	N*	1	CVAA	10/11/01	14:48

Comments: Lot #: C1I250290 Sample #: 15

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3RF **Client ID:** NTC17PCSD0301

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.83

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0095	0.041	0.25	N*	1	CVAA	10/11/01	14:35

Comments: Lot #: C1I250290 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3RV **Client ID:** NTC17PCSD0201

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 5.64

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0083	0.035	0.17	N*	1	CVAA	10/11/01	14:38

Comments: Lot #: C11250290 Sample #: 10

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TE **Client ID:** NTCPCSD0801

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.89

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0094	0.040	0.050	N*	1	CVAA	10/11/01	14:51

Comments: Lot #: C1I250290 Sample #: 17

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TM **Client ID:** NTCPCSD0802

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 26.12

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.011	0.045	0.12	N*	1	CVAA	10/11/01	14:53

Comments: Lot #: C1I250290 Sample #: 18

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TN **Client ID:** NTCPCSD0701

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.86

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0089	0.038	0.038	N*	1	CVAA	10/11/01	14:54

Comments: Lot #: C1I250290 Sample #: 19

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TP **Client ID:** NTCPCSD0601

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/11/01 **Prep Batch:** 1284177

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 11.82

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0089	0.038	0.085	N*	1	CVAA	10/11/01	14:56

Comments: Lot #: CII250290 Sample #: 20

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q0 **Client ID:** NTC17PCSD3501

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 24.02

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.097	1.3	7.2	N	1	ICPST	10/20/01	15:19

Comments: Lot #: C1I250290 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q3 **Client ID:** NTC17PCSD3401

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 26.71

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.10	1.4	8.1	N	1	ICPST	10/20/01	15:23

Comments: Lot #: C1I250290 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q6 **Client ID:** NTC17PCSD0501

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 18.48

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.091	1.2	10.8	N	1	ICPST	10/20/01	15:28

Comments: Lot #: C1I250290 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q7 **Client ID:** NTC17PCSD0401

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 11.20

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.083	1.1	22.4	N	1	ICPST	10/20/01	15:46

Comments: Lot #: C1I250290 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3Q8 **Client ID:** NTC17PCSD0402

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 21.83

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.095	1.3	31.0	N	1	ICPST	10/20/01	15:59

Comments: Lot #: C1I250290 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3QM **Client ID:** NTC17PCSD3601

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 20.52

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.093	1.3	5.5	N	1	ICPST	10/20/01	15:10

Comments: Lot #: C1I250290 Sample #: 1

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3QV **Client ID:** NTC17PCSD3602

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 22.09

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.095	1.3	7.5	N	1	ICPST	10/20/01	15:15

Comments: Lot #: C1I250290 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3R3 **Client ID:** NTCPCSD0101

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 15.23

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.087	1.2	55.8	N	1	ICPST	10/20/01	16:21

Comments: Lot #: C1I250290 Sample #: 12

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3R6 **Client ID:** NTCPCSD0102

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 7.86

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.080	1.1	16.0	N	1	ICPST	10/20/01	16:25

Comments: Lot #: C1I250290 Sample #: 13

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3R7 **Client ID:** NTCPCSD1001

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 23.86

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.097	1.3	15.8	N	1	ICPST	10/20/01	16:30

Comments: Lot #: C1J250290 Sample #: 14

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3R9 **Client ID:** NTCPCSD1002

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 22.57

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.096	1.3	16.1	N	1	ICPST	10/20/01	16:34

Comments: Lot #: C1I250290 Sample #: 15

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3RF **Client ID:** NTC17PCSD0301

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 17.83

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.090	1.2	17.4	N	1	ICPST	10/20/01	16:03

Comments: Lot #: C1I250290 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3RV **Client ID:** NTC17PCSD0201

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 5.64

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.078	1.1	13.7	N	1	ICPST	10/20/01	16:12

Comments: Lot #: C1I250290 Sample #: 10

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TA **Client ID:** NTCPCSD0901

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 17.53

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.090	1.2	12.1	N	1	ICPST	10/20/01	16:38

Comments: Lot #: C1I250290 Sample #: 16

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TE **Client ID:** NTCPCSD0801

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 16.89

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.089	1.2	16.5	N	1	ICPST	10/20/01	16:56

Comments: Lot #: C1I250290 Sample #: 17

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TM **Client ID:** NTCPCSD0802

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 26.12

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.10	1.4	30.8	N	1	ICPST	10/20/01	17:01

Comments: Lot #: C1I250290 Sample #: 18

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TN **Client ID:** NTCPCSD0701

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 11.86

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.084	1.1	11.8	N	1	ICPST	10/20/01	17:05

Comments: Lot #: C1I250290 Sample #: 19

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK3TP **Client ID:** NTCPCSD0601

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/19/01 **Prep Batch:** 1292173

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 11.82

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Chromium	267.72	0.084	1.1	13.1	N	1	ICPST	10/20/01	17:09

Comments: Lot #: C1I250290 Sample #: 20

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

NTC Great Lakes, Illinois

Total Organic Carbon

Lab Name:	STL PITTSBURGH	**Method:**	MSA WALKLEY-B
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I250290
Matrix:	SOLID	**Date/Time Received:**	9/25/01 9:30:00AM
		SDG Number:	GL009

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17PCSD3601	001	EK3QM1A9	1400	mg/kg	62.9	1	10/16/01 - 10/16/01	1289302
NTC17PCSD3602	002	EK3QV1A8	3080	mg/kg	64.2	1	10/16/01 - 10/16/01	1289302
NTC17PCSD3501	003	EK3Q01AK	5760	mg/kg	65.8	1	10/16/01 - 10/16/01	1289302
NTC17PCSD3401	004	EK3Q31AK	6130	mg/kg	68.2	1	10/16/01 - 10/16/01	1289302
NTC17PCSD0501	005	EK3Q61A2	3110	mg/kg	61.3	1	10/16/01 - 10/16/01	1289302
NTC17PCSD0401	006	EK3Q71CA	4360	mg/kg	56.3	1	10/16/01 - 10/16/01	1289302
NTC17PCSD0402	007	EK3Q81AK	18600	mg/kg	64.0	1	10/16/01 - 10/16/01	1289302
NTC17PCSD0301	008	EK3RF1AK	4560	mg/kg	60.8	1	10/16/01 - 10/16/01	1289302
NTCFD09240103	009	EK3RN1AK	6660	mg/kg	62.0	1	10/16/01 - 10/16/01	1289302
NTC17PCSD0201	010	EK3RV1AK	3260	mg/kg	53.0	1	10/16/01 - 10/16/01	1289302
NTCFD09240104	011	EK3R01AK	3680	mg/kg	53.1	1	10/16/01 - 10/16/01	1289302
NTCPCSD0101	012	EK3R31AK	9240	mg/kg	59.0	1	10/16/01 - 10/16/01	1289302
NTCPCSD0102	013	EK3R61AV	3920	mg/kg	54.3	1	10/16/01 - 10/16/01	1289302
NTCPCSD1001	014	EK3R71AK	7670	mg/kg	65.7	1	10/16/01 - 10/16/01	1289302
NTCPCSD1002	015	EK3R91AK	10100	mg/kg	64.6	1	10/16/01 - 10/16/01	1289302
NTCPCSD0901	016	EK3TA1AK	4630	mg/kg	60.6	1	10/16/01 - 10/16/01	1289302
NTCPCSD0801	017	EK3TE1AK	4090	mg/kg	60.2	1	10/16/01 - 10/16/01	1289302
NTCPCSD0802	018	EK3TM1AK	14600	mg/kg	67.7	1	10/16/01 - 10/16/01	1289302
NTCPCSD0701	019	EK3TN1AK	7240	mg/kg	56.7	1	10/16/01 - 10/16/01	1289302
NTCPCSD0601	020	EK3TP1AK	3400	mg/kg	56.7	1	10/16/01 - 10/16/01	1289302

NTC Great Lakes, Illinois

pH

Lab Name:	STL PITTSBURGH	**Method:**	SW846 9045C
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I250290
Matrix:	SOLID	**Date/Time Received:**	9/25/01 9:30:00AM
		SDG Number:	GL009

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17PCSD3601	001	EK3QM1AD	8.2	No Units		1	9/26/01 - 9/26/01	1269279
NTC17PCSD3602	002	EK3QV1AC	8.0	No Units		1	9/26/01 - 9/26/01	1269279
NTC17PCSD3501	003	EK3Q01AM	8.0	No Units		1	9/26/01 - 9/26/01	1269279
NTC17PCSD3401	004	EK3Q31AM	7.9	No Units		1	9/26/01 - 9/26/01	1269279
NTC17PCSD0501	005	EK3Q61A8	8.0	No Units		1	9/26/01 - 9/26/01	1269279
NTC17PCSD0401	006	EK3Q71AE	8.3	No Units		1	9/26/01 - 9/26/01	1269279
NTC17PCSD0402	007	EK3Q81AM	8.0	No Units		1	9/26/01 - 9/26/01	1269279
NTC17PCSD0301	008	EK3RF1AM	7.9	No Units		1	9/26/01 - 9/26/01	1269279
NTCFD09240103	009	EK3RN1AM	8.0	No Units		1	9/26/01 - 9/26/01	1269279
NTC17PCSD0201	010	EK3RV1AM	8.3	No Units		1	9/26/01 - 9/26/01	126927[illegible]
NTCFD09240104	011	EK3R01AM	8.3	No Units		1	9/26/01 - 9/26/01	1269279
NTCPCSD0101	012	EK3R31AM	8.1	No Units		1	9/26/01 - 9/26/01	1269279
NTCPCSD0102	013	EK3R61AX	8.4	No Units		1	9/26/01 - 9/26/01	1269279
NTCPCSD1001	014	EK3R71AM	8.0	No Units		1	9/26/01 - 9/26/01	1269279
NTCPCSD1002	015	EK3R91AM	7.8	No Units		1	9/26/01 - 9/26/01	1269279
NTCPCSD0901	016	EK3TA1AM	7.9	No Units		1	9/26/01 - 9/26/01	1269279
NTCPCSD0801	017	EK3TE1AM	8.1	No Units		1	9/26/01 - 9/26/01	1269279
NTCPCSD0802	018	EK3TM1AM	7.3	No Units		1	9/26/01 - 9/26/01	1269279
NTCPCSD0701	019	EK3TN1AM	8.2	No Units		1	9/26/01 - 9/26/01	1269279
NTCPCSD0601	020	EK3TP1AM	8.4	No Units		1	9/26/01 - 9/26/01	1269279

NTC Great Lakes, Illinois

Percent Solids

Lab Name:	STL PITTSBURGH	**Method:**	MCAWW 160.3 MOD
Client Name:	TETRA TECH NUS, INC.	**Lot Number:**	C1I250290
Matrix:	SOLID	**Date/Time Received:**	9/25/01 9:30:00AM
		SDG Number:	GL009

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17PCSD3601	001	EK3QM1A8	79.5	%	1.0	1	9/26/01 -9/27/01	1269107
NTC17PCSD3602	002	EK3QV1A7	77.9	%	1.0	1	9/26/01 -9/27/01	1269107
NTC17PCSD3501	003	EK3Q01AJ	76.0	%	1.0	1	9/26/01 -9/27/01	1269107
NTC17PCSD3401	004	EK3Q31AJ	73.3	%	1.0	1	9/26/01 -9/27/01	1269107
NTC17PCSD0501	005	EK3Q61A1	81.5	%	1.0	1	9/26/01 -9/27/01	1269107
NTC17PCSD0401	006	EK3Q71A9	88.8	%	1.0	1	9/26/01 -9/27/01	1269107
NTC17PCSD0402	007	EK3Q81AJ	78.2	%	1.0	1	9/26/01 -9/27/01	1269107
NTC17PCSD0301	008	EK3RF1AJ	82.2	%	1.0	1	9/26/01 -9/27/01	1269107
NTCFD09240103	009	EK3RN1AJ	80.6	%	1.0	1	9/26/01 -9/27/01	1269107
NTC17PCSD0201	010	EK3RV1AJ	94.4	%	1.0	1	9/26/01 -9/27/01	1269107
NTCFD09240104	011	EK3R01AJ	94.2	%	1.0	1	9/26/01 -9/27/01	1269107
NTCPCSD0101	012	EK3R31AJ	84.8	%	1.0	1	9/26/01 -9/27/01	1269107
NTCPCSD0102	013	EK3R61AU	92.1	%	1.0	1	9/26/01 -9/27/01	1269107
NTCPCSD1001	014	EK3R71AJ	76.1	%	1.0	1	9/26/01 -9/27/01	1269107
NTCPCSD1002	015	EK3R91AJ	77.4	%	1.0	1	9/26/01 -9/27/01	1269107
NTCPCSD0901	016	EK3TA1AJ	82.5	%	1.0	1	9/26/01 -9/27/01	1269107
NTCPCSD0801	017	EK3TE1AJ	83.1	%	1.0	1	9/26/01 -9/27/01	1269107
NTCPCSD0802	018	EK3TM1AJ	73.9	%	1.0	1	9/26/01 -9/27/01	1269107
NTCPCSD0701	019	EK3TN1AJ	88.1	%	1.0	1	9/26/01 -9/27/01	1269107
NTCPCSD0601	020	EK3TP1AJ	88.2	%	1.0	1	9/26/01 -9/27/01	1269107

Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250224
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD1901
Lab ID	2001-270-05-01	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	201	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	562.40	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	462.40	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.28	Weight of Tare (gm)	NA
Weight of Water (gm)	100.00	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	454.12	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**22.0**	**Moisture Content (%)**	**NA**

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	454.12
Dry Weight - 3/4" Sample (gm)	392.10	Weight of minus #200 material (gm)	62.02
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	392.10
Dry Weight + 3/4" Sample (gm)	0.00		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	**Accumulated Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	0.00	0.00	0.00	100.00	**100.00**
1/2"	12.5	0.00	0.00	0.00	100.00	**100.00**
3/8"	9.50	2.02	0.44	0.44	99.56	**99.56**
#4	4.75	2.98	0.66	1.10	98.90	**98.90**
#10	2.00	13.99	3.08	4.18	95.82	**95.82**
#20	0.85	40.35	8.89	13.07	86.93	**86.93**
#40	0.425	77.68	17.11	30.17	69.83	**69.83**
#60	0.250	131.64	28.99	59.16	40.84	**40.84**
#140	0.106	110.38	24.31	83.47	16.53	**16.53**
#200	0.075	13.06	2.88	86.34	13.66	**13.66**
Pan	-	62.02	13.66	100.00	-	-

Tested By JP Date 10/8/01 Checked By RJO Date 10-12-01

DCN: CT-S3A DATE:02/06/01 REVISION: 4

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Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250224
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD1501
Lab ID	2001-270-05-02	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	1741	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	421.80	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	394.30	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.59	Weight of Tare (gm)	NA
Weight of Water (gm)	27.50	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	385.71	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**7.1**	**Moisture Content (%)**	**NA**

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	385.71
Dry Weight - 3/4" Sample (gm)	383.0	Weight of minus #200 material (gm)	2.68
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	383.03
Dry Weight + 3/4" Sample (gm)	0.00		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	**Accumulated Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	0.00	0.00	0.00	100.00	**100.00**
1/2"	12.50	0.00	0.00	0.00	100.00	**100.00**
3/8"	9.50	0.00	0.00	0.00	100.00	**100.00**
#4	4.75	8.47	2.20	2.20	97.80	**97.80**
#10	2.00	27.79	7.20	9.40	90.60	**90.60**
#20	0.850	74.75	19.38	28.78	71.22	**71.22**
#40	0.425	141.63	36.72	65.50	34.50	**34.50**
#60	0.250	112.57	29.19	94.69	5.31	**5.31**
#140	0.106	17.57	4.56	99.24	0.76	**0.76**
#200	0.075	0.25	0.06	99.31	0.69	**0.69**
Pan	-	2.68	0.69	100.00	-	-

Tested By JP Date 10/8/01 Checked By RJO Date 10-12-01

DCN: CT-S3C DATE 6-25-98 REVISION: 2

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Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250224
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD3801
Lab ID	2001-270-05-03	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	1704	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	522.80	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	423.00	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.39	Weight of Tare (gm)	NA
Weight of Water (gm)	99.80	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	414.61	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**24.1**	**Moisture Content (%)**	NA

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	414.61
Dry Weight - 3/4" Sample (gm)	364.84	Weight of minus #200 material (gm)	49.77
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	364.84
Dry Weight + 3/4" Sample (gm)	0.00		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	**Accumulated Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	0.00	0.00	0.00	100.00	**100.00**
1/2"	12.5	0.00	0.00	0.00	100.00	**100.00**
3/8"	9.50	0.00	0.00	0.00	100.00	**100.00**
#4	4.75	1.26	0.30	0.30	99.70	**99.70**
#10	2.00	3.37	0.81	1.12	98.88	**98.88**
#20	0.85	7.16	1.73	2.84	97.16	**97.16**
#40	0.425	22.26	5.37	8.21	91.79	**91.79**
#60	0.250	174.34	42.05	50.26	49.74	**49.74**
#140	0.106	144.63	34.88	85.15	14.85	**14.85**
#200	0.075	11.82	2.85	88.00	12.00	**12.00**
Pan	-	49.77	12.00	100.00	-	-

Tested By JP Date 10/8/01 Checked By RJO Date 10-12-01

DCN: CT-53A DATE:02/06/01 REVISION: 4

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Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250290
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD0301
Lab ID	2001-270-05-04	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	611	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	485.30	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	396.66	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.70	Weight of Tare (gm)	NA
Weight of Water (gm)	88.64	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	387.96	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**22.8**	**Moisture Content (%)**	**NA**

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	387.96
Dry Weight - 3/4" Sample (gm)	343.75	Weight of minus #200 material (gm)	44.21
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	343.75
Dry Weight + 3/4" Sample (gm)	0.00		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	**Accumulated Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	0.00	0.00	0.00	100.00	**100.00**
1/2"	12.5	0.00	0.00	0.00	100.00	**100.00**
3/8"	9.50	0.00	0.00	0.00	100.00	**100.00**
#4	4.75	1.05	0.27	0.27	99.73	**99.73**
#10	2.00	0.57	0.15	0.42	99.58	**99.58**
#20	0.85	3.76	0.97	1.39	98.61	**98.61**
#40	0.425	46.45	11.97	13.36	86.64	**86.64**
#60	0.250	151.47	39.04	52.40	47.60	**47.60**
#140	0.106	128.91	33.23	85.63	14.37	**14.37**
#200	0.075	11.54	2.97	88.60	11.40	**11.40**
Pan	-	44.21	11.40	100.00	-	-

Tested By JP Date 10/8/01 Checked By Jm Date 10-12-01

DCN: CT-S3A DATE:02/06/01 REVISION: 4

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544 Braddock Avenue • East Pittsburgh, PA 15112 • Phone (412) 823-7600 • Fax (412) 823-8999

Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250290
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD0102
Lab ID	2001-270-05-05	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	595	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	422.80	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	391.30	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.33	Weight of Tare (gm)	NA
Weight of Water (gm)	31.50	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	382.97	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**8.2**	**Moisture Content (%)**	**NA**

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	382.97
Dry Weight - 3/4" Sample (gm)	374.4	Weight of minus #200 material (gm)	2.49
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	380.48
Dry Weight + 3/4" Sample (gm)	6.04		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	**Accumulated Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	6.04	1.58	1.58	98.42	**98.42**
1/2"	12.50	2.07	0.54	2.12	97.88	**97.88**
3/8"	9.50	12.14	3.17	5.29	94.71	**94.71**
#4	4.75	31.41	8.20	13.49	86.51	**86.51**
#10	2.00	114.64	29.93	43.42	56.58	**56.58**
#20	0.850	129.28	33.76	77.18	22.82	**22.82**
#40	0.425	46.62	12.17	89.35	10.65	**10.65**
#60	0.250	23.84	6.23	95.58	4.42	**4.42**
#140	0.106	13.92	3.63	99.21	0.79	**0.79**
#200	0.075	0.52	0.14	99.35	0.65	**0.65**
Pan	-	2.49	0.65	100.00	-	-

Tested By JP Date 10/8/01 Checked By [illegible] Date 10-12-01

DCN: CT-S3C DATE 6-25-98 REVISION: 2

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STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248

SEVERN TRENT SERVICES
STL Burlington

Analytical Report

Severn Trent Laboratories
450 William Pitt Way

Pittsburgh, PA 15238

Attention : Veronica Bortot

Date : 10/08/01
ETR Number : 84853
Project No.: 21000
No. Samples: 1
Arrived : 09/27/01

Case:NTCGL SDG:C1I250290

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
465888	NTC17PCSD3601:09/24/01 @0832(Solid)	
AVS	Acid Volatile Sulfide	<10.3 f
IN623	Solids, Percent	77.7 c

Comments/Notes

f = mg/Kg dry weight
c = %W/W as received

< Last Page > Submitted By : STL Burlington

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

NTC17PCSD3601

Lab Name: STL BURLINGTON Contract: 21000

Lab Code: STLVT Case No.: NTCGL SAS No.: SDG No.: C1I250290

Matrix (soil/water): SOLID Lab Sample ID: 465888

Level (low/med): LOW Date Received: 09/27/01

% Solids: 77.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-43-9	Cadmium	0.12			P
7440-50-8	Copper	5.2			P
7439-92-1	Lead	11.3		E	P
7439-97-6	Mercury	0.06			CV
7440-02-0	Nickel	1.7			P
7440-66-6	Zinc	26.4		E	P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 003
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK25T1AA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:21

QC Batch: 1271536

Client Sample Id: NTC17PCSD2301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
67-64-1	Acetone	25	U
71-43-2	Benzene	6.4	U
75-27-4	Bromodichloromethane	6.4	U
75-25-2	Bromoform	6.4	U
74-83-9	Bromomethane	13	U
78-93-3	2-Butanone	25	U
75-15-0	Carbon disulfide	6.4	U
56-23-5	Carbon tetrachloride	6.4	U
108-90-7	Chlorobenzene	6.4	U
75-00-3	Chloroethane	13	U
67-66-3	Chloroform	6.4	U
74-87-3	Chloromethane	13	U
110-82-7	Cyclohexane	6.4	U
124-48-1	Dibromochloromethane	6.4	U
96-12-8	1,2-Dibromo-3-chloropropane	13	U
106-93-4	1,2-Dibromoethane	6.4	U
541-73-1	1,3-Dichlorobenzene	6.4	U
106-46-7	1,4-Dichlorobenzene	6.4	U
95-50-1	1,2-Dichlorobenzene	6.4	U
75-71-8	Dichlorodifluoromethane	13	U
75-34-3	1,1-Dichloroethane	6.4	U
107-06-2	1,2-Dichloroethane	6.4	U
75-35-4	1,1-Dichloroethene	6.4	U
156-59-2	cis-1,2-Dichloroethene	6.4	U
156-60-5	trans-1,2-Dichloroethene	6.4	U
78-87-5	1,2-Dichloropropane	6.4	U
10061-01-5	cis-1,3-Dichloropropene	6.4	U
10061-02-6	trans-1,3-Dichloropropene	6.4	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 003
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK25T1AA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:21

QC Batch: 1271536

Client Sample Id: NTC17PCSD2301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-41-4	Ethylbenzene	6.4	U
591-78-6	2-Hexanone	25	U
98-82-8	Isopropylbenzene	6.4	U
79-20-9	Methyl acetate	6.4	U
75-09-2	Methylene chloride	6.4	U
108-87-2	Methylcyclohexane	6.4	U
108-10-1	4-Methyl-2-pentanone	25	U
1634-04-4	Methyl tert-butyl ether	6.4	U
100-42-5	Styrene	6.4	U
79-34-5	1,1,2,2-Tetrachloroethane	6.4	U
120-82-1	1,2,4-Trichlorobenzene	6.4	U
127-18-4	Tetrachloroethene	6.4	U
71-55-6	1,1,1-Trichloroethane	6.4	U
79-00-5	1,1,2-Trichloroethane	6.4	U
79-01-6	Trichloroethene	6.4	U
75-69-4	Trichlorofluoromethane	13	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	6.4	U
108-88-3	Toluene	6.4	U
75-01-4	Vinyl chloride	13	U
1330-20-7	Xylenes (total)	19	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 006
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK26K1AA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:7.3

QC Batch: 1271536

Client Sample Id: NTC17PCSD2101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
67-64-1	Acetone	22	U
71-43-2	Benzene	5.4	U
75-27-4	Bromodichloromethane	5.4	U
75-25-2	Bromoform	5.4	U
74-83-9	Bromomethane	11	U
78-93-3	2-Butanone	22	U
75-15-0	Carbon disulfide	5.4	U
56-23-5	Carbon tetrachloride	5.4	U
108-90-7	Chlorobenzene	5.4	U
75-00-3	Chloroethane	11	U
67-66-3	Chloroform	5.4	U
74-87-3	Chloromethane	11	U
110-82-7	Cyclohexane	5.4	U
124-48-1	Dibromochloromethane	5.4	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
106-93-4	1,2-Dibromoethane	5.4	U
541-73-1	1,3-Dichlorobenzene	5.4	U
106-46-7	1,4-Dichlorobenzene	5.4	U
95-50-1	1,2-Dichlorobenzene	5.4	U
75-71-8	Dichlorodifluoromethane	11	U
75-34-3	1,1-Dichloroethane	5.4	U
107-06-2	1,2-Dichloroethane	5.4	U
75-35-4	1,1-Dichloroethene	5.4	U
156-59-2	cis-1,2-Dichloroethene	5.4	U
156-60-5	trans-1,2-Dichloroethene	5.4	U
78-87-5	1,2-Dichloropropane	5.4	U
10061-01-5	cis-1,3-Dichloropropene	5.4	U
10061-02-6	trans-1,3-Dichloropropene	5.4	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 006
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK26K1AA Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:7.3

QC Batch: 1271536

Client Sample Id: NTC17PCSD2101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-41-4	Ethylbenzene	5.4	U
591-78-6	2-Hexanone	22	U
98-82-8	Isopropylbenzene	5.4	U
79-20-9	Methyl acetate	5.4	U
75-09-2	Methylene chloride	5.4	U
108-87-2	Methylcyclohexane	5.4	U
108-10-1	4-Methyl-2-pentanone	22	U
1634-04-4	Methyl tert-butyl ether	5.4	U
100-42-5	Styrene	5.4	U
79-34-5	1,1,2,2-Tetrachloroethane	5.4	U
120-82-1	1,2,4-Trichlorobenzene	5.4	U
127-18-4	Tetrachloroethene	5.4	U
71-55-6	1,1,1-Trichloroethane	5.4	U
79-00-5	1,1,2-Trichloroethane	5.4	U
79-01-6	Trichloroethene	5.4	U
75-69-4	Trichlorofluoromethane	11	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	5.4	U
108-88-3	Toluene	5.4	U
75-01-4	Vinyl chloride	11	U
1330-20-7	Xylenes (total)	16	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 010
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK27A1AM Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:5.4

QC Batch: 1271536

Client Sample Id: NTC17PCSD1801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
67-64-1	Acetone	21	U
71-43-2	Benzene	5.3	U
75-27-4	Bromodichloromethane	5.3	U
75-25-2	Bromoform	5.3	U
74-83-9	Bromomethane	11	U
78-93-3	2-Butanone	21	U
75-15-0	Carbon disulfide	5.3	U
56-23-5	Carbon tetrachloride	5.3	U
108-90-7	Chlorobenzene	5.3	U
75-00-3	Chloroethane	11	U
67-66-3	Chloroform	5.3	U
74-87-3	Chloromethane	11	U
110-82-7	Cyclohexane	5.3	U
124-48-1	Dibromochloromethane	5.3	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
106-93-4	1,2-Dibromoethane	5.3	U
541-73-1	1,3-Dichlorobenzene	5.3	U
106-46-7	1,4-Dichlorobenzene	5.3	U
95-50-1	1,2-Dichlorobenzene	5.3	U
75-71-8	Dichlorodifluoromethane	11	U
75-34-3	1,1-Dichloroethane	5.3	U
107-06-2	1,2-Dichloroethane	5.3	U
75-35-4	1,1-Dichloroethene	5.3	U
156-59-2	cis-1,2-Dichloroethene	5.3	U
156-60-5	trans-1,2-Dichloroethene	5.3	U
78-87-5	1,2-Dichloropropane	5.3	U
10061-01-5	cis-1,3-Dichloropropene	5.3	U
10061-02-6	trans-1,3-Dichloropropene	5.3	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 010
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK27A1AM Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:5.4

QC Batch: 1271536

Client Sample Id: NTC17PCSD1801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-41-4	Ethylbenzene	5.3	U
591-78-6	2-Hexanone	21	U
98-82-8	Isopropylbenzene	5.3	U
79-20-9	Methyl acetate	5.3	U
75-09-2	Methylene chloride	5.3	U
108-87-2	Methylcyclohexane	5.3	U
108-10-1	4-Methyl-2-pentanone	21	U
1634-04-4	Methyl tert-butyl ether	5.3	U
100-42-5	Styrene	5.3	U
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U
120-82-1	1,2,4-Trichlorobenzene	5.3	U
127-18-4	Tetrachloroethene	5.3	U
71-55-6	1,1,1-Trichloroethane	5.3	U
79-00-5	1,1,2-Trichloroethane	5.3	U
79-01-6	Trichloroethene	5.3	U
75-69-4	Trichlorofluoromethane	11	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	5.3	U
108-88-3	Toluene	5.3	U
75-01-4	Vinyl chloride	11	U
1330-20-7	Xylenes (total)	16	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 016
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK2781AM Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:20

QC Batch: 1271536

Client Sample Id: NTC17PCSD1601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
67-64-1	Acetone	25	U
71-43-2	Benzene	6.3	U
75-27-4	Bromodichloromethane	6.3	U
75-25-2	Bromoform	6.3	U
74-83-9	Bromomethane	13	U
78-93-3	2-Butanone	25	U
75-15-0	Carbon disulfide	6.3	U
56-23-5	Carbon tetrachloride	6.3	U
108-90-7	Chlorobenzene	6.3	U
75-00-3	Chloroethane	13	U
67-66-3	Chloroform	6.3	U
74-87-3	Chloromethane	13	U
110-82-7	Cyclohexane	6.3	U
124-48-1	Dibromochloromethane	6.3	U
96-12-8	1,2-Dibromo-3-chloropropane	13	U
106-93-4	1,2-Dibromoethane	6.3	U
541-73-1	1,3-Dichlorobenzene	6.3	U
106-46-7	1,4-Dichlorobenzene	6.3	U
95-50-1	1,2-Dichlorobenzene	6.3	U
75-71-8	Dichlorodifluoromethane	13	U
75-34-3	1,1-Dichloroethane	6.3	U
107-06-2	1,2-Dichloroethane	6.3	U
75-35-4	1,1-Dichloroethene	6.3	U
156-59-2	cis-1,2-Dichloroethene	6.3	U
156-60-5	trans-1,2-Dichloroethene	6.3	U
78-87-5	1,2-Dichloropropane	6.3	U
10061-01-5	cis-1,3-Dichloropropene	6.3	U
10061-02-6	trans-1,3-Dichloropropene	6.3	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 016
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK2781AM Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:20

QC Batch: 1271536

Client Sample Id: NTC17PCSD1601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-41-4	Ethylbenzene	6.3	U
591-78-6	2-Hexanone	25	U
98-82-8	Isopropylbenzene	6.3	U
79-20-9	Methyl acetate	6.3	U
75-09-2	Methylene chloride	6.3	U
108-87-2	Methylcyclohexane	6.3	U
108-10-1	4-Methyl-2-pentanone	25	U
1634-04-4	Methyl tert-butyl ether	6.3	U
100-42-5	Styrene	6.3	U
79-34-5	1,1,2,2-Tetrachloroethane	6.3	U
120-82-1	1,2,4-Trichlorobenzene	6.3	U
127-18-4	Tetrachloroethene	6.3	U
71-55-6	1,1,1-Trichloroethane	6.3	U
79-00-5	1,1,2-Trichloroethane	6.3	U
79-01-6	Trichloroethene	6.3	U
75-69-4	Trichlorofluoromethane	13	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	6.3	U
108-88-3	Toluene	6.3	U
75-01-4	Vinyl chloride	13	U
1330-20-7	Xylenes (total)	19	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 018
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK2831A0 Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:11

QC Batch: 1271536

Client Sample Id: NTC17PCSD1401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
67-64-1	Acetone	22	U
71-43-2	Benzene	5.6	U
75-27-4	Bromodichloromethane	5.6	U
75-25-2	Bromoform	5.6	U
74-83-9	Bromomethane	11	U
78-93-3	2-Butanone	22	U
75-15-0	Carbon disulfide	5.6	U
56-23-5	Carbon tetrachloride	5.6	U
108-90-7	Chlorobenzene	5.6	U
75-00-3	Chloroethane	11	U
67-66-3	Chloroform	5.6	U
74-87-3	Chloromethane	11	U
110-82-7	Cyclohexane	5.6	U
124-48-1	Dibromochloromethane	5.6	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
106-93-4	1,2-Dibromoethane	5.6	U
541-73-1	1,3-Dichlorobenzene	5.6	U
106-46-7	1,4-Dichlorobenzene	5.6	U
95-50-1	1,2-Dichlorobenzene	5.6	U
75-71-8	Dichlorodifluoromethane	11	U
75-34-3	1,1-Dichloroethane	5.6	U
107-06-2	1,2-Dichloroethane	5.6	U
75-35-4	1,1-Dichloroethene	5.6	U
156-59-2	cis-1,2-Dichloroethene	5.6	U
156-60-5	trans-1,2-Dichloroethene	5.6	U
78-87-5	1,2-Dichloropropane	5.6	U
10061-01-5	cis-1,3-Dichloropropene	5.6	U
10061-02-6	trans-1,3-Dichloropropene	5.6	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 018
Method: SW846 8260B
Volatile Organics, GC/MS (8260B)

Sample WT/Vol: 5 / g Date Received: 09/25/01
Work Order: EK2831A0 Date Extracted:09/28/01
Dilution factor: 1 Date Analyzed: 09/28/01
Moisture %:11

QC Batch: 1271536

Client Sample Id: NTC17PCSD1401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-41-4	Ethylbenzene	5.6	U
591-78-6	2-Hexanone	22	U
98-82-8	Isopropylbenzene	5.6	U
79-20-9	Methyl acetate	5.6	U
75-09-2	Methylene chloride	5.6	U
108-87-2	Methylcyclohexane	5.6	U
108-10-1	4-Methyl-2-pentanone	22	U
1634-04-4	Methyl tert-butyl ether	5.6	U
100-42-5	Styrene	5.6	U
79-34-5	1,1,2,2-Tetrachloroethane	5.6	U
120-82-1	1,2,4-Trichlorobenzene	5.6	U
127-18-4	Tetrachloroethene	5.6	U
71-55-6	1,1,1-Trichloroethane	5.6	U
79-00-5	1,1,2-Trichloroethane	5.6	U
79-01-6	Trichloroethene	5.6	U
75-69-4	Trichlorofluoromethane	11	U
76-13-1	1,1,2-Trichloro-1,2,2-triflu	5.6	U
108-88-3	Toluene	5.6	U
75-01-4	Vinyl chloride	11	U
1330-20-7	Xylenes (total)	17	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 003
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK25T1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:21

QC Batch: 1276519

Client Sample Id: NTC17PCSD2301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
83-32-9	**Acenaphthene**	**230**	**J**
208-96-8	Acenaphthylene	420	U
98-86-2	Acetophenone	420	U
120-12-7	**Anthracene**	**440**	
1912-24-9	Atrazine	420	U
56-55-3	**Benzo(a)anthracene**	**990**	
50-32-8	**Benzo(a)pyrene**	**860**	
205-99-2	**Benzo(b)fluoranthene**	**730**	
191-24-2	**Benzo(ghi)perylene**	**670**	
207-08-9	**Benzo(k)fluoranthene**	**750**	
100-52-7	Benzaldehyde	420	U
92-52-4	1,1'-Biphenyl	420	U
111-91-1	bis(2-Chloroethoxy)methane	420	U
111-44-4	bis(2-Chloroethyl) ether	420	U
117-81-7	**bis(2-Ethylhexyl) phthalate**	**680**	
101-55-3	4-Bromophenyl phenyl ether	420	U
85-68-7	Butyl benzyl phthalate	420	U
105-60-2	Caprolactam	420	U
86-74-8	**Carbazole**	**250**	**J**
106-47-8	4-Chloroaniline	420	U
59-50-7	4-Chloro-3-methylphenol	420	U
91-58-7	2-Chloronaphthalene	420	U
95-57-8	2-Chlorophenol	420	U
7005-72-3	4-Chlorophenyl phenyl ether	420	U
218-01-9	**Chrysene**	**1000**	
53-70-3	**Dibenz(a,h)anthracene**	**250**	**J**
132-64-9	**Dibenzofuran**	**140**	**J**
91-94-1	3,3'-Dichlorobenzidine	2000	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 003
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK25T1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:21

QC Batch: 1276519

Client Sample Id: NTC17PCSD2301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
120-83-2	2,4-Dichlorophenol	420	U
84-66-2	Diethyl phthalate	420	U
105-67-9	2,4-Dimethylphenol	420	U
131-11-3	Dimethyl phthalate	420	U
84-74-2	Di-n-butyl phthalate	420	U
534-52-1	4,6-Dinitro-2-methylphenol	2000	U
51-28-5	2,4-Dinitrophenol	2000	U
121-14-2	2,4-Dinitrotoluene	420	U
606-20-2	2,6-Dinitrotoluene	420	U
117-84-0	Di-n-octyl phthalate	420	U
206-44-0	**Fluoranthene**	**2300**	
86-73-7	**Fluorene**	**230**	**J**
118-74-1	Hexachlorobenzene	420	U
87-68-3	Hexachlorobutadiene	420	U
77-47-4	Hexachlorocyclopentadiene	2000	U
67-72-1	Hexachloroethane	420	U
193-39-5	**Indeno(1,2,3-cd)pyrene**	**650**	
78-59-1	Isophorone	420	U
91-57-6	**2-Methylnaphthalene**	**93**	**J**
95-48-7	2-Methylphenol	420	U
106-44-5	4-Methylphenol	420	U
91-20-3	**Naphthalene**	**89**	**J**
88-74-4	2-Nitroaniline	2000	U
99-09-2	3-Nitroaniline	2000	U
100-01-6	4-Nitroaniline	2000	U
98-95-3	Nitrobenzene	420	U
88-75-5	2-Nitrophenol	420	U
100-02-7	4-Nitrophenol	2000	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 003
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK25T1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:21

QC Batch: 1276519

Client Sample Id: NTC17PCSD2301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
621-64-7	N-Nitrosodi-n-propylamine	420	U
86-30-6	N-Nitrosodiphenylamine	420	U
108-60-1	2,2'-oxybis(1-Chloropropane)	420	U
87-86-5	Pentachlorophenol	2000	U
85-01-8	Phenanthrene	1900	
108-95-2	Phenol	420	U
129-00-0	Pyrene	1900	
95-95-4	2,4,5-Trichlorophenol	420	U
88-06-2	2,4,6-Trichlorophenol	420	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 006
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK26K1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:7.3

QC Batch: 1276519

Client Sample Id: NTC17PCSD2101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
83-32-9	**Acenaphthene**	**67**	**J**
208-96-8	Acenaphthylene	360	U
98-86-2	Acetophenone	360	U
120-12-7	**Anthracene**	**230**	**J**
1912-24-9	Atrazine	360	U
56-55-3	**Benzo(a)anthracene**	**390**	
50-32-8	**Benzo(a)pyrene**	**360**	
205-99-2	**Benzo(b)fluoranthene**	**330**	**J**
191-24-2	**Benzo(ghi)perylene**	**180**	**J**
207-08-9	**Benzo(k)fluoranthene**	**290**	**J**
100-52-7	Benzaldehyde	360	U
92-52-4	1,1'-Biphenyl	360	U
111-91-1	bis(2-Chloroethoxy)methane	360	U
111-44-4	bis(2-Chloroethyl) ether	360	U
117-81-7	**bis(2-Ethylhexyl) phthalate**	**280**	**J**
101-55-3	4-Bromophenyl phenyl ether	360	U
85-68-7	Butyl benzyl phthalate	360	U
105-60-2	Caprolactam	360	U
86-74-8	**Carbazole**	**75**	**J**
106-47-8	4-Chloroaniline	360	U
59-50-7	4-Chloro-3-methylphenol	360	U
91-58-7	2-Chloronaphthalene	360	U
95-57-8	2-Chlorophenol	360	U
7005-72-3	4-Chlorophenyl phenyl ether	360	U
218-01-9	**Chrysene**	**410**	
53-70-3	**Dibenz(a,h)anthracene**	**59**	**J**
132-64-9	**Dibenzofuran**	**47**	**J**
91-94-1	3,3'-Dichlorobenzidine	1700	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 006
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK26K1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:7.3

QC Batch: 1276519

Client Sample Id: NTC17PCSD2101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
120-83-2	2,4-Dichlorophenol	360	U
84-66-2	Diethyl phthalate	360	U
105-67-9	2,4-Dimethylphenol	360	U
131-11-3	Dimethyl phthalate	360	U
84-74-2	Di-n-butyl phthalate	360	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
51-28-5	2,4-Dinitrophenol	1700	U
121-14-2	2,4-Dinitrotoluene	360	U
606-20-2	2,6-Dinitrotoluene	360	U
117-84-0	Di-n-octyl phthalate	360	U
206-44-0	**Fluoranthene**	**1100**	
86-73-7	**Fluorene**	**95**	J
118-74-1	Hexachlorobenzene	360	U
87-68-3	Hexachlorobutadiene	360	U
77-47-4	Hexachlorocyclopentadiene	1700	U
67-72-1	Hexachloroethane	360	U
193-39-5	**Indeno(1,2,3-cd)pyrene**	**180**	J
78-59-1	Isophorone	360	U
91-57-6	2-Methylnaphthalene	360	U
95-48-7	2-Methylphenol	360	U
106-44-5	4-Methylphenol	360	U
91-20-3	Naphthalene	360	U
88-74-4	2-Nitroaniline	1700	U
99-09-2	3-Nitroaniline	1700	U
100-01-6	4-Nitroaniline	1700	U
98-95-3	Nitrobenzene	360	U
88-75-5	2-Nitrophenol	360	U
100-02-7	4-Nitrophenol	1700	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 006
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK26K1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:7.3

QC Batch: 1276519

Client Sample Id: NTC17PCSD2101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
621-64-7	N-Nitrosodi-n-propylamine	360	U
86-30-6	N-Nitrosodiphenylamine	360	U
108-60-1	2,2'-oxybis(1-Chloropropane)	360	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	**Phenanthrene**	**880**	
108-95-2	Phenol	360	U
129-00-0	**Pyrene**	**740**	
95-95-4	2,4,5-Trichlorophenol	360	U
88-06-2	2,4,6-Trichlorophenol	360	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 010
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK27A1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:5.4

QC Batch: 1276519

Client Sample Id: NTC17PCSD1801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
83-32-9	Acenaphthene	330	J
208-96-8	Acenaphthylene	63	J
98-86-2	Acetophenone	350	U
120-12-7	Anthracene	820	
1912-24-9	Atrazine	350	U
56-55-3	Benzo(a)anthracene	1700	
50-32-8	Benzo(a)pyrene	1500	
205-99-2	Benzo(b)fluoranthene	1700	
191-24-2	Benzo(ghi)perylene	580	
207-08-9	Benzo(k)fluoranthene	1200	
100-52-7	Benzaldehyde	350	U
92-52-4	1,1'-Biphenyl	350	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
111-44-4	bis(2-Chloroethyl) ether	350	U
117-81-7	bis(2-Ethylhexyl) phthalate	520	
101-55-3	4-Bromophenyl phenyl ether	350	U
85-68-7	Butyl benzyl phthalate	37	J
105-60-2	Caprolactam	57	J
86-74-8	Carbazole	380	
106-47-8	4-Chloroaniline	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-58-7	2-Chloronaphthalene	350	U
95-57-8	2-Chlorophenol	350	U
7005-72-3	4-Chlorophenyl phenyl ether	350	U
218-01-9	Chrysene	1800	
53-70-3	Dibenz(a,h)anthracene	270	J
132-64-9	Dibenzofuran	180	J
91-94-1	3,3'-Dichlorobenzidine	1700	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 010
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK27A1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:5.4

QC Batch: 1276519

Client Sample Id: NTC17PCSD1801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
120-83-2	2,4-Dichlorophenol	350	U
84-66-2	Diethyl phthalate	350	U
105-67-9	2,4-Dimethylphenol	350	U
131-11-3	Dimethyl phthalate	350	U
84-74-2	Di-n-butyl phthalate	350	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
51-28-5	2,4-Dinitrophenol	1700	U
121-14-2	2,4-Dinitrotoluene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
117-84-0	Di-n-octyl phthalate	350	U
206-44-0	Fluoranthene	4900	E
86-73-7	Fluorene	390	
118-74-1	Hexachlorobenzene	350	U
87-68-3	Hexachlorobutadiene	350	U
77-47-4	Hexachlorocyclopentadiene	1700	U
67-72-1	Hexachloroethane	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	630	
78-59-1	Isophorone	350	U
91-57-6	2-Methylnaphthalene	55	J
95-48-7	2-Methylphenol	350	U
106-44-5	4-Methylphenol	350	U
91-20-3	Naphthalene	52	J
88-74-4	2-Nitroaniline	1700	U
99-09-2	3-Nitroaniline	1700	U
100-01-6	4-Nitroaniline	1700	U
98-95-3	Nitrobenzene	350	U
88-75-5	2-Nitrophenol	350	U
100-02-7	4-Nitrophenol	1700	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 010
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK27A1CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:5.4

QC Batch: 1276519

Client Sample Id: NTC17PCSD1801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
621-64-7	N-Nitrosodi-n-propylamine	350	U
86-30-6	N-Nitrosodiphenylamine	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	**Phenanthrene**	**3400**	**E**
108-95-2	Phenol	350	U
129-00-0	**Pyrene**	**2700**	
95-95-4	2,4,5-Trichlorophenol	350	U
88-06-2	2,4,6-Trichlorophenol	350	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 010 DL
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK27A2CA Date Extracted:10/03/01
Dilution factor: 2 Date Analyzed: 10/18/01
Moisture %:5.4

QC Batch: 1276519

Client Sample Id: NTC17PCSD1801 -RE 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
83-32-9	Acenaphthene	270	J
208-96-8	Acenaphthylene	700	U
98-86-2	Acetophenone	700	U
120-12-7	Anthracene	670	J
1912-24-9	Atrazine	700	U
56-55-3	Benzo(a)anthracene	1500	
50-32-8	Benzo(a)pyrene	1300	
205-99-2	Benzo(b)fluoranthene	1300	
191-24-2	Benzo(ghi)perylene	1100	
207-08-9	Benzo(k)fluoranthene	940	
100-52-7	Benzaldehyde	700	U
92-52-4	1,1'-Biphenyl	700	U
111-91-1	bis(2-Chloroethoxy)methane	700	U
111-44-4	bis(2-Chloroethyl) ether	700	U
117-81-7	bis(2-Ethylhexyl) phthalate	480	J
101-55-3	4-Bromophenyl phenyl ether	700	U
85-68-7	Butyl benzyl phthalate	700	U
105-60-2	Caprolactam	700	U
86-74-8	Carbazole	290	J
106-47-8	4-Chloroaniline	700	U
59-50-7	4-Chloro-3-methylphenol	700	U
91-58-7	2-Chloronaphthalene	700	U
95-57-8	2-Chlorophenol	700	U
7005-72-3	4-Chlorophenyl phenyl ether	700	U
218-01-9	Chrysene	1500	
53-70-3	Dibenz(a,h)anthracene	380	J
132-64-9	Dibenzofuran	150	J
91-94-1	3,3'-Dichlorobenzidine	3400	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 010

Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g
Work Order: EK27A2CA
Dilution factor: 2
Moisture %:5.4

Date Received: 09/25/01
Date Extracted:10/03/01
Date Analyzed: 10/18/01

QC Batch: 1276519

Client Sample Id: NTC17PCSD1801 -RE 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
120-83-2	2,4-Dichlorophenol	700	U
84-66-2	Diethyl phthalate	700	U
105-67-9	2,4-Dimethylphenol	700	U
131-11-3	Dimethyl phthalate	700	U
84-74-2	Di-n-butyl phthalate	700	U
534-52-1	4,6-Dinitro-2-methylphenol	3400	U
51-28-5	2,4-Dinitrophenol	3400	U
121-14-2	2,4-Dinitrotoluene	700	U
606-20-2	2,6-Dinitrotoluene	700	U
117-84-0	Di-n-octyl phthalate	700	U
206-44-0	**Fluoranthene**	**3600**	
86-73-7	**Fluorene**	**310**	**J**
118-74-1	Hexachlorobenzene	700	U
87-68-3	Hexachlorobutadiene	700	U
77-47-4	Hexachlorocyclopentadiene	3400	U
67-72-1	Hexachloroethane	700	U
193-39-5	**Indeno(1,2,3-cd)pyrene**	**970**	
78-59-1	Isophorone	700	U
91-57-6	2-Methylnaphthalene	700	U
95-48-7	2-Methylphenol	700	U
106-44-5	4-Methylphenol	700	U
91-20-3	Naphthalene	700	U
88-74-4	2-Nitroaniline	3400	U
99-09-2	3-Nitroaniline	3400	U
100-01-6	4-Nitroaniline	3400	U
98-95-3	Nitrobenzene	700	U
88-75-5	2-Nitrophenol	700	U
100-02-7	4-Nitrophenol	3400	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 010 JL
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK27A2CA Date Extracted:10/03/01
Dilution factor: 2 Date Analyzed: 10/18/01
Moisture %:5.4

QC Batch: 1276519

Client Sample Id: NTC17PCSD1801 -RE 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
621-64-7	N-Nitrosodi-n-propylamine	700	U
86-30-6	N-Nitrosodiphenylamine	700	U
108-60-1	2,2'-oxybis(1-Chloropropane)	700	U
87-86-5	Pentachlorophenol	3400	U
85-01-8	**Phenanthrene**	**2900**	
108-95-2	Phenol	700	U
129-00-0	**Pyrene**	**2800**	
95-95-4	2,4,5-Trichlorophenol	700	U
88-06-2	2,4,6-Trichlorophenol	700	U

FORM I

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 016
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2781CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:20

QC Batch: 1276519

Client Sample Id: NTC17PCSD1601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
83-32-9	**Acenaphthene**	**91**	**J**
208-96-8	Acenaphthylene	410	U
98-86-2	Acetophenone	410	U
120-12-7	**Anthracene**	**210**	**J**
1912-24-9	Atrazine	410	U
56-55-3	**Benzo(a)anthracene**	**560**	
50-32-8	**Benzo(a)pyrene**	**580**	
205-99-2	**Benzo(b)fluoranthene**	**610**	
191-24-2	**Benzo(ghi)perylene**	**260**	**J**
207-08-9	**Benzo(k)fluoranthene**	**560**	
100-52-7	Benzaldehyde	410	U
92-52-4	1,1'-Biphenyl	410	U
111-91-1	bis(2-Chloroethoxy)methane	410	U
111-44-4	bis(2-Chloroethyl) ether	410	U
117-81-7	**bis(2-Ethylhexyl) phthalate**	**600**	
101-55-3	4-Bromophenyl phenyl ether	410	U
85-68-7	Butyl benzyl phthalate	410	U
105-60-2	Caprolactam	410	U
86-74-8	**Carbazole**	**130**	**J**
106-47-8	4-Chloroaniline	410	U
59-50-7	4-Chloro-3-methylphenol	410	U
91-58-7	2-Chloronaphthalene	410	U
95-57-8	2-Chlorophenol	410	U
7005-72-3	4-Chlorophenyl phenyl ether	410	U
218-01-9	**Chrysene**	**680**	
53-70-3	Dibenz(a,h)anthracene	410	U
132-64-9	**Dibenzofuran**	**56**	**J**
91-94-1	3,3'-Dichlorobenzidine	2000	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 016
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2781CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:20

QC Batch: 1276519

Client Sample Id: NTC17PCSD1601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
120-83-2	2,4-Dichlorophenol	410	U
84-66-2	Diethyl phthalate	410	U
105-67-9	2,4-Dimethylphenol	410	U
131-11-3	Dimethyl phthalate	410	U
84-74-2	Di-n-butyl phthalate	410	U
534-52-1	4,6-Dinitro-2-methylphenol	2000	U
51-28-5	2,4-Dinitrophenol	2000	U
121-14-2	2,4-Dinitrotoluene	410	U
606-20-2	2,6-Dinitrotoluene	410	U
117-84-0	Di-n-octyl phthalate	410	U
206-44-0	**Fluoranthene**	**1600**	
86-73-7	**Fluorene**	**110**	**J**
118-74-1	Hexachlorobenzene	410	U
87-68-3	Hexachlorobutadiene	410	U
77-47-4	Hexachlorocyclopentadiene	2000	U
67-72-1	Hexachloroethane	410	U
193-39-5	**Indeno(1,2,3-cd)pyrene**	**280**	**J**
78-59-1	Isophorone	410	U
91-57-6	2-Methylnaphthalene	410	U
95-48-7	2-Methylphenol	410	U
106-44-5	4-Methylphenol	410	U
91-20-3	Naphthalene	410	U
88-74-4	2-Nitroaniline	2000	U
99-09-2	3-Nitroaniline	2000	U
100-01-6	4-Nitroaniline	2000	U
98-95-3	Nitrobenzene	410	U
88-75-5	2-Nitrophenol	410	U
100-02-7	4-Nitrophenol	2000	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 016
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2781CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:20

QC Batch: 1276519

Client Sample Id: NTC17PCSD1601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
621-64-7	N-Nitrosodi-n-propylamine	410	U
86-30-6	N-Nitrosodiphenylamine	410	U
108-60-1	2,2'-oxybis(1-Chloropropane)	410	U
87-86-5	Pentachlorophenol	2000	U
85-01-8	**Phenanthrene**	**1100**	
108-95-2	Phenol	410	U
129-00-0	**Pyrene**	**980**	
95-95-4	2,4,5-Trichlorophenol	410	U
88-06-2	2,4,6-Trichlorophenol	410	U

FORM I

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 018
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2831CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:11

QC Batch: 1276519

Client Sample Id: NTC17PCSD1401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
83-32-9	**Acenaphthene**	**400**	
208-96-8	**Acenaphthylene**	**71**	**J**
98-86-2	Acetophenone	370	U
120-12-7	**Anthracene**	**970**	
1912-24-9	Atrazine	370	U
56-55-3	**Benzo(a)anthracene**	**2300**	
50-32-8	**Benzo(a)pyrene**	**2300**	
205-99-2	**Benzo(b)fluoranthene**	**2300**	
191-24-2	**Benzo(ghi)perylene**	**750**	
207-08-9	**Benzo(k)fluoranthene**	**2000**	
100-52-7	Benzaldehyde	370	U
92-52-4	1,1'-Biphenyl	370	U
111-91-1	bis(2-Chloroethoxy)methane	370	U
111-44-4	bis(2-Chloroethyl) ether	370	U
117-81-7	**bis(2-Ethylhexyl) phthalate**	**620**	
101-55-3	4-Bromophenyl phenyl ether	370	U
85-68-7	Butyl benzyl phthalate	370	U
105-60-2	Caprolactam	370	U
86-74-8	**Carbazole**	**720**	
106-47-8	4-Chloroaniline	370	U
59-50-7	4-Chloro-3-methylphenol	370	U
91-58-7	2-Chloronaphthalene	370	U
95-57-8	2-Chlorophenol	370	U
7005-72-3	4-Chlorophenyl phenyl ether	370	U
218-01-9	**Chrysene**	**2600**	
53-70-3	**Dibenz(a,h)anthracene**	**320**	**J**
132-64-9	**Dibenzofuran**	**250**	**J**
91-94-1	3,3'-Dichlorobenzidine	1800	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 018
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2831CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:11

QC Batch: 1276519

Client Sample Id: NTC17PCSD1401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
120-83-2	2,4-Dichlorophenol	370	U
84-66-2	Diethyl phthalate	370	U
105-67-9	2,4-Dimethylphenol	370	U
131-11-3	Dimethyl phthalate	370	U
84-74-2	Di-n-butyl phthalate	370	U
534-52-1	4,6-Dinitro-2-methylphenol	1800	U
51-28-5	2,4-Dinitrophenol	1800	U
121-14-2	2,4-Dinitrotoluene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
117-84-0	Di-n-octyl phthalate	370	U
206-44-0	**Fluoranthene**	**6900**	**E**
86-73-7	**Fluorene**	**470**	
118-74-1	Hexachlorobenzene	370	U
87-68-3	Hexachlorobutadiene	370	U
77-47-4	Hexachlorocyclopentadiene	1800	U
67-72-1	Hexachloroethane	370	U
193-39-5	**Indeno(1,2,3-cd)pyrene**	**840**	
78-59-1	Isophorone	370	U
91-57-6	**2-Methylnaphthalene**	**64**	**J**
95-48-7	2-Methylphenol	370	U
106-44-5	4-Methylphenol	370	U
91-20-3	**Naphthalene**	**150**	**J**
88-74-4	2-Nitroaniline	1800	U
99-09-2	3-Nitroaniline	1800	U
100-01-6	4-Nitroaniline	1800	U
98-95-3	Nitrobenzene	370	U
88-75-5	2-Nitrophenol	370	U
100-02-7	4-Nitrophenol	1800	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 018
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2831CA Date Extracted:10/03/01
Dilution factor: 1 Date Analyzed: 10/18/01
Moisture %:11

QC Batch: 1276519

Client Sample Id: NTC17PCSD1401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
621-64-7	N-Nitrosodi-n-propylamine	370	U
86-30-6	N-Nitrosodiphenylamine	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	**Phenanthrene**	**4400**	**E**
108-95-2	Phenol	370	U
129-00-0	**Pyrene**	**3600**	**E**
95-95-4	2,4,5-Trichlorophenol	370	U
88-06-2	2,4,6-Trichlorophenol	370	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 018 NL
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2832CA Date Extracted:10/03/01
Dilution factor: 4 Date Analyzed: 10/19/01
Moisture %:11

QC Batch: 1276519

Client Sample Id: NTC17PCSD1401 -RE 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
83-32-9	Acenaphthene	410	J
208-96-8	Acenaphthylene	1500	U
98-86-2	Acetophenone	1500	U
120-12-7	Anthracene	970	J
1912-24-9	Atrazine	1500	U
56-55-3	Benzo(a)anthracene	2400	
50-32-8	Benzo(a)pyrene	2200	
205-99-2	Benzo(b)fluoranthene	1900	
191-24-2	Benzo(ghi)perylene	1800	
207-08-9	Benzo(k)fluoranthene	2000	
100-52-7	Benzaldehyde	1500	U
92-52-4	1,1'-Biphenyl	1500	U
111-91-1	bis(2-Chloroethoxy)methane	1500	U
111-44-4	bis(2-Chloroethyl) ether	1500	U
117-81-7	bis(2-Ethylhexyl) phthalate	690	J
101-55-3	4-Bromophenyl phenyl ether	1500	U
85-68-7	Butyl benzyl phthalate	1500	U
105-60-2	Caprolactam	1500	U
86-74-8	Carbazole	680	J
106-47-8	4-Chloroaniline	1500	U
59-50-7	4-Chloro-3-methylphenol	1500	U
91-58-7	2-Chloronaphthalene	1500	U
95-57-8	2-Chlorophenol	1500	U
7005-72-3	4-Chlorophenyl phenyl ether	1500	U
218-01-9	Chrysene	2600	
53-70-3	Dibenz(a,h)anthracene	480	J
132-64-9	Dibenzofuran	250	J
91-94-1	3,3'-Dichlorobenzidine	7200	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 018

Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g
Work Order: EK2832CA
Dilution factor: 4
Moisture %:11

Date Received: 09/25/01
Date Extracted:10/03/01
Date Analyzed: 10/19/01

QC Batch: 1276519

Client Sample Id: NTC17PCSD1401 -RE 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
120-83-2	2,4-Dichlorophenol	1500	U
84-66-2	Diethyl phthalate	1500	U
105-67-9	2,4-Dimethylphenol	1500	U
131-11-3	Dimethyl phthalate	1500	U
84-74-2	Di-n-butyl phthalate	1500	U
534-52-1	4,6-Dinitro-2-methylphenol	7200	U
51-28-5	2,4-Dinitrophenol	7200	U
121-14-2	2,4-Dinitrotoluene	1500	U
606-20-2	2,6-Dinitrotoluene	1500	U
117-84-0	Di-n-octyl phthalate	1500	U
206-44-0	**Fluoranthene**	**6500**	
86-73-7	**Fluorene**	**440**	**J**
118-74-1	Hexachlorobenzene	1500	U
87-68-3	Hexachlorobutadiene	1500	U
77-47-4	Hexachlorocyclopentadiene	7200	U
67-72-1	Hexachloroethane	1500	U
193-39-5	**Indeno(1,2,3-cd)pyrene**	**1600**	
78-59-1	Isophorone	1500	U
91-57-6	2-Methylnaphthalene	1500	U
95-48-7	2-Methylphenol	1500	U
106-44-5	4-Methylphenol	1500	U
91-20-3	**Naphthalene**	**150**	**J**
88-74-4	2-Nitroaniline	7200	U
99-09-2	3-Nitroaniline	7200	U
100-01-6	4-Nitroaniline	7200	U
98-95-3	Nitrobenzene	1500	U
88-75-5	2-Nitrophenol	1500	U
100-02-7	4-Nitrophenol	7200	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 018)L
Method: SW846 8270C
Base/Neutrals and Acids (8270C)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2832CA Date Extracted:10/03/01
Dilution factor: 4 Date Analyzed: 10/19/01
Moisture %:11

QC Batch: 1276519

Client Sample Id: NTC17PCSD1401 -RE 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
621-64-7	N-Nitrosodi-n-propylamine	1500	U
86-30-6	N-Nitrosodiphenylamine	1500	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1500	U
87-86-5	Pentachlorophenol	7200	U
85-01-8	**Phenanthrene**	**4700**	
108-95-2	Phenol	1500	U
129-00-0	**Pyrene**	**4400**	
95-95-4	2,4,5-Trichlorophenol	1500	U
88-06-2	2,4,6-Trichlorophenol	1500	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 002
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK25D1AD Date Extracted:10/01/01
Dilution factor: 10 Date Analyzed: 10/16/01
Moisture %:20

QC Batch: 1274421

Client Sample Id: NTC17PCSD2401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	21	U
319-84-6	alpha-BHC	21	U
319-85-7	beta-BHC	21	U
319-86-8	delta-BHC	21	U
58-89-9	gamma-BHC (Lindane)	21	U
5103-71-9	**alpha-Chlordane**	**1.4**	**J**
5103-74-2	gamma-Chlordane	21	U
72-54-8	**4,4'-DDD**	**78**	
72-55-9	**4,4'-DDE**	**89**	
50-29-3	**4,4'-DDT**	**93**	
60-57-1	Dieldrin	21	U
959-98-8	Endosulfan I	21	U
33213-65-9	Endosulfan II	21	U
53494-70-5	Endrin ketone	21	U
1031-07-8	Endosulfan sulfate	21	U
72-20-8	Endrin	21	U
7421-93-4	Endrin aldehyde	21	U
76-44-8	Heptachlor	21	U
1024-57-3	Heptachlor epoxide	21	U
8001-35-2	Toxaphene	830	U
72-43-5	Methoxychlor	210	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250224 003

Sample WT/Vol: 30 / g
Work Order: EK25T1AE
Dilution factor: 10
Moisture %:21

Date Received: 09/25/01
Date Extracted:10/01/01
Date Analyzed: 10/16/01

QC Batch: 1274421

Client Sample Id: NTC17PCSD2301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	22	U
319-84-6	alpha-BHC	22	U
319-85-7	beta-BHC	22	U
319-86-8	delta-BHC	22	U
58-89-9	gamma-BHC (Lindane)	22	U
5103-71-9	**alpha-Chlordane**	**2.3**	**J**
5103-74-2	gamma-Chlordane	22	U
72-54-8	**4,4'-DDD**	**89**	
72-55-9	**4,4'-DDE**	**91**	
50-29-3	**4,4'-DDT**	**81**	
60-57-1	Dieldrin	22	U
959-98-8	Endosulfan I	22	U
33213-65-9	Endosulfan II	22	U
53494-70-5	Endrin ketone	22	U
1031-07-8	Endosulfan sulfate	22	U
72-20-8	Endrin	22	U
7421-93-4	Endrin aldehyde	22	U
76-44-8	Heptachlor	22	U
1024-57-3	Heptachlor epoxide	22	U
8001-35-2	Toxaphene	850	U
72-43-5	Methoxychlor	220	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 004
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK26C1AN Date Extracted:10/01/01
Dilution factor: 5 Date Analyzed: 10/16/01
Moisture %:16

QC Batch: 1274421

Client Sample Id: NTC17PCSD2302

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	10	U
319-84-6	alpha-BHC	10	U
319-85-7	beta-BHC	10	U
319-86-8	delta-BHC	10	U
58-89-9	gamma-BHC (Lindane)	10	U
5103-71-9	**alpha-Chlordane**	**0.78**	**J**
5103-74-2	gamma-Chlordane	10	U
72-54-8	**4,4'-DDD**	**45**	
72-55-9	**4,4'-DDE**	**40**	
50-29-3	**4,4'-DDT**	**90**	
60-57-1	Dieldrin	10	U
959-98-8	Endosulfan I	10	U
33213-65-9	Endosulfan II	10	U
53494-70-5	Endrin ketone	10	U
1031-07-8	Endosulfan sulfate	10	U
72-20-8	Endrin	10	U
7421-93-4	Endrin aldehyde	10	U
76-44-8	Heptachlor	10	U
1024-57-3	Heptachlor epoxide	10	U
8001-35-2	Toxaphene	400	U
72-43-5	Methoxychlor	100	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 005
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK26D1CC Date Extracted:10/01/01
Dilution factor: 10 Date Analyzed: 10/16/01
Moisture %:14

QC Batch: 1274421

Client Sample Id: NTC17PCSD2201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	20	U
319-84-6	alpha-BHC	20	U
319-85-7	beta-BHC	20	U
319-86-8	delta-BHC	20	U
58-89-9	gamma-BHC (Lindane)	20	U
5103-71-9	**alpha-Chlordane**	**1.9**	**J**
5103-74-2	**gamma-Chlordane**	**1.7**	**J P**
72-54-8	**4,4'-DDD**	**88**	
72-55-9	**4,4'-DDE**	**90**	
50-29-3	**4,4'-DDT**	**81**	
60-57-1	Dieldrin	20	U
959-98-8	Endosulfan I	20	U
33213-65-9	Endosulfan II	20	U
53494-70-5	Endrin ketone	20	U
1031-07-8	Endosulfan sulfate	20	U
72-20-8	Endrin	20	U
7421-93-4	Endrin aldehyde	20	U
76-44-8	Heptachlor	20	U
1024-57-3	Heptachlor epoxide	20	U
8001-35-2	Toxaphene	770	U
72-43-5	Methoxychlor	200	U

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 006
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK26K1AE Date Extracted:10/01/01
Dilution factor: 5 Date Analyzed: 10/17/01
Moisture %:7.3

QC Batch: 1274421

Client Sample Id: NTC17PCSD2101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	9.2	U
319-84-6	alpha-BHC	9.2	U
319-85-7	beta-BHC	9.2	U
319-86-8	delta-BHC	9.2	U
58-89-9	gamma-BHC (Lindane)	9.2	U
5103-71-9	**alpha-Chlordane**	**1.3**	**J P**
5103-74-2	gamma-Chlordane	9.2	U
72-54-8	**4,4'-DDD**	**51**	
72-55-9	**4,4'-DDE**	**42**	
50-29-3	**4,4'-DDT**	**62**	
60-57-1	**Dieldrin**	**1.7**	**J P**
959-98-8	Endosulfan I	9.2	U
33213-65-9	**Endosulfan II**	**1.1**	**J P**
53494-70-5	Endrin ketone	9.2	U
1031-07-8	Endosulfan sulfate	9.2	U
72-20-8	Endrin	9.2	U
7421-93-4	Endrin aldehyde	9.2	U
76-44-8	Heptachlor	9.2	U
1024-57-3	Heptachlor epoxide	9.2	U
8001-35-2	Toxaphene	360	U
72-43-5	Methoxychlor	92	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250224 007

Sample WT/Vol: 30 / g
Work Order: EK2601AN
Dilution factor: 10
Moisture %:18

Date Received: 09/25/01
Date Extracted:10/01/01
Date Analyzed: 10/17/01

QC Batch: 1274421

Client Sample Id: NTC17PCSD2001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	21	U
319-84-6	alpha-BHC	21	U
319-85-7	beta-BHC	21	U
319-86-8	delta-BHC	21	U
58-89-9	gamma-BHC (Lindane)	21	U
5103-71-9	alpha-Chlordane	5.9	J
5103-74-2	gamma-Chlordane	1.9	J P
72-54-8	4,4'-DDD	50	
72-55-9	4,4'-DDE	68	
50-29-3	4,4'-DDT	65	
60-57-1	Dieldrin	21	U
959-98-8	Endosulfan I	21	U
33213-65-9	Endosulfan II	21	U
53494-70-5	Endrin ketone	21	U
1031-07-8	Endosulfan sulfate	21	U
72-20-8	Endrin	21	U
7421-93-4	Endrin aldehyde	21	U
76-44-8	Heptachlor	21	U
1024-57-3	Heptachlor epoxide	21	U
8001-35-2	Toxaphene	820	U
72-43-5	Methoxychlor	210	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 008
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2611AN Date Extracted:10/01/01
Dilution factor: 10 Date Analyzed: 10/17/01
Moisture %:10

QC Batch: 1274421

Client Sample Id: NTC17PCSD2002

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	19	U
319-84-6	alpha-BHC	19	U
319-85-7	beta-BHC	19	U
319-86-8	delta-BHC	19	U
58-89-9	gamma-BHC (Lindane)	19	U
5103-71-9	**alpha-Chlordane**	**1.3**	**J**
5103-74-2	gamma-Chlordane	19	U
72-54-8	**4,4'-DDD**	**81**	
72-55-9	**4,4'-DDE**	**68**	
50-29-3	**4,4'-DDT**	**73**	
60-57-1	Dieldrin	19	U
959-98-8	Endosulfan I	19	U
33213-65-9	Endosulfan II	19	U
53494-70-5	Endrin ketone	19	U
1031-07-8	Endosulfan sulfate	19	U
72-20-8	Endrin	19	U
7421-93-4	Endrin aldehyde	19	U
76-44-8	Heptachlor	19	U
1024-57-3	Heptachlor epoxide	19	U
8001-35-2	Toxaphene	740	U
72-43-5	Methoxychlor	190	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250224 009

Sample WT/Vol: 30 / g
Work Order: EK2671AN
Dilution factor: 20
Moisture %:19

Date Received: 09/25/01
Date Extracted:10/01/01
Date Analyzed: 10/17/01

QC Batch: 1274421

Client Sample Id: NTC17PCSD1901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	42	U
319-84-6	alpha-BHC	42	U
319-85-7	beta-BHC	42	U
319-86-8	delta-BHC	42	U
58-89-9	gamma-BHC (Lindane)	42	U
5103-71-9	**alpha-Chlordane**	**6.9**	**J**
5103-74-2	gamma-Chlordane	42	U
72-54-8	**4,4'-DDD**	**170**	
72-55-9	**4,4'-DDE**	**210**	
50-29-3	**4,4'-DDT**	**230**	
60-57-1	Dieldrin	42	U
959-98-8	Endosulfan I	42	U
33213-65-9	Endosulfan II	42	U
53494-70-5	Endrin ketone	42	U
1031-07-8	Endosulfan sulfate	42	U
72-20-8	Endrin	42	U
7421-93-4	Endrin aldehyde	42	U
76-44-8	Heptachlor	42	U
1024-57-3	Heptachlor epoxide	42	U
8001-35-2	Toxaphene	1700	U
72-43-5	Methoxychlor	420	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250224 010

Sample WT/Vol: 30 / g
Work Order: EK27A1AQ
Dilution factor: 20
Moisture %:5.4

Date Received: 09/25/01
Date Extracted:10/01/01
Date Analyzed: 10/17/01

QC Batch: 1274421

Client Sample Id: NTC17PCSD1801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	36	U
319-84-6	alpha-BHC	36	U
319-85-7	beta-BHC	36	U
319-86-8	delta-BHC	36	U
58-89-9	gamma-BHC (Lindane)	36	U
5103-71-9	alpha-Chlordane	36	U
5103-74-2	gamma-Chlordane	36	U
72-54-8	**4,4'-DDD**	**110**	
72-55-9	**4,4'-DDE**	**130**	
50-29-3	**4,4'-DDT**	**150**	
60-57-1	Dieldrin	36	U
959-98-8	Endosulfan I	36	U
33213-65-9	Endosulfan II	36	U
53494-70-5	Endrin ketone	36	U
1031-07-8	Endosulfan sulfate	36	U
72-20-8	Endrin	36	U
7421-93-4	Endrin aldehyde	36	U
76-44-8	Heptachlor	36	U
1024-57-3	Heptachlor epoxide	36	U
8001-35-2	Toxaphene	1400	U
72-43-5	Methoxychlor	360	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 011
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK27E1AN Date Extracted:10/01/01
Dilution factor: 40 Date Analyzed: 10/17/01
Moisture %:9.8

QC Batch: 1274421

Client Sample Id: NTC17PCSD1802

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	75	U
319-84-6	alpha-BHC	75	U
319-85-7	beta-BHC	75	U
319-86-8	delta-BHC	75	U
58-89-9	gamma-BHC (Lindane)	75	U
5103-71-9	**alpha-Chlordane**	**16**	**J**
5103-74-2	gamma-Chlordane	75	U
72-54-8	**4,4'-DDD**	**190**	
72-55-9	**4,4'-DDE**	**250**	
50-29-3	**4,4'-DDT**	**220**	
60-57-1	**Dieldrin**	**13**	**J P**
959-98-8	Endosulfan I	75	U
33213-65-9	Endosulfan II	75	U
53494-70-5	Endrin ketone	75	U
1031-07-8	Endosulfan sulfate	75	U
72-20-8	Endrin	75	P U
7421-93-4	Endrin aldehyde	75	U
76-44-8	Heptachlor	75	U
1024-57-3	Heptachlor epoxide	75	U
8001-35-2	Toxaphene	3000	U
72-43-5	Methoxychlor	750	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250224 012

Sample WT/Vol: 30 / g
Work Order: EK27N1AN
Dilution factor: 5
Moisture %:9.0

Date Received: 09/25/01
Date Extracted:10/01/01
Date Analyzed: 10/17/01

QC Batch: 1274421

Client Sample Id: NTC17PCSD1701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	9.3	U
319-84-6	alpha-BHC	9.3	U
319-85-7	beta-BHC	9.3	U
319-86-8	delta-BHC	9.3	U
58-89-9	gamma-BHC (Lindane)	9.3	U
5103-71-9	alpha-Chlordane	1.1	J
5103-74-2	gamma-Chlordane	0.91	J P
72-54-8	4,4'-DDD	30	
72-55-9	4,4'-DDE	46	
50-29-3	4,4'-DDT	110	
60-57-1	Dieldrin	0.97	J P
959-98-8	Endosulfan I	9.3	U
33213-65-9	Endosulfan II	1.8	J P
53494-70-5	Endrin ketone	9.3	U
1031-07-8	Endosulfan sulfate	9.3	U
72-20-8	Endrin	9.3	U
7421-93-4	Endrin aldehyde	9.3	U
76-44-8	Heptachlor	9.3	U
1024-57-3	Heptachlor epoxide	9.3	U
8001-35-2	Toxaphene	370	U
72-43-5	Methoxychlor	93	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 013
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK27V1AN Date Extracted:10/01/01
Dilution factor: 20 Date Analyzed: 10/17/01
Moisture %:10

QC Batch: 1274421

Client Sample Id: NTC17PCSD1702

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	38	U
319-84-6	alpha-BHC	38	U
319-85-7	beta-BHC	38	U
319-86-8	delta-BHC	38	U
58-89-9	gamma-BHC (Lindane)	38	U
5103-71-9	alpha-Chlordane	38	U
5103-74-2	gamma-Chlordane	38	U
72-54-8	**4,4'-DDD**	**59**	
72-55-9	**4,4'-DDE**	**150**	
50-29-3	**4,4'-DDT**	**160**	
60-57-1	Dieldrin	38	U
959-98-8	Endosulfan I	38	U
33213-65-9	Endosulfan II	38	U
53494-70-5	Endrin ketone	38	U
1031-07-8	Endosulfan sulfate	38	U
72-20-8	Endrin	38	U
7421-93-4	Endrin aldehyde	38	U
76-44-8	Heptachlor	38	U
1024-57-3	Heptachlor epoxide	38	U
8001-35-2	Toxaphene	1500	U
72-43-5	Methoxychlor	380	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 016
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2781AQ Date Extracted:10/01/01
Dilution factor: 20 Date Analyzed: 10/17/01
Moisture %:20

QC Batch: 1274421

Client Sample Id: NTC17PCSD1601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	43	U
319-84-6	alpha-BHC	43	U
319-85-7	beta-BHC	43	U
319-86-8	delta-BHC	43	U
58-89-9	gamma-BHC (Lindane)	43	U
5103-71-9	alpha-Chlordane	43	U
5103-74-2	gamma-Chlordane	43	U
72-54-8	**4,4'-DDD**	**78**	
72-55-9	**4,4'-DDE**	**130**	
50-29-3	**4,4'-DDT**	**170**	
60-57-1	Dieldrin	43	U
959-98-8	Endosulfan I	43	U
33213-65-9	Endosulfan II	43	U
53494-70-5	Endrin ketone	43	U
1031-07-8	Endosulfan sulfate	43	U
72-20-8	Endrin	43	U
7421-93-4	Endrin aldehyde	43	U
76-44-8	Heptachlor	43	U
1024-57-3	Heptachlor epoxide	43	U
8001-35-2	Toxaphene	1700	U
72-43-5	Methoxychlor	430	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 017
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK28P1A1 Date Extracted:10/01/01
Dilution factor: 10 Date Analyzed: 10/17/01
Moisture %:8.8

QC Batch: 1274421

Client Sample Id: NTC17PCSD1501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	19	U
319-84-6	alpha-BHC	19	U
319-85-7	beta-BHC	19	U
319-86-8	delta-BHC	19	U
58-89-9	gamma-BHC (Lindane)	19	U
5103-71-9	**alpha-Chlordane**	**1.7**	**J**
5103-74-2	gamma-Chlordane	19	U
72-54-8	**4,4'-DDD**	**73**	
72-55-9	**4,4'-DDE**	**68**	
50-29-3	**4,4'-DDT**	**92**	
60-57-1	Dieldrin	19	U
959-98-8	Endosulfan I	19	U
33213-65-9	Endosulfan II	19	U
53494-70-5	Endrin ketone	19	U
1031-07-8	Endosulfan sulfate	19	U
72-20-8	Endrin	19	U
7421-93-4	Endrin aldehyde	19	U
76-44-8	Heptachlor	19	U
1024-57-3	Heptachlor epoxide	19	U
8001-35-2	Toxaphene	730	U
72-43-5	Methoxychlor	190	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID
Method: SW846 8081A
Pesticides (8081A)

Lab Sample ID:C1I250224 018

Sample WT/Vol: 30 / g
Work Order: EK2831A3
Dilution factor: 20
Moisture %:11

Date Received: 09/25/01
Date Extracted:10/01/01
Date Analyzed: 10/17/01

QC Batch: 1274421

Client Sample Id: NTC17PCSD1401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	38	U
319-84-6	alpha-BHC	38	U
319-85-7	beta-BHC	38	U
319-86-8	delta-BHC	38	U
58-89-9	gamma-BHC (Lindane)	38	U
5103-71-9	alpha-Chlordane	38	U
5103-74-2	gamma-Chlordane	38	U
72-54-8	**4,4'-DDD**	**100**	
72-55-9	**4,4'-DDE**	**150**	
50-29-3	**4,4'-DDT**	**190**	
60-57-1	Dieldrin	38	U
959-98-8	Endosulfan I	38	U
33213-65-9	Endosulfan II	38	U
53494-70-5	Endrin ketone	38	U
1031-07-8	Endosulfan sulfate	38	U
72-20-8	Endrin	38	U
7421-93-4	Endrin aldehyde	38	U
76-44-8	Heptachlor	38	U
1024-57-3	Heptachlor epoxide	38	U
8001-35-2	Toxaphene	1500	U
72-43-5	Methoxychlor	380	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 019
Method: SW846 8081A
Pesticides (8081A)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK29C1AN Date Extracted:10/01/01
Dilution factor: 20 Date Analyzed: 10/17/01
Moisture %:17

QC Batch: 1274421

Client Sample Id: NTC17PCSD1402

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
309-00-2	Aldrin	41	U
319-84-6	alpha-BHC	41	U
319-85-7	beta-BHC	41	U
319-86-8	delta-BHC	41	U
58-89-9	gamma-BHC (Lindane)	41	U
5103-71-9	alpha-Chlordane	41	U
5103-74-2	gamma-Chlordane	41	U
72-54-8	**4,4'-DDD**	**180**	
72-55-9	**4,4'-DDE**	**200**	
50-29-3	**4,4'-DDT**	**190**	
60-57-1	Dieldrin	41	U
959-98-8	Endosulfan I	41	U
33213-65-9	Endosulfan II	41	U
53494-70-5	Endrin ketone	41	U
1031-07-8	Endosulfan sulfate	41	U
72-20-8	Endrin	41	U
7421-93-4	Endrin aldehyde	41	U
76-44-8	Heptachlor	41	U
1024-57-3	Heptachlor epoxide	41	U
8001-35-2	Toxaphene	1600	U
72-43-5	Methoxychlor	410	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250224 002

Sample WT/Vol: 30 / g
Work Order: EK25D1AE
Dilution factor: 1
Moisture %:20

Date Received: 09/25/01
Date Extracted:10/01/01
Date Analyzed: 10/18/01

QC Batch: 1274429

Client Sample Id: NTC17PCSD2401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	41	U
11104-28-2	Aroclor 1221	41	U
11141-16-5	Aroclor 1232	41	U
53469-21-9	Aroclor 1242	41	U
12672-29-6	Aroclor 1248	41	U
11097-69-1	Aroclor 1254	41	U
11096-82-5	Aroclor 1260	41	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250224 003

Sample WT/Vol: 30 / g
Work Order: EK25T1AF
Dilution factor: 1
Moisture %:21

Date Received: 09/25/01
Date Extracted:10/01/01
Date Analyzed: 10/18/01

QC Batch: 1274429

Client Sample Id: NTC17PCSD2301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	42	U
11104-28-2	Aroclor 1221	42	U
11141-16-5	Aroclor 1232	42	U
53469-21-9	Aroclor 1242	42	U
12672-29-6	Aroclor 1248	42	U
11097-69-1	Aroclor 1254	42	U
11096-82-5	Aroclor 1260	42	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250224 004

Sample WT/Vol: 30 / g
Work Order: EK26C1AP
Dilution factor: 1
Moisture %:16

Date Received: 09/25/01
Date Extracted:10/01/01
Date Analyzed: 10/18/01

QC Batch: 1274429

Client Sample Id: NTC17PCSD2302

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg		Q
12674-11-2	Aroclor 1016		39	U
11104-28-2	Aroclor 1221		39	U
11141-16-5	Aroclor 1232		39	U
53469-21-9	Aroclor 1242		39	U
12672-29-6	Aroclor 1248		39	U
11097-69-1	Aroclor 1254		39	U
11096-82-5	Aroclor 1260		39	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:C1I250224 005

Sample WT/Vol: 30 / g
Work Order: EK26D1CF
Dilution factor: 1
Moisture %:14

Date Received: 09/25/01
Date Extracted:10/01/01
Date Analyzed: 10/18/01

QC Batch: 1274429

Client Sample Id: NTC17PCSD2201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	38	U
11104-28-2	Aroclor 1221	38	U
11141-16-5	Aroclor 1232	38	U
53469-21-9	Aroclor 1242	38	U
12672-29-6	Aroclor 1248	38	U
11097-69-1	**Aroclor 1254**	**110**	
11096-82-5	**Aroclor 1260**	**41**	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 002
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK25D1AA Date Extracted:10/01/01
Dilution factor: 40 Date Analyzed: 10/08/01
Moisture %:20

QC Batch: 1274436

Client Sample Id: NTC17PCSD2401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	1600		U
208-96-8	Acenaphthylene	1600		U
83-32-9	Acenaphthene	1600		U
86-73-7	Fluorene	170	J	P
85-01-8	Phenanthrene	1800		
120-12-7	Anthracene	400		
206-44-0	Fluoranthene	2800		
129-00-0	Pyrene	2000		
56-55-3	Benzo(a)anthracene	930		
218-01-9	Chrysene	890		
205-99-2	Benzo(b)fluoranthene	870		
207-08-9	Benzo(k)fluoranthene	500		
50-32-8	Benzo(a)pyrene	840		
193-39-5	Indeno(1,2,3-cd)pyrene	390		P
53-70-3	Dibenzo(a,h)anthracene	330		U
191-24-2	Benzo(ghi)perylene	610		

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 003
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK25T1AC Date Extracted:10/01/01
Dilution factor: 10 Date Analyzed: 10/11/01
Moisture %:21

QC Batch: 1274436

Client Sample Id: NTC17PCSD2301

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	420	U
208-96-8	Acenaphthylene	420	U
83-32-9	Acenaphthene	420	U
86-73-7	Fluorene	76	J
85-01-8	Phenanthrene	730	
120-12-7	Anthracene	150	P
206-44-0	Fluoranthene	1300	
129-00-0	Pyrene	1000	
56-55-3	Benzo(a)anthracene	470	
218-01-9	Chrysene	450	
205-99-2	Benzo(b)fluoranthene	450	
207-08-9	Benzo(k)fluoranthene	260	
50-32-8	Benzo(a)pyrene	470	
193-39-5	Indeno(1,2,3-cd)pyrene	230	P
53-70-3	Dibenzo(a,h)anthracene	85	U
191-24-2	Benzo(ghi)perylene	85	U

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 004
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK26C1AL Date Extracted:10/01/01
Dilution factor: 20 Date Analyzed: 10/08/01
Moisture %:16

QC Batch: 1274436

Client Sample Id: NTC17PCSD2302

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	790	U
208-96-8	Acenaphthylene	790	U
83-32-9	Acenaphthene	790	U
86-73-7	Fluorene	240	
85-01-8	Phenanthrene	1900	
120-12-7	Anthracene	390	
206-44-0	Fluoranthene	2400	
129-00-0	Pyrene	1800	
56-55-3	Benzo(a)anthracene	790	
218-01-9	Chrysene	730	
205-99-2	Benzo(b)fluoranthene	730	
207-08-9	Benzo(k)fluoranthene	410	
50-32-8	Benzo(a)pyrene	770	
193-39-5	Indeno(1,2,3-cd)pyrene	300	P
53-70-3	Dibenzo(a,h)anthracene	160	U
191-24-2	Benzo(ghi)perylene	460	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 005
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK26D1A5 Date Extracted:10/01/01
Dilution factor: 20 Date Analyzed: 10/10/01
Moisture %:14

QC Batch: 1274436

Client Sample Id: NTC17PCSD2201

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	760	U
208-96-8	Acenaphthylene	71	J
83-32-9	Acenaphthene	760	U
86-73-7	Fluorene	180	
85-01-8	Phenanthrene	1600	
120-12-7	Anthracene	240	
206-44-0	Fluoranthene	2800	
129-00-0	Pyrene	2100	
56-55-3	Benzo(a)anthracene	990	
218-01-9	Chrysene	1000	
205-99-2	Benzo(b)fluoranthene	1000	
207-08-9	Benzo(k)fluoranthene	540	
50-32-8	Benzo(a)pyrene	970	
193-39-5	Indeno(1,2,3-cd)pyrene	460	P
53-70-3	Dibenzo(a,h)anthracene	150	U
191-24-2	Benzo(ghi)perylene	650	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 006
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK26K1AC Date Extracted:10/01/01
Dilution factor: 10 Date Analyzed: 10/10/01
Moisture %:7.3

QC Batch: 1274436

Client Sample Id: NTC17PCSD2101

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	360	U
208-96-8	Acenaphthylene	28	J
83-32-9	Acenaphthene	360	U
86-73-7	Fluorene	77	
85-01-8	Phenanthrene	500	
120-12-7	Anthracene	120	
206-44-0	Fluoranthene	940	
129-00-0	Pyrene	720	
56-55-3	Benzo(a)anthracene	380	
218-01-9	Chrysene	350	
205-99-2	Benzo(b)fluoranthene	340	
207-08-9	Benzo(k)fluoranthene	190	
50-32-8	Benzo(a)pyrene	330	
193-39-5	Indeno(1,2,3-cd)pyrene	140	P
53-70-3	Dibenzo(a,h)anthracene	72	U
191-24-2	Benzo(ghi)perylene	230	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 007
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2601AL Date Extracted:10/01/01
Dilution factor: 10 Date Analyzed: 10/10/01
Moisture %:18

QC Batch: 1274436

Client Sample Id: NTC17PCSD2001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	400	U
208-96-8	Acenaphthylene	40	J
83-32-9	Acenaphthene	400	U
86-73-7	Fluorene	92	
85-01-8	Phenanthrene	670	
120-12-7	Anthracene	100	
206-44-0	Fluoranthene	1200	
129-00-0	Pyrene	940	
56-55-3	Benzo(a)anthracene	450	
218-01-9	Chrysene	450	
205-99-2	Benzo(b)fluoranthene	480	
207-08-9	Benzo(k)fluoranthene	260	
50-32-8	Benzo(a)pyrene	470	
193-39-5	Indeno(1,2,3-cd)pyrene	230	P
53-70-3	Dibenzo(a,h)anthracene	82	U
191-24-2	Benzo(ghi)perylene	340	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 008
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2611AL Date Extracted:10/01/01
Dilution factor: 5 Date Analyzed: 10/10/01
Moisture %:10

QC Batch: 1274436

Client Sample Id: NTC17PCSD2002

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	180	U
208-96-8	Acenaphthylene	180	U
83-32-9	Acenaphthene	180	U
86-73-7	Fluorene	22	J
85-01-8	Phenanthrene	270	
120-12-7	Anthracene	54	
206-44-0	Fluoranthene	580	
129-00-0	Pyrene	500	
56-55-3	Benzo(a)anthracene	270	
218-01-9	Chrysene	240	
205-99-2	Benzo(b)fluoranthene	240	
207-08-9	Benzo(k)fluoranthene	140	
50-32-8	Benzo(a)pyrene	240	P
193-39-5	Indeno(1,2,3-cd)pyrene	120	P
53-70-3	Dibenzo(a,h)anthracene	37	U
191-24-2	Benzo(ghi)perylene	170	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 009
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2671AL Date Extracted:10/01/01
Dilution factor: 20 Date Analyzed: 10/08/01
Moisture %:19

QC Batch: 1274436

Client Sample Id: NTC17PCSD1901

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	820	U
208-96-8	Acenaphthylene	820	U
83-32-9	Acenaphthene	820	U
86-73-7	Fluorene	120	J P
85-01-8	Phenanthrene	1300	
120-12-7	Anthracene	290	
206-44-0	Fluoranthene	2000	
129-00-0	Pyrene	1500	
56-55-3	Benzo(a)anthracene	760	
218-01-9	Chrysene	740	
205-99-2	Benzo(b)fluoranthene	790	
207-08-9	Benzo(k)fluoranthene	440	
50-32-8	Benzo(a)pyrene	790	
193-39-5	Indeno(1,2,3-cd)pyrene	320	P
53-70-3	Dibenzo(a,h)anthracene	170	U
191-24-2	Benzo(ghi)perylene	540	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 010
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK27A1AN Date Extracted:10/01/01
Dilution factor: 20 Date Analyzed: 10/08/01
Moisture %:5.4

QC Batch: 1274436

Client Sample Id: NTC17PCSD1801

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	700	U
208-96-8	Acenaphthylene	700	U
83-32-9	Acenaphthene	700	U
86-73-7	Fluorene	110	J
85-01-8	Phenanthrene	1100	
120-12-7	Anthracene	280	
206-44-0	Fluoranthene	1700	
129-00-0	Pyrene	1300	
56-55-3	Benzo(a)anthracene	630	
218-01-9	Chrysene	590	
205-99-2	Benzo(b)fluoranthene	550	
207-08-9	Benzo(k)fluoranthene	300	
50-32-8	Benzo(a)pyrene	510	
193-39-5	Indeno(1,2,3-cd)pyrene	190	P
53-70-3	Dibenzo(a,h)anthracene	140	U
191-24-2	Benzo(ghi)perylene	320	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 011
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK27E1AL Date Extracted:10/01/01
Dilution factor: 40 Date Analyzed: 10/10/01
Moisture %:9.8

QC Batch: 1274436

Client Sample Id: NTC17PCSD1802

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	1500	U
208-96-8	Acenaphthylene	1500	U
83-32-9	Acenaphthene	1500	U
86-73-7	Fluorene	250	J
85-01-8	Phenanthrene	2200	
120-12-7	Anthracene	410	
206-44-0	Fluoranthene	3100	
129-00-0	Pyrene	2300	
56-55-3	Benzo(a)anthracene	1000	
218-01-9	Chrysene	1000	
205-99-2	Benzo(b)fluoranthene	930	
207-08-9	Benzo(k)fluoranthene	530	
50-32-8	Benzo(a)pyrene	940	
193-39-5	Indeno(1,2,3-cd)pyrene	460	
53-70-3	Dibenzo(a,h)anthracene	300	U
191-24-2	Benzo(ghi)perylene	600	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 012
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK27N1AL Date Extracted:10/01/01
Dilution factor: 20 Date Analyzed: 10/09/01
Moisture %:9.0

QC Batch: 1274436

Client Sample Id: NTC17PCSD1701

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	730	U
208-96-8	Acenaphthylene	50	J
83-32-9	Acenaphthene	730	U
86-73-7	Fluorene	40	J
85-01-8	Phenanthrene	590	
120-12-7	Anthracene	160	
206-44-0	Fluoranthene	1300	
129-00-0	Pyrene	980	
56-55-3	Benzo(a)anthracene	530	
218-01-9	Chrysene	490	
205-99-2	Benzo(b)fluoranthene	510	
207-08-9	Benzo(k)fluoranthene	270	
50-32-8	Benzo(a)pyrene	500	
193-39-5	Indeno(1,2,3-cd)pyrene	180	P
53-70-3	Dibenzo(a,h)anthracene	150	U
191-24-2	Benzo(ghi)perylene	320	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 013
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK27V1AL Date Extracted:10/01/01
Dilution factor: 10 Date Analyzed: 10/10/01
Moisture %:10

QC Batch: 1274436

Client Sample Id: NTC17PCSD1702

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	370	U
208-96-8	Acenaphthylene	370	U
83-32-9	Acenaphthene	370	U
86-73-7	Fluorene	73	J
85-01-8	Phenanthrene	610	
120-12-7	Anthracene	87	
206-44-0	Fluoranthene	900	
129-00-0	Pyrene	720	
56-55-3	Benzo(a)anthracene	340	
218-01-9	Chrysene	330	
205-99-2	Benzo(b)fluoranthene	310	
207-08-9	Benzo(k)fluoranthene	180	
50-32-8	Benzo(a)pyrene	300	
193-39-5	Indeno(1,2,3-cd)pyrene	130	P
53-70-3	Dibenzo(a,h)anthracene	75	U
191-24-2	Benzo(ghi)perylene	200	P

TETRA TECH NUS, INC.

Lab Name: Severn Trent Laboratories, Inc. SDG Number: GL010

Matrix: (soil/water) SOLID Lab Sample ID: C1I250224 016
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2781AN Date Extracted: 10/01/01
Dilution factor: 10 Date Analyzed: 10/10/01
Moisture %: 20

QC Batch: 1274436

Client Sample Id: NTC17PCSD1601

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	410	U
208-96-8	Acenaphthylene	410	U
83-32-9	Acenaphthene	410	U
86-73-7	Fluorene	65	J
85-01-8	Phenanthrene	430	
120-12-7	Anthracene	63	J
206-44-0	Fluoranthene	650	
129-00-0	Pyrene	500	
56-55-3	Benzo(a)anthracene	240	
218-01-9	Chrysene	230	
205-99-2	Benzo(b)fluoranthene	220	
207-08-9	Benzo(k)fluoranthene	130	
50-32-8	Benzo(a)pyrene	240	
193-39-5	Indeno(1,2,3-cd)pyrene	100	P
53-70-3	Dibenzo(a,h)anthracene	84	U
191-24-2	Benzo(ghi)perylene	170	

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 017
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK28P1AX Date Extracted:10/01/01
Dilution factor: 5 Date Analyzed: 10/10/01
Moisture %:8.8

QC Batch: 1274436

Client Sample Id: NTC17PCSD1501

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	180	U
208-96-8	Acenaphthylene	13	J
83-32-9	Acenaphthene	180	U
86-73-7	Fluorene	21	J p
85-01-8	Phenanthrene	210	
120-12-7	Anthracene	37	
206-44-0	Fluoranthene	380	
129-00-0	Pyrene	310	
56-55-3	Benzo(a)anthracene	150	
218-01-9	Chrysene	150	
205-99-2	Benzo(b)fluoranthene	150	
207-08-9	Benzo(k)fluoranthene	78	
50-32-8	Benzo(a)pyrene	130	
193-39-5	Indeno(1,2,3-cd)pyrene	70	
53-70-3	Dibenzo(a,h)anthracene	37	U
191-24-2	Benzo(ghi)perylene	70	p

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 018
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK2831A1 Date Extracted:10/01/01
Dilution factor: 20 Date Analyzed: 10/10/01
Moisture %:11

QC Batch: 1274436

Client Sample Id: NTC17PCSD1401

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
91-20-3	Naphthalene	740	U
208-96-8	Acenaphthylene	36	J
83-32-9	Acenaphthene	740	U
86-73-7	Fluorene	80	J
85-01-8	Phenanthrene	720	
120-12-7	Anthracene	110	J
206-44-0	Fluoranthene	1200	
129-00-0	Pyrene	930	
56-55-3	Benzo(a)anthracene	440	
218-01-9	Chrysene	430	
205-99-2	Benzo(b)fluoranthene	440	
207-08-9	Benzo(k)fluoranthene	240	
50-32-8	Benzo(a)pyrene	410	
193-39-5	Indeno(1,2,3-cd)pyrene	170	P
53-70-3	Dibenzo(a,h)anthracene	150	U
191-24-2	Benzo(ghi)perylene	260	P

TETRA TECH NUS, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:GL010

Matrix: (soil/water) SOLID Lab Sample ID:C1I250224 019
Method: SW846 8310
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g Date Received: 09/25/01
Work Order: EK29C1AL Date Extracted:10/01/01
Dilution factor: 20 Date Analyzed: 10/10/01
Moisture %:17

QC Batch: 1274436

Client Sample Id: NTC17PCSD1402

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q	
91-20-3	Naphthalene	800		U
208-96-8	Acenaphthylene	800		U
83-32-9	Acenaphthene	800		U
86-73-7	Fluorene	150	J	
85-01-8	Phenanthrene	1000		
120-12-7	Anthracene	290		
206-44-0	Fluoranthene	1300		
129-00-0	Pyrene	1000		
56-55-3	Benzo(a)anthracene	500		
218-01-9	Chrysene	430		
205-99-2	Benzo(b)fluoranthene	380		
207-08-9	Benzo(k)fluoranthene	230		
50-32-8	Benzo(a)pyrene	410		
193-39-5	Indeno(1,2,3-cd)pyrene	140	J	P
53-70-3	Dibenzo(a,h)anthracene	160		U
191-24-2	Benzo(ghi)perylene	230		P

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK25D **Client ID:** NTC17PCSD2401

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 19.62

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	**308.22**	**2.6**	**24.9**	**2130**	*	1	ICP	10/19/01	11:22
Antimony	220.35	0.30	1.2	0.30	U	1	ICPST	10/20/01	12:43
Arsenic	**189.04**	**0.40**	**1.2**	**3.7**		1	ICPST	10/20/01	12:43
Barium	**493.41**	**0.046**	**24.9**	**26.4**		1	ICP	10/19/01	11:22
Beryllium	**313.04**	**0.021**	**0.62**	**0.42**	B	1	ICP	10/19/01	11:22
Cadmium	**226.50**	**0.063**	**0.62**	**0.31**	B	1	ICPST	10/20/01	12:43
Calcium	**317.93**	**1.6**	**622**	**36600**		1	ICP	10/19/01	11:22
Chromium	**267.72**	**0.092**	**0.62**	**8.9**		1	ICPST	10/20/01	12:43
Cobalt	**228.62**	**0.36**	**6.2**	**4.0**	B	1	ICP	10/19/01	11:22
Copper	**324.75**	**0.30**	**3.1**	**151**		1	ICP	10/19/01	11:22
Iron	**259.94**	**0.61**	**124**	**8570**	E*	1	ICP	10/19/01	11:22
Lead	**220.35**	**0.31**	**0.37**	**60.3**	N	1	ICPST	10/20/01	12:43
Magnesium	**279.08**	**2.7**	**622**	**18900**	*	1	ICP	10/19/01	11:22
Manganese	**257.61**	**0.11**	**1.9**	**264**		1	ICP	10/19/01	11:22
Nickel	**231.60**	**1.3**	**5.0**	**8.1**		1	ICP	10/19/01	11:22
Potassium	**766.49**	**54.5**	**622**	**379**	B	1	ICP	10/19/01	11:22
Selenium	220.35	0.41	0.62	0.41	U	1	ICPST	10/20/01	12:43
Silver	**328.07**	**0.10**	**0.62**	**0.25**	B	1	ICPST	10/20/01	12:43
Sodium	**589**	**1.5**	**622**	**157**	B	1	ICP	10/19/01	11:22
Thallium	190.86	0.71	1.2	0.71	U	1	ICPST	10/20/01	12:43
Vanadium	**292.40**	**0.31**	**6.2**	**8.9**		1	ICP	10/19/01	11:22
Zinc	**213.86**	**0.30**	**2.5**	**376**		1	ICP	10/19/01	11:22

Comments: Lot #: C1I250224 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK25T **Client ID:** NTC17PCSD2301

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 21.48

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.7	25.5	2880	*	1	ICP	10/19/01	11:25
Antimony	220.35	0.31	1.3	0.87	B	1	ICPST	10/20/01	12:47
Arsenic	189.04	0.41	1.3	5.0		1	ICPST	10/20/01	12:47
Barium	493.41	0.047	25.5	22.8	B	1	ICP	10/19/01	11:25
Beryllium	313.04	0.022	0.64	0.36	B	1	ICP	10/19/01	11:25
Cadmium	226.50	0.065	0.64	0.35	B	1	ICPST	10/20/01	12:47
Calcium	317.93	1.7	637	39400		1	ICP	10/19/01	11:25
Chromium	267.72	0.094	0.64	11.8		1	ICPST	10/20/01	12:47
Cobalt	228.62	0.37	6.4	5.3	B	1	ICP	10/19/01	11:25
Copper	324.75	0.31	3.2	50.3		1	ICP	10/19/01	11:25
Iron	259.94	0.62	127	10400	E*	1	ICP	10/19/01	11:25
Lead	220.35	0.32	0.38	57.6	N	1	ICPST	10/20/01	12:47
Magnesium	279.08	2.7	637	20900	*	1	ICP	10/19/01	11:25
Manganese	257.61	0.11	1.9	281		1	ICP	10/19/01	11:25
Nickel	231.60	1.3	5.1	12.0		1	ICP	10/19/01	11:25
Potassium	766.49	55.8	637	506	B	1	ICP	10/19/01	11:25
Selenium	220.35	0.42	0.64	0.42	U	1	ICPST	10/20/01	12:47
Silver	328.07	0.10	0.64	0.30	B	1	ICPST	10/20/01	12:47
Sodium	589	1.5	637	186	B	1	ICP	10/19/01	11:25
Thallium	190.86	0.73	1.3	0.73	U	1	ICPST	10/20/01	12:47
Vanadium	292.40	0.32	6.4	9.9		1	ICP	10/19/01	11:25
Zinc	213.86	0.31	2.6	279		1	ICP	10/19/01	11:25

Comments: Lot #: C1I250224 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK260 **Client ID:** NTC17PCSD2001

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 18.02

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	24.4	2370	*	1	ICP	10/19/01	11:54
Antimony	220.35	0.29	1.2	0.54	B	1	ICPST	10/20/01	13:29
Arsenic	189.04	0.39	1.2	4.6		1	ICPST	10/20/01	13:29
Barium	493.41	0.045	24.4	34.4		1	ICP	10/19/01	11:54
Beryllium	313.04	0.021	0.61	0.24	B	1	ICP	10/19/01	11:54
Cadmium	226.50	0.062	0.61	0.22	B	1	ICPST	10/20/01	13:29
Calcium	317.93	1.6	610	34300		1	ICP	10/19/01	11:54
Chromium	267.72	0.090	0.61	11.7		1	ICPST	10/20/01	13:29
Cobalt	228.62	0.35	6.1	4.7	B	1	ICP	10/19/01	11:54
Copper	324.75	0.29	3.1	35.1		1	ICP	10/19/01	11:54
Iron	259.94	0.60	122	8940	E*	1	ICP	10/19/01	11:54
Lead	220.35	0.31	0.37	44.2	N	1	ICPST	10/20/01	13:29
Magnesium	279.08	2.6	610	17900	*	1	ICP	10/19/01	11:54
Manganese	257.61	0.11	1.8	243		1	ICP	10/19/01	11:54
Nickel	231.60	1.3	4.9	11.9		1	ICP	10/19/01	11:54
Potassium	766.49	53.4	610	428	B	1	ICP	10/19/01	11:54
Selenium	220.35	0.40	0.61	0.40	U	1	ICPST	10/20/01	13:29
Silver	328.07	0.098	0.61	0.12	B	1	ICPST	10/20/01	13:29
Sodium	589	1.5	610	158	B	1	ICP	10/19/01	11:54
Thallium	190.86	0.70	1.2	0.70	U	1	ICPST	10/20/01	13:29
Vanadium	292.40	0.31	6.1	11.0		1	ICP	10/19/01	11:54
Zinc	213.86	0.29	2.4	166		1	ICP	10/19/01	11:54

Comments: Lot #: C1I250224 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK261 **Client ID:** NTC17PCSD2002

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 10.02

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.3	22.2	2770	*	1	ICP	10/19/01	11:57
Antimony	220.35	0.27	1.1	0.63	B	1	ICPST	10/20/01	13:33
Arsenic	189.04	0.36	1.1	5.7		1	ICPST	10/20/01	13:33
Barium	493.41	0.041	22.2	30.6		1	ICP	10/19/01	11:57
Beryllium	313.04	0.019	0.56	0.43	B	1	ICP	10/19/01	11:57
Cadmium	226.50	0.057	0.56	0.55	B	1	ICPST	10/20/01	13:33
Calcium	317.93	2.9	1110	69800		2	ICP	10/19/01	13:15
Chromium	267.72	0.082	0.56	10.5		1	ICPST	10/20/01	13:33
Cobalt	228.62	0.32	5.6	5.1	B	1	ICP	10/19/01	11:57
Copper	324.75	0.27	2.8	120		1	ICP	10/19/01	11:57
Iron	259.94	0.55	111	12200	E*	1	ICP	10/19/01	11:57
Lead	220.35	0.28	0.33	83.6	N	1	ICPST	10/20/01	13:33
Magnesium	279.08	2.4	556	36100	*	1	ICP	10/19/01	11:57
Manganese	257.61	0.099	1.7	370		1	ICP	10/19/01	11:57
Nickel	231.60	1.2	4.5	11.2		1	ICP	10/19/01	11:57
Potassium	766.49	48.7	556	483	B	1	ICP	10/19/01	11:57
Selenium	220.35	0.37	0.56	0.37	U	1	ICPST	10/20/01	13:33
Silver	328.07	0.089	0.56	0.30	B	1	ICPST	10/20/01	13:33
Sodium	589	1.3	556	236	B	1	ICP	10/19/01	11:57
Thallium	190.86	0.63	1.1	0.82	B	1	ICPST	10/20/01	13:33
Vanadium	292.40	0.28	5.6	9.6		1	ICP	10/19/01	11:57
Zinc	213.86	0.27	2.2	560		1	ICP	10/19/01	11:57

Comments: Lot #: C1I250224 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK267 **Client ID:** NTC17PCSD1901

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 19.33

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	24.8	3010	*	1	ICP	10/19/01	12:00
Antimony	220.35	0.30	1.2	0.61	B	1	ICPST	10/20/01	13:38
Arsenic	189.04	0.40	1.2	5.4		1	ICPST	10/20/01	13:38
Barium	493.41	0.046	24.8	41.7		1	ICP	10/19/01	12:00
Beryllium	313.04	0.021	0.62	0.40	B	1	ICP	10/19/01	12:00
Cadmium	226.50	0.063	0.62	0.56	B	1	ICPST	10/20/01	13:38
Calcium	317.93	1.6	620	45300		1	ICP	10/19/01	12:00
Chromium	267.72	0.092	0.62	14.6		1	ICPST	10/20/01	13:38
Cobalt	228.62	0.36	6.2	5.4	B	1	ICP	10/19/01	12:00
Copper	324.75	0.30	3.1	118		1	ICP	10/19/01	12:00
Iron	259.94	0.61	124	10300	E*	1	ICP	10/19/01	12:00
Lead	220.35	0.31	0.37	109	N	1	ICPST	10/20/01	13:38
Magnesium	279.08	2.7	620	23100	*	1	ICP	10/19/01	12:00
Manganese	257.61	0.11	1.9	324		1	ICP	10/19/01	12:00
Nickel	231.60	1.3	5.0	15.9		1	ICP	10/19/01	12:00
Potassium	766.49	54.3	620	479	B	1	ICP	10/19/01	12:00
Selenium	220.35	0.41	0.62	0.41	U	1	ICPST	10/20/01	13:38
Silver	328.07	0.099	0.62	1.7		1	ICPST	10/20/01	13:38
Sodium	589	1.5	620	186	B	1	ICP	10/19/01	12:00
Thallium	190.86	0.71	1.2	0.81	B	1	ICPST	10/20/01	13:38
Vanadium	292.40	0.31	6.2	9.8		1	ICP	10/19/01	12:00
Zinc	213.86	0.30	2.5	377		1	ICP	10/19/01	12:00

Comments: Lot #: C1I250224 Sample #: 9

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK26C **Client ID:** NTC17PCSD2302

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 16.28

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.5	23.9	2340	*	1	ICP	10/19/01	11:28
Antimony	220.35	0.29	1.2	0.54	B	1	ICPST	10/20/01	12:52
Arsenic	189.04	0.38	1.2	7.2		1	ICPST	10/20/01	12:52
Barium	493.41	0.044	23.9	26.7		1	ICP	10/19/01	11:28
Beryllium	313.04	0.020	0.60	1.0		1	ICP	10/19/01	11:28
Cadmium	226.50	0.061	0.60	0.40	B	1	ICPST	10/20/01	12:52
Calcium	317.93	1.6	597	55600		1	ICP	10/19/01	11:28
Chromium	267.72	0.088	0.60	17.0		1	ICPST	10/20/01	12:52
Cobalt	228.62	0.35	6.0	5.1	B	1	ICP	10/19/01	11:28
Copper	324.75	0.29	3.0	167		1	ICP	10/19/01	11:28
Iron	259.94	0.59	119	14400	E*	1	ICP	10/19/01	11:28
Lead	220.35	0.30	0.36	159	N	1	ICPST	10/20/01	12:52
Magnesium	279.08	2.6	597	31000	*	1	ICP	10/19/01	11:28
Manganese	257.61	0.11	1.8	321		1	ICP	10/19/01	11:28
Nickel	231.60	1.2	4.8	13.4		1	ICP	10/19/01	11:28
Potassium	766.49	52.3	597	412	B	1	ICP	10/19/01	11:28
Selenium	220.35	0.39	0.60	0.52	B	1	ICPST	10/20/01	12:52
Silver	328.07	0.096	0.60	0.45	B	1	ICPST	10/20/01	12:52
Sodium	589	1.4	597	258	B	1	ICP	10/19/01	11:28
Thallium	190.86	0.68	1.2	0.68	U	1	ICPST	10/20/01	12:52
Vanadium	292.40	0.30	6.0	11.3		1	ICP	10/19/01	11:28
Zinc	213.86	0.29	2.4	1240		1	ICP	10/19/01	11:28

Comments: Lot #: C1I250224 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK26D **Client ID:** NTC17PCSD2201

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 13.54

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.4	23.1	2220	*	1	ICP	10/19/01	11:31
Antimony	220.35	0.28	1.2	0.48	B	1	ICPST	10/20/01	12:56
Arsenic	189.04	0.37	1.2	4.5		1	ICPST	10/20/01	12:56
Barium	493.41	0.043	23.1	32.2		1	ICP	10/19/01	11:31
Beryllium	313.04	0.020	0.58	0.60		1	ICP	10/19/01	11:31
Cadmium	226.50	0.059	0.58	0.35	B	1	ICPST	10/20/01	12:56
Calcium	317.93	1.5	578	67100		1	ICP	10/19/01	11:31
Chromium	267.72	0.086	0.58	10.1		1	ICPST	10/20/01	12:56
Cobalt	228.62	0.34	5.8	4.5	B	1	ICP	10/19/01	11:31
Copper	324.75	0.28	2.9	199		1	ICP	10/19/01	11:31
Iron	259.94	0.57	116	10400	E*	1	ICP	10/19/01	11:31
Lead	220.35	0.29	0.35	104	N	1	ICPST	10/20/01	12:56
Magnesium	279.08	2.5	578	34800	*	1	ICP	10/19/01	11:31
Manganese	257.61	0.10	1.7	361		1	ICP	10/19/01	11:31
Nickel	231.60	1.2	4.6	12.1		1	ICP	10/19/01	11:31
Potassium	766.49	50.7	578	389	B	1	ICP	10/19/01	11:31
Selenium	220.35	0.38	0.58	0.38	U	1	ICPST	10/20/01	12:56
Silver	328.07	0.093	0.58	0.51	B	1	ICPST	10/20/01	12:56
Sodium	589	1.4	578	242	B	1	ICP	10/19/01	11:31
Thallium	190.86	0.66	1.2	0.66	U	1	ICPST	10/20/01	12:56
Vanadium	292.40	0.29	5.8	7.8		1	ICP	10/19/01	11:31
Zinc	213.86	0.28	2.3	672		1	ICP	10/19/01	11:31

Comments: Lot #: C1I250224 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK26K **Client ID:** NTC17PCSD2101

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 7.32

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.3	21.6	2700	*	1	ICP	10/19/01	11:51
Antimony	220.35	0.26	1.1	0.31	B	1	ICPST	10/20/01	13:25
Arsenic	189.04	0.35	1.1	7.0		1	ICPST	10/20/01	13:25
Barium	493.41	0.040	21.6	58.3		1	ICP	10/19/01	11:51
Beryllium	313.04	0.018	0.54	0.30	B	1	ICP	10/19/01	11:51
Cadmium	226.50	0.055	0.54	0.30	B	1	ICPST	10/20/01	13:25
Calcium	317.93	2.8	1080	72600		2	ICP	10/19/01	13:12
Chromium	267.72	0.080	0.54	10.4		1	ICPST	10/20/01	13:25
Cobalt	228.62	0.31	5.4	11.3		1	ICP	10/19/01	11:51
Copper	324.75	0.26	2.7	79.6		1	ICP	10/19/01	11:51
Iron	259.94	0.53	108	12200	E*	1	ICP	10/19/01	11:51
Lead	220.35	0.27	0.32	45.5	N	1	ICPST	10/20/01	13:25
Magnesium	279.08	2.3	540	40800	*	1	ICP	10/19/01	11:51
Manganese	257.61	0.096	1.6	577		1	ICP	10/19/01	11:51
Nickel	231.60	1.1	4.3	12.6		1	ICP	10/19/01	11:51
Potassium	766.49	47.3	540	406	B	1	ICP	10/19/01	11:51
Selenium	220.35	0.36	0.54	0.36	U	1	ICPST	10/20/01	13:25
Silver	328.07	0.086	0.54	0.21	B	1	ICPST	10/20/01	13:25
Sodium	589	1.3	540	254	B	1	ICP	10/19/01	11:51
Thallium	190.86	0.62	1.1	1.3		1	ICPST	10/20/01	13:25
Vanadium	292.40	0.27	5.4	10.5		1	ICP	10/19/01	11:51
Zinc	213.86	0.26	2.2	362		1	ICP	10/19/01	11:51

Comments: Lot #: C1I250224 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK278 **Client ID:** NTC17PCSD1601

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 20.08

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.6	25.0	2720	*	1	ICP	10/19/01	12:29
Antimony	220.35	0.30	1.3	0.58	B	1	ICPST	10/20/01	14:17
Arsenic	189.04	0.40	1.3	5.8		1	ICPST	10/20/01	14:17
Barium	493.41	0.046	25.0	22.8	B	1	ICP	10/19/01	12:29
Beryllium	313.04	0.021	0.63	0.64		1	ICP	10/19/01	12:29
Cadmium	226.50	0.064	0.63	0.49	B	1	ICPST	10/20/01	14:17
Calcium	317.93	1.6	626	45700		1	ICP	10/19/01	12:29
Chromium	267.72	0.093	0.63	16.8		1	ICPST	10/20/01	14:17
Cobalt	228.62	0.36	6.3	5.6	B	1	ICP	10/19/01	12:29
Copper	324.75	0.30	3.1	141		1	ICP	10/19/01	12:29
Iron	259.94	0.61	125	13000	E*	1	ICP	10/19/01	12:29
Lead	220.35	0.31	0.38	130	N	1	ICPST	10/20/01	14:17
Magnesium	279.08	2.7	626	23500	*	1	ICP	10/19/01	12:29
Manganese	257.61	0.11	1.9	301		1	ICP	10/19/01	12:29
Nickel	231.60	1.3	5.0	18.6		1	ICP	10/19/01	12:29
Potassium	766.49	54.8	626	348	B	1	ICP	10/19/01	12:29
Selenium	220.35	0.41	0.63	6.6		1	ICPST	10/20/01	14:17
Silver	328.07	0.10	0.63	0.50	B	1	ICPST	10/20/01	14:17
Sodium	589	1.5	626	311	B	1	ICP	10/19/01	12:29
Thallium	190.86	0.71	1.3	0.92	B	1	ICPST	10/20/01	14:17
Vanadium	292.40	0.31	6.3	12.1		1	ICP	10/19/01	12:29
Zinc	213.86	0.30	2.5	797		1	ICP	10/19/01	12:29

Comments: Lot #: C1I250224 Sample #: 16

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK27A **Client ID:** NTC17PCSD1801

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 5.36

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.2	21.1	3010	*	1	ICP	10/19/01	12:04
Antimony	220.35	0.25	1.1	0.36	B	1	ICPST	10/20/01	13:42
Arsenic	189.04	0.34	1.1	5.7		1	ICPST	10/20/01	13:42
Barium	493.41	0.039	21.1	30.3		1	ICP	10/19/01	12:04
Beryllium	313.04	0.018	0.53	1.1		1	ICP	10/19/01	12:04
Cadmium	226.50	0.054	0.53	0.50	B	1	ICPST	10/20/01	13:42
Calcium	317.93	2.8	1060	66300		2	ICP	10/19/01	13:18
Chromium	267.72	0.078	0.53	17.1		1	ICPST	10/20/01	13:42
Cobalt	228.62	0.31	5.3	5.7		1	ICP	10/19/01	12:04
Copper	324.75	0.25	2.6	194		1	ICP	10/19/01	12:04
Iron	259.94	0.52	106	12500	E*	1	ICP	10/19/01	12:04
Lead	220.35	0.26	0.32	162	N	1	ICPST	10/20/01	13:42
Magnesium	279.08	2.3	528	35500	*	1	ICP	10/19/01	12:04
Manganese	257.61	0.094	1.6	393		1	ICP	10/19/01	12:04
Nickel	231.60	1.1	4.2	15.2		1	ICP	10/19/01	12:04
Potassium	766.49	46.3	528	458	B	1	ICP	10/19/01	12:04
Selenium	220.35	0.35	0.53	0.35	U	1	ICPST	10/20/01	13:42
Silver	328.07	0.085	0.53	0.55		1	ICPST	10/20/01	13:42
Sodium	589	1.3	528	294	B	1	ICP	10/19/01	12:04
Thallium	190.86	0.60	1.1	1.6		1	ICPST	10/20/01	13:42
Vanadium	292.40	0.26	5.3	10.3		1	ICP	10/19/01	12:04
Zinc	213.86	0.25	2.1	1290		1	ICP	10/19/01	12:04

Comments: Lot #: C1I250224 Sample #: 10

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK27E **Client ID:** NTC17PCSD1802

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 9.85

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.3	22.2	3540	*	1	ICP	10/19/01	12:07
Antimony	220.35	0.27	1.1	0.29	B	1	ICPST	10/20/01	13:47
Arsenic	189.04	0.36	1.1	7.2		1	ICPST	10/20/01	13:47
Barium	493.41	0.041	22.2	58.8		1	ICP	10/19/01	12:07
Beryllium	313.04	0.019	0.56	0.84		1	ICP	10/19/01	12:07
Cadmium	226.50	0.057	0.56	0.62		1	ICPST	10/20/01	13:47
Calcium	317.93	1.5	555	56400		1	ICP	10/19/01	12:07
Chromium	267.72	0.082	0.56	16.2		1	ICPST	10/20/01	13:47
Cobalt	228.62	0.32	5.6	6.6		1	ICP	10/19/01	12:07
Copper	324.75	0.27	2.8	139		1	ICP	10/19/01	12:07
Iron	259.94	0.54	111	16300	E*	1	ICP	10/19/01	12:07
Lead	220.35	0.28	0.33	110	N	1	ICPST	10/20/01	13:47
Magnesium	279.08	2.4	555	28600	*	1	ICP	10/19/01	12:07
Manganese	257.61	0.099	1.7	346		1	ICP	10/19/01	12:07
Nickel	231.60	1.2	4.4	17.9		1	ICP	10/19/01	12:07
Potassium	766.49	48.6	555	559		1	ICP	10/19/01	12:07
Selenium	220.35	0.37	0.56	0.37	U	1	ICPST	10/20/01	13:47
Silver	328.07	0.089	0.56	0.65		1	ICPST	10/20/01	13:47
Sodium	589	1.3	555	274	B	1	ICP	10/19/01	12:07
Thallium	190.86	0.63	1.1	1.1		1	ICPST	10/20/01	13:47
Vanadium	292.40	0.28	5.6	12.5		1	ICP	10/19/01	12:07
Zinc	213.86	0.27	2.2	821		1	ICP	10/19/01	12:07

Comments: Lot #: C1I250224 Sample #: 11

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK27N **Client ID:** NTC17PCSD1701

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 9.02

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.3	22.0	1990	*	1	ICP	10/19/01	12:10
Antimony	220.35	0.26	1.1	0.45	B	1	ICPST	10/20/01	13:51
Arsenic	189.04	0.35	1.1	5.2		1	ICPST	10/20/01	13:51
Barium	493.41	0.041	22.0	17.2	B	1	ICP	10/19/01	12:10
Beryllium	313.04	0.019	0.55	0.87		1	ICP	10/19/01	12:10
Cadmium	226.50	0.056	0.55	0.43	B	1	ICPST	10/20/01	13:51
Calcium	317.93	2.9	1100	79100		2	ICP	10/19/01	13:21
Chromium	267.72	0.081	0.55	8.4		1	ICPST	10/20/01	13:51
Cobalt	228.62	0.32	5.5	4.1	B	1	ICP	10/19/01	12:10
Copper	324.75	0.26	2.8	206		1	ICP	10/19/01	12:10
Iron	259.94	0.54	110	11100	E*	1	ICP	10/19/01	12:10
Lead	220.35	0.28	0.33	135	N	1	ICPST	10/20/01	13:51
Magnesium	279.08	2.4	550	44500	*	1	ICP	10/19/01	12:10
Manganese	257.61	0.098	1.7	539		1	ICP	10/19/01	12:10
Nickel	231.60	1.1	4.4	11.9		1	ICP	10/19/01	12:10
Potassium	766.49	48.1	550	293	B	1	ICP	10/19/01	12:10
Selenium	220.35	0.36	0.55	0.36	U	1	ICPST	10/20/01	13:51
Silver	328.07	0.088	0.55	0.36	B	1	ICPST	10/20/01	13:51
Sodium	589	1.3	550	328	B	1	ICP	10/19/01	12:10
Thallium	190.86	0.63	1.1	0.76	B	1	ICPST	10/20/01	13:51
Vanadium	292.40	0.28	5.5	7.3		1	ICP	10/19/01	12:10
Zinc	213.86	0.26	2.2	1210		1	ICP	10/19/01	12:10

Comments: Lot #: C1I250224 Sample #: 12

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK27V **Client ID:** NTC17PCSD1702

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 10.18

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.4	22.3	2520	*	1	ICP	10/19/01	12:19
Antimony	220.35	0.27	1.1	0.27	U	1	ICPST	10/20/01	13:55
Arsenic	189.04	0.36	1.1	5.1		1	ICPST	10/20/01	13:55
Barium	493.41	0.041	22.3	15.7	B	1	ICP	10/19/01	12:19
Beryllium	313.04	0.019	0.56	0.81		1	ICP	10/19/01	12:19
Cadmium	226.50	0.057	0.56	0.35	B	1	ICPST	10/20/01	13:55
Calcium	317.93	2.9	1110	99700		2	ICP	10/19/01	13:24
Chromium	267.72	0.082	0.56	10.0		1	ICPST	10/20/01	13:55
Cobalt	228.62	0.32	5.6	4.3	B	1	ICP	10/19/01	12:19
Copper	324.75	0.27	2.8	138		1	ICP	10/19/01	12:19
Iron	259.94	0.55	111	10400	E*	1	ICP	10/19/01	12:19
Lead	220.35	0.28	0.33	77.1	N	1	ICPST	10/20/01	13:55
Magnesium	279.08	2.4	557	57500	*	1	ICP	10/19/01	12:19
Manganese	257.61	0.099	1.7	291		1	ICP	10/19/01	12:19
Nickel	231.60	1.2	4.5	15.2		1	ICP	10/19/01	12:19
Potassium	766.49	48.8	557	346	B	1	ICP	10/19/01	12:19
Selenium	220.35	0.37	0.56	0.37	U	1	ICPST	10/20/01	13:55
Silver	328.07	0.089	0.56	0.15	B	1	ICPST	10/20/01	13:55
Sodium	589	1.3	557	278	B	1	ICP	10/19/01	12:19
Thallium	190.86	0.64	1.1	1.4		1	ICPST	10/20/01	13:55
Vanadium	292.40	0.28	5.6	11.6		1	ICP	10/19/01	12:19
Zinc	213.86	0.27	2.2	799		1	ICP	10/19/01	12:19

Comments: Lot #: C1I250224 Sample #: 13

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK283 **Client ID:** NTC17PCSD1401

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 10.76

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.4	22.4	2790	*	1	ICP	10/19/01	12:35
Antimony	220.35	0.27	1.1	0.60	B	1	ICPST	10/20/01	14:26
Arsenic	189.04	0.36	1.1	5.9		1	ICPST	10/20/01	14:26
Barium	493.41	0.042	22.4	24.3		1	ICP	10/19/01	12:35
Beryllium	313.04	0.019	0.56	0.81		1	ICP	10/19/01	12:35
Cadmium	226.50	0.057	0.56	0.64		1	ICPST	10/20/01	14:26
Calcium	317.93	1.5	560	65600		1	ICP	10/19/01	12:35
Chromium	267.72	0.083	0.56	13.4		1	ICPST	10/20/01	14:26
Cobalt	228.62	0.33	5.6	5.2	B	1	ICP	10/19/01	12:35
Copper	324.75	0.27	2.8	123		1	ICP	10/19/01	12:35
Iron	259.94	0.55	112	11700	E*	1	ICP	10/19/01	12:35
Lead	220.35	0.28	0.34	108	N	1	ICPST	10/20/01	14:26
Magnesium	279.08	2.4	560	32600	*	1	ICP	10/19/01	12:35
Manganese	257.61	0.10	1.7	404		1	ICP	10/19/01	12:35
Nickel	231.60	1.2	4.5	17.7		1	ICP	10/19/01	12:35
Potassium	766.49	49.1	560	417	B	1	ICP	10/19/01	12:35
Selenium	220.35	0.37	0.56	0.37	U	1	ICPST	10/20/01	14:26
Silver	328.07	0.090	0.56	1.4		1	ICPST	10/20/01	14:26
Sodium	589	1.3	560	313	B	1	ICP	10/19/01	12:35
Thallium	190.86	0.64	1.1	0.64	U	1	ICPST	10/20/01	14:26
Vanadium	292.40	0.28	5.6	9.0		1	ICP	10/19/01	12:35
Zinc	213.86	0.27	2.2	810		1	ICP	10/19/01	12:35

Comments: Lot #: C1I250224 Sample #: 18

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK28P **Client ID:** NTC17PCSD1501

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 8.76

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.3	21.9	2350	*	1	ICP	10/19/01	12:32
Antimony	220.35	0.26	1.1	0.62	B	1	ICPST	10/20/01	14:22
Arsenic	189.04	0.35	1.1	5.6		1	ICPST	10/20/01	14:22
Barium	493.41	0.041	21.9	18.6	B	1	ICP	10/19/01	12:32
Beryllium	313.04	0.019	0.55	1.4		1	ICP	10/19/01	12:32
Cadmium	226.50	0.056	0.55	4.2		1	ICPST	10/20/01	14:22
Calcium	317.93	2.9	1100	72200		2	ICP	10/19/01	13:27
Chromium	267.72	0.081	0.55	26.2		1	ICPST	10/20/01	14:22
Cobalt	228.62	0.32	5.5	5.1	B	1	ICP	10/19/01	12:32
Copper	324.75	0.26	2.7	189		1	ICP	10/19/01	12:32
Iron	259.94	0.54	110	14400	E*	1	ICP	10/19/01	12:32
Lead	220.35	0.27	0.33	106	N	1	ICPST	10/20/01	14:22
Magnesium	279.08	2.4	548	35700	*	1	ICP	10/19/01	12:32
Manganese	257.61	0.098	1.6	343		1	ICP	10/19/01	12:32
Nickel	231.60	1.1	4.4	23.0		1	ICP	10/19/01	12:32
Potassium	766.49	48.0	548	324	B	1	ICP	10/19/01	12:32
Selenium	220.35	0.36	0.55	0.36	U	1	ICPST	10/20/01	14:22
Silver	328.07	0.088	0.55	0.28	B	1	ICPST	10/20/01	14:22
Sodium	589	1.3	548	658		1	ICP	10/19/01	12:32
Thallium	190.86	0.63	1.1	0.92	B	1	ICPST	10/20/01	14:22
Vanadium	292.40	0.27	5.5	17.0		1	ICP	10/19/01	12:32
Zinc	213.86	0.26	2.2	2120		1	ICP	10/19/01	12:32

Comments: Lot #: C1I250224 Sample #: 17

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK29C **Client ID:** NTC17PCSD1402

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/4/01 **Prep Batch:** 1277132

Weight: 1.00 **Volume:** 100 **Percent Moisture:** 17.06

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Aluminum	308.22	2.5	24.1	6300	*	1	ICP	10/19/01	12:38
Antimony	220.35	0.29	1.2	0.78	B	1	ICPST	10/20/01	14:31
Arsenic	189.04	0.39	1.2	19.1		1	ICPST	10/20/01	14:31
Barium	493.41	0.045	24.1	38.8		1	ICP	10/19/01	12:38
Beryllium	313.04	0.021	0.60	1.9		1	ICP	10/19/01	12:38
Cadmium	226.50	0.062	0.60	0.79		1	ICPST	10/20/01	14:31
Calcium	317.93	1.6	603	67500		1	ICP	10/19/01	12:38
Chromium	267.72	0.089	0.60	14.2		1	ICPST	10/20/01	14:31
Cobalt	228.62	0.35	6.0	9.7		1	ICP	10/19/01	12:38
Copper	324.75	0.29	3.0	268		1	ICP	10/19/01	12:38
Iron	259.94	0.59	121	30300	E*	1	ICP	10/19/01	12:38
Lead	220.35	0.30	0.36	177	N	1	ICPST	10/20/01	14:31
Magnesium	279.08	2.6	603	35600	*	1	ICP	10/19/01	12:38
Manganese	257.61	0.11	1.8	492		1	ICP	10/19/01	12:38
Nickel	231.60	1.3	4.8	28.5		1	ICP	10/19/01	12:38
Potassium	766.49	52.8	603	1270		1	ICP	10/19/01	12:38
Selenium	220.35	0.40	0.60	1.3		1	ICPST	10/20/01	14:31
Silver	328.07	0.097	0.60	0.21	B	1	ICPST	10/20/01	14:31
Sodium	589	1.4	603	2330		1	ICP	10/19/01	12:38
Thallium	190.86	0.69	1.2	2.5		1	ICPST	10/20/01	14:31
Vanadium	292.40	0.30	6.0	14.9		1	ICP	10/19/01	12:38
Zinc	213.86	0.29	2.4	2180		1	ICP	10/19/01	12:38

Comments: Lot #: C1I250224 Sample #: 19

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK25D **Client ID:** NTC17PCSD2401

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 19.62

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0098	0.042	0.091		1	CVAA	10/15/01	3:41

Comments: Lot #: C1I250224 Sample #: 2

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK25T **Client ID:** NTC17PCSD2301

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 21.48

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.010	0.043	0.091		1	CVAA	10/15/01	3:43

Comments: Lot #: C1I250224 Sample #: 3

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK260 **Client ID:** NTC17PCSD2001

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 18.02

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0096	0.041	0.040	B	1	CVAA	10/15/01	3:55

Comments: Lot #: C1I250224 Sample #: 7

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK261 **Client ID:** NTC17PCSD2002

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.02

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0087	0.037	0.10		1	CVAA	10/15/01	3:56

Comments: Lot #: C1I250224 Sample #: 8

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK267 **Client ID:** NTC17PCSD1901

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 19.33

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0097	0.041	0.61		1	CVAA	10/15/01	3:58

Comments: Lot #: C1I250224 Sample #: 9

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK26C **Client ID:** NTC17PCSD2302

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 16.28

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0094	0.040	0.15		1	CVAA	10/15/01	3:47

Comments: Lot #: C1I250224 Sample #: 4

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK26D **Client ID:** NTC17PCSD2201

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 13.54

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0091	0.039	0.090		1	CVAA	10/15/01	3:49

Comments: Lot #: C1I250224 Sample #: 5

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK26K **Client ID:** NTC17PCSD2101

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 7.32

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0085	0.036	0.058		1	CVAA	10/15/01	3:53

Comments: Lot #: C1I250224 Sample #: 6

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK278 **Client ID:** NTC17PCSD1601

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 20.08

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0098	0.042	0.12		1	CVAA	10/15/01	4:11

Comments: Lot #: C1I250224 Sample #: 16

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK27A **Client ID:** NTC17PCSD1801

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 5.36

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0083	0.035	0.12		1	CVAA	10/15/01	4:00

Comments: Lot #: C1I250224 Sample #: 10

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK27E **Client ID:** NTC17PCSD1802

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 9.85

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0087	0.037	0.098		1	CVAA	10/15/01	4:01

Comments: Lot #: C1I250224 Sample #: 11

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK27N **Client ID:** NTC17PCSD1701

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 9.02

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0086	0.037	0.078		1	CVAA	10/15/01	4:05

Comments: Lot #: C1I250224 Sample #: 12

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK27V **Client ID:** NTC17PCSD1702

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.18

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0087	0.037	0.10		1	CVAA	10/15/01	4:07

Comments: Lot #: C1I250224 Sample #: 13

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK283 **Client ID:** NTC17PCSD1401

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 10.76

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.044	0.19	4.7		5	CVAA	10/15/01	5:02

Comments: Lot #: C1I250224 Sample #: 18

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK28P **Client ID:** NTC17PCSD1501

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 8.76

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0086	0.037	0.16		1	CVAA	10/15/01	4:13

Comments: Lot #: C1I250224 Sample #: 17

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form 1 Equivalent

STL-Pittsburgh

Metals Data Reporting Form

Sample Results

Lab Sample ID: EK29C **Client ID:** NTC17PCSD1402

Matrix: Soil **Units:** mg/kg **Prep Date:** 10/15/01 **Prep Batch:** 1287147

Weight: 0.60 **Volume:** 100 **Percent Moisture:** 17.06

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Mercury	253.7	0.0094	0.040	0.10		1	CVAA	10/15/01	4:16

Comments: Lot #: C1I250224 Sample #: 19

Version 4.10.2

U Result is less than the IDL

B Result is between IDL and RL

Form I Equivalent

NTC Great Lakes, Illinois

Total Organic Carbon

Lab Name:	STL PITTSBURGH	**Method:**	MSA WALKLEY-B
Client Name:	TETRA TECH NUS INC	**Lot Number:**	C1I250224
Matrix:	SOLID	**Date/Time Received:**	9/25/01 9:30:00AM
		SDG Number:	GL010

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17PCSD2401	002	EK25D1A8	4330	mg/kg	62.2	1	10/1/01 - 10/1/01	1274351
NTC17PCSD2301	003	EK25T1A9	3660	mg/kg	63.7	1	10/1/01 - 10/1/01	1274351
NTC17PCSD2302	004	EK26C1AK	3120	mg/kg	59.7	1	10/1/01 - 10/1/01	1274351
NTC17PCSD2201	005	EK26D1A2	2150	mg/kg	57.8	1	10/1/01 - 10/1/01	1274351
NTC17PCSD2101	006	EK26K1A9	1560	mg/kg	53.9	1	10/1/01 - 10/1/01	1274351
NTC17PCSD2001	007	EK2601AK	3590	mg/kg	61.0	1	10/1/01 - 10/1/01	1274351
NTC17PCSD2002	008	EK2611AK	4540	mg/kg	55.6	1	10/1/01 - 10/1/01	1274351
NTC17PCSD1901	009	EK2671AK	3140	mg/kg	62.0	1	10/1/01 - 10/1/01	1274351
NTC17PCSD1801	010	EK27A1AL	2890	mg/kg	52.8	1	10/1/01 - 10/1/01	1274351
NTC17PCSD1802	011	EK27E1AK	4910	mg/kg	55.5	1	10/1/01 - 10/1/01	1274351
NTC17PCSD1701	012	EK27N1AK	4510	mg/kg	55.0	1	10/1/01 - 10/1/01	1274351
NTC17PCSD1702	013	EK27V1AK	3030	mg/kg	55.7	1	10/1/01 - 10/1/01	1274351
NTCFD09220101	014	EK2711AK	2650	mg/kg	56.9	1	10/1/01 - 10/1/01	1274351
NTCFD09220102	015	EK2741AK	4680	mg/kg	61.3	1	10/1/01 - 10/1/01	1274351
NTC17PCSD1601	016	EK2781AL	2070	mg/kg	62.6	1	10/1/01 - 10/1/01	1274351
NTC17PCSD1501	017	EK28P1AW	1000	mg/kg	54.8	1	10/1/01 - 10/1/01	1274351
NTC17PCSD1401	018	EK2831AX	2930	mg/kg	56.0	1	10/1/01 - 10/1/01	1274351
NTC17PCSD1402	019	EK29C1AK	3300	mg/kg	60.3	1	10/1/01 - 10/1/01	1274351

NTC Great Lakes, Illinois

pH

Lab Name:	STL PITTSBURGH	**Method:**	SW846 9045C
Client Name:	TETRA TECH NUS INC	**Lot Number:**	C1I250224
Matrix:	SOLID	**Date/Time Received:**	9/25/01 9:30:00AM
		SDG Number:	GL010

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTC17PCSD2401	002	EK25D1AC	8.1	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD2301	003	EK25T1AD	8.0	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD2302	004	EK26C1AM	8.4	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD2201	005	EK26D1A8	8.3	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD2101	006	EK26K1AD	8.4	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD2001	007	EK2601AM	8.2	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD2002	008	EK2611AM	8.2	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD1901	009	EK2671AM	8.2	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD1801	010	EK27A1AP	8.3	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD1802	011	EK27E1AM	8.2	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD1701	012	EK27N1AM	8.4	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD1702	013	EK27V1AM	8.3	No Units		1	9/26/01 -9/26/01	1269276
NTCFD09220101	014	EK2711AM	8.4	No Units		1	9/26/01 -9/26/01	1269276
NTCFD09220102	015	EK2741AM	8.2	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD1601	016	EK2781AP	8.0	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD1501	017	EK28P1A0	8.4	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD1401	018	EK2831A2	8.3	No Units		1	9/26/01 -9/26/01	1269276
NTC17PCSD1402	019	EK29C1AM	8.4	No Units		1	9/26/01 -9/26/01	1269276

NTC Great Lakes, Illinois

Percent Solids

Lab Name: STL PITTSBURGH
Client Name: TETRA TECH NUS INC
Matrix: SOLID

Method: MCAWW 160.3 MOD
Lot Number: C1I250224
Date/Time Received: 9/25/01 9:30:00AM
SDG Number: GL010

Client Sample ID	Sample Number	Workorder	Result	Units	Reporting Limit	Dilution Factor	Prep/ Analysis Date	QC Batch
NTCIDWSOIL	001	EK24R1AA	85.1	%		1	9/26/01 -9/27/01	1269105
NTC17PCSD2401	002	EK25D1A7	80.4	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD2301	003	EK25T1A8	78.5	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD2302	004	EK26C1AJ	83.7	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD2201	005	EK26D1A1	86.5	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD2101	006	EK26K1A8	92.7	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD2001	007	EK2601AJ	82.0	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD2002	008	EK2611AJ	90.0	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD1901	009	EK2671AJ	80.7	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD1801	010	EK27A1AK	94.6	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD1802	011	EK27E1AJ	90.2	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD1701	012	EK27N1AJ	91.0	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD1702	013	EK27V1AJ	89.8	%	1.0	1	9/26/01 -9/27/01	1269105
NTCFD09220101	014	EK2711AJ	88.0	%	1.0	1	9/26/01 -9/27/01	1269105
NTCFD09220102	015	EK2741AJ	81.5	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD1601	016	EK2781AK	79.9	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD1501	017	EK28P1AV	91.2	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD1401	018	EK2831AW	89.2	%	1.0	1	9/26/01 -9/27/01	1269105
NTC17PCSD1402	019	EK29C1AJ	82.9	%	1.0	1	9/26/01 -9/27/01	1269105

Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250224
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD1901
Lab ID	2001-270-05-01	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	201	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	562.40	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	462.40	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.28	Weight of Tare (gm)	NA
Weight of Water (gm)	100.00	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	454.12	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**22.0**	**Moisture Content (%)**	NA

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	454.12
Dry Weight - 3/4" Sample (gm)	392.10	Weight of minus #200 material (gm)	62.02
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	392.10
Dry Weight + 3/4" Sample (gm)	0.00		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	Accumulated **Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	0.00	0.00	0.00	100.00	**100.00**
1/2"	12.5	0.00	0.00	0.00	100.00	**100.00**
3/8"	9.50	2.02	0.44	0.44	99.56	**99.56**
#4	4.75	2.98	0.66	1.10	98.90	**98.90**
#10	2.00	13.99	3.08	4.18	95.82	**95.82**
#20	0.85	40.35	8.89	13.07	86.93	**86.93**
#40	0.425	77.68	17.11	30.17	69.83	**69.83**
#60	0.250	131.64	28.99	59.16	40.84	**40.84**
#140	0.106	110.38	24.31	83.47	16.53	**16.53**
#200	0.075	13.06	2.88	86.34	13.66	**13.66**
Pan	-	62.02	13.66	100.00	-	-

Tested By JP Date 10/8/01 Checked By RJO Date 10-12-01

DCN: CT-S3A DATE:02/06/01 REVISION: 4

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Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250224
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD3801
Lab ID	2001-270-05-03	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	1704	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	522.80	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	423.00	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.39	Weight of Tare (gm)	NA
Weight of Water (gm)	99.80	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	414.61	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**24.1**	**Moisture Content (%)**	**NA**

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	414.61
Dry Weight - 3/4" Sample (gm)	364.84	Weight of minus #200 material (gm)	49.77
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	364.84
Dry Weight + 3/4" Sample (gm)	0.00		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	**Accumulated Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	0.00	0.00	0.00	100.00	**100.00**
1/2"	12.5	0.00	0.00	0.00	100.00	**100.00**
3/8"	9.50	0.00	0.00	0.00	100.00	**100.00**
#4	4.75	1.26	0.30	0.30	99.70	**99.70**
#10	2.00	3.37	0.81	1.12	98.88	**98.88**
#20	0.85	7.16	1.73	2.84	97.16	**97.16**
#40	0.425	22.26	5.37	8.21	91.79	**91.79**
#60	0.250	174.34	42.05	50.26	49.74	**49.74**
#140	0.106	144.63	34.88	85.15	14.85	**14.85**
#200	0.075	11.82	2.85	88.00	12.00	**12.00**
Pan	-	49.77	12.00	100.00	-	-

Tested By JP Date 10/8/01 Checked By RJD Date 10-12-01

DCN: CT-S3A DATE:02/06/01 REVISION: 4

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Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250290
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD0301
Lab ID	2001-270-05-04	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	611	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	485.30	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	396.66	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.70	Weight of Tare (gm)	NA
Weight of Water (gm)	88.64	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	387.96	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**22.8**	**Moisture Content (%)**	NA

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	387.96
Dry Weight - 3/4" Sample (gm)	343.75	Weight of minus #200 material (gm)	44.21
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	343.75
Dry Weight + 3/4" Sample (gm)	0.00		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	**Accumulated Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	0.00	0.00	0.00	100.00	**100.00**
1/2"	12.5	0.00	0.00	0.00	100.00	**100.00**
3/8"	9.50	0.00	0.00	0.00	100.00	**100.00**
#4	4.75	1.05	0.27	0.27	99.73	**99.73**
#10	2.00	0.57	0.15	0.42	99.58	**99.58**
#20	0.85	3.76	0.97	1.39	98.61	**98.61**
#40	0.425	46.45	11.97	13.36	86.64	**86.64**
#60	0.250	151.47	39.04	52.40	47.60	**47.60**
#140	0.106	128.91	33.23	85.63	14.37	**14.37**
#200	0.075	11.54	2.97	88.60	11.40	**11.40**
Pan	-	44.21	11.40	100.00	-	-

Tested By JP Date 10/8/01 Checked By Jam Date 10-12-01

DCN: CT-S3A DATE:02/06/01 REVISION: 4

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544 Braddock Avenue • East Pittsburgh, PA 15112 • Phone (412) 823-7600 • Fax (412) 823-8999

Geotechnics

WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	STL	Boring No.	C1I250290
Client Reference	NTC GREAT LAKES CTO0154	Depth (ft)	NA
Project No.	2001-270-05	Sample No.	NTC17PCSD0102
Lab ID	2001-270-05-05	Soil Color	**BROWN**

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	595	Tare No.	NA
Wgt.Tare + Wet Specimen (gm)	422.80	Wgt.Tare + Wet Specimen (gm)	NA
Wgt.Tare + Dry Specimen (gm)	391.30	Wgt.Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	8.33	Weight of Tare (gm)	NA
Weight of Water (gm)	31.50	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	382.97	Weight of Dry Soil (gm)	NA
Moisture Content (%)	**8.2**	**Moisture Content (%)**	**NA**

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	382.97
Dry Weight - 3/4" Sample (gm)	374.4	Weight of minus #200 material (gm)	2.49
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	380.48
Dry Weight + 3/4" Sample (gm)	6.04		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt.of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	**Accumulated Percent Finer (%)**
12"	300	0.00	0.00	0.00	100.00	**100.00**
6"	150	0.00	0.00	0.00	100.00	**100.00**
3"	75	0.00	0.00	0.00	100.00	**100.00**
2"	50	0.00	0.00	0.00	100.00	**100.00**
1 1/2"	37.5	0.00	0.00	0.00	100.00	**100.00**
1"	25.0	0.00	0.00	0.00	100.00	**100.00**
3/4"	19.0	6.04	1.58	1.58	98.42	**98.42**
1/2"	12.50	2.07	0.54	2.12	97.88	**97.88**
3/8"	9.50	12.14	3.17	5.29	94.71	**94.71**
#4	4.75	31.41	8.20	13.49	86.51	**86.51**
#10	2.00	114.64	29.93	43.42	56.58	**56.58**
#20	0.850	129.28	33.76	77.18	22.82	**22.82**
#40	0.425	46.62	12.17	89.35	10.65	**10.65**
#60	0.250	23.84	6.23	95.58	4.42	**4.42**
#140	0.106	13.92	3.63	99.21	0.79	**0.79**
#200	0.075	0.52	0.14	99.35	0.65	**0.65**
Pan	-	2.49	0.65	100.00	-	-

Tested By JP Date 10/8/01 Checked By RJD Date 10-12-01

DCN: CT-S3C DATE 6-25-98 REVISION: 2

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STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203
Fax: 802 655 1248

SEVERN TRENT SERVICES
STL Burlington

Analytical Report

Severn Trent Laboratories
450 William Pitt Way

Pittsburgh, PA 15238

Attention : Veronica Bortot

Date : 10/08/01
ETR Number : 84854
Project No.: 21000
No. Samples: 2
Arrived : 09/27/01

Case:NTCGL SDG:C1I250224

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater.
All results are in mg/l unless otherwise noted.

Lab No./ Method No.	Sample Description/ Parameter	Result
465886	NTC17PCSD2101:09/22/01 @1421(Solid)	
AVS	Acid Volatile Sulfide	<9.6 f
IN623	Solids, Percent	81.0 c
465887	NTC17PCSD1701:09/22/01 @1755(Solid)	
AVS	Acid Volatile Sulfide	<8.4 f
IN623	Solids, Percent	85.3 c

Comments/Notes

f = mg/Kg dry weight
c = %W/W as received

< Last Page > Submitted By : STL Burlington
Kristine Bussolen

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

NTCI7PCSD1701

Lab Name: STL BURLINGTON Contract: 21000

Lab Code: STLVT Case No.: NTCGL SAS No.: SDG No.: C1I250224

Matrix (soil/water): SOLID Lab Sample ID: 465887

Level (low/med): LOW Date Received: 09/27/01

% Solids: 85.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-43-9	Cadmium	0.43			P
7440-50-8	Copper	119		E	P
7439-92-1	Lead	72.0		E	P
7439-97-6	Mercury	0.04			CV
7440-02-0	Nickel	5.0		E	P
7440-66-6	Zinc	270		E	P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

NTC17PCSD2101

Lab Name: STL BURLINGTON Contract: 21000

Lab Code: STLVT Case No.: NTCGL SAS No.: SDG No.: C1I250224

Matrix (soil/water): SOLID Lab Sample ID: 465886

Level (low/med): LOW Date Received: 09/27/01

% Solids: 81.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-43-9	Cadmium	0.28			P
7440-50-8	Copper	31.9		E	P
7439-92-1	Lead	26.9		E	P
7439-97-6	Mercury	0.02			CV
7440-02-0	Nickel	3.8		E	P
7440-66-6	Zinc	155		E	P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

APPENDIX D

HUMAN HEALTH RISK ASSESSMENT SUPPORT

APPENDIX D.1

EXAMPLE STATISTICAL CALCULATIONS

Shapiro and Wilk Goodness of Fit Test

Test for Lognormal Distribution - Benzo(a)pyrene in Sediment
North Branch Pettibone Creek

Shapiro and Wilk - W Test - Goodness of Fit

1. Compute the denominator (d) of the W test statistic, using n data.

$d = \text{sum}(Xi-\text{mean}(X))^2 = \text{sum}(X)^2\text{-}1/n(\text{sum}(X))^2$

2. Order data from smallest to largest

3. Compute k, where

k = n/2 if n is even
k = (n-1)/2 if n is odd

4. Use Table 1 to find the coefficients. Ai.. Ak.

5. Compute W

$W = 1/d[\text{sum}(Ai(Xn-i+1 - Xi))]^2$

6. Reject Ho at the significance level if W is less than the quantile given in Table A7 (Gilbert, 1987)

To test the null hypothesis

Ho: The population has a lognormal distribution

Ha: The population does not have a lognormal distribution

Calculation of denominator (d)

Xi	lnXi		(lnXi-mean(lnX))^2
0.13	-2.0402		3.00
0.24	-1.4271		1.26
0.3	-1.2040		0.80
0.33	-1.1087		0.64
0.41	-0.8916		0.34
0.46	-0.7765		0.22
0.47	-0.7550		0.20
0.47	-0.7550		0.20
0.47	-0.7550		0.20
0.47	-0.7550		0.20
0.5	-0.6931		0.15
0.51	-0.6733		0.13
0.53	-0.6349		0.11
0.57	-0.5621		0.07
0.79	-0.2357		0.01
0.84	-0.1744		0.02
0.97	-0.0305		0.08
1.1	0.0953		0.16
1.5	0.4055		0.51
1.9	0.6419		0.90
2.1	0.7419		1.10
2.3	0.8329		1.30
2.7	0.9933		1.69
11	2.3979		7.32

20.6027 = d

1.29 -0.31 avg. 12 = n/2 = k

Shapiro and Wilk Goodness of Fit Test

Test for Lognormal Distribution - Benzo(a)pyrene in Sediment
North Branch Pettibone Creek

Calculation of W

Ai	Xn-i+1	Xi	Ai(Xn-i+1 - Xi)	
0.4493	**2.398**	**-2.040**	1.9940	
0.3098	**0.993**	**-1.427**	0.7498	
0.2554	**0.833**	**-1.204**	0.5202	
0.2154	**0.742**	**-1.109**	0.3986	
0.1807	**0.642**	**-0.892**	0.2771	
0.1512	**0.405**	**-0.777**	0.1787	
0.1245	**0.095**	**-0.755**	0.1059	
0.0997	**-0.030**	**-0.755**	0.0722	
0.0764	**-0.174**	**-0.755**	0.0444	
0.0539	**-0.236**	**-0.755**	0.0280	
0.0321	**-0.562**	**-0.693**	0.0042	
0.0107	**-0.635**	**-0.673**	0.0004	
			4.3736	sum
			19.1284	sum^2
		W =	**0.9284**	sum^2/d
		Table A7 (Gilbert) =	**0.916**	

IF W > value from Table A7, Ho cannot be rejected.
Distribution may be lognormal.

CALCULATION WORKSHEET

CLIENT:		JOB NUMBER:
NTC, GREAT LAKES		3939
SUBJECT: CALCULATION OF 95% UCL FOR LOGNORMALLY DISTRIBUTED DATA . BENZO(A)PYRENE IN SEDIMENT IN THE NORTH BRANCH OF PETTIBONE CREEK		
BASED ON: USEPA, DEC. 1991		
BY:	CHECKED BY:	DATE:
T. JACKMAN		05/14/02

PURPOSE: To calculate the 95% upper confidence limit of the log-transformed data for benzo(a)pyrene in sediment in the North Branch of Pettibone Creek.

EQUATION:

$$UCL = e^{\left(\overline{X} + 0.5S + \frac{SH}{\sqrt{n-1}} \right)}$$

Where:

UCL	=	95th upper confidence limit of the log-transformed data
X	=	mean of the log-transformed data
S	=	standard deviation of log-transformed data
H	=	H-statistic for computing one-sided confidence limit (1-α = 95%)
n	=	population of the data set

Data	log-transformed data
0.13	-2.040221
0.24	-1.427116
0.3	-1.203973
0.33	-1.108663
0.41	-0.891598
0.46	-0.776529
0.47	-0.755023
0.47	-0.755023
0.47	-0.755023
0.47	-0.755023
0.5	-0.693147
0.51	-0.673345
0.53	-0.634878
0.57	-0.562119
0.79	-0.235722
0.84	-0.174353
0.97	-0.030459
1.1	0.09531
1.5	0.405465
1.9	0.641854
2.1	0.741937
2.3	0.832909
2.7	0.993252
11	2.397895

CALCULATION WORKSHEET

CLIENT:		JOB NUMBER:
NTC, GREAT LAKES		3939
SUBJECT:		
CALCULATION OF 95% UCL FOR LOGNORMALLY DISTRIBUTED DATA BENZO(A)PYRENE IN SEDIMENT IN THE NORTH BRANCH OF PETTIBONE CREEK		
BASED ON:		
USEPA, DEC. 1991		
BY:	CHECKED BY:	DATE:
T. JACKMAN		05/14/02

-0.31	mean of log-transformed data (calculated by Excel)
0.95	standard deviation of log-transformed data (calculated by Excel)
24	n n-1 = **23**
2.45	H (interpolated from Gilbert, 1987)

Calculation of:

$$\left(\overline{X} + 0.5 S^2 + \frac{SH}{\sqrt{n-1}} \right)$$

$$\left(-0.31 + 0.5(0.95)^2 + \frac{0.95(2.45)}{\sqrt{23}} \right) = \quad \mathbf{0.625}$$

UCL = exp(0.625) 1.87

APPENDIX D.2

RISK ASSESSMENT CALCULATIONS AND RAGS-PART D TABLES

TABLE 1

SELECTION OF EXPOSURE PATHWAYS
SITE 17 - PETTIBONE CREEK AND THE BOAT BASIN
NTC GREAT LAKES, ILLINOIS

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Surface Water	Surface Water	Pettibone Creek and the Boat Basin	Recreational Users	Adolescent	Ingestion	On-site	Quant(1)	Access to the study areas is not limited by any physical constraints. Potential receptors may be exposed to chemicals in surface water while wading.
						Dermal	On-site	Quant	
					Adult	Ingestion	On-site	Quant	Access to the study areas is not limited by any physical constraints. Potential receptors may be exposed to chemicals in surface water while wading.
						Dermal	On-site	Quant	
		Air	Pettibone Creek and the Boat Basin	Recreational Users	Adult and Adolescent	Inhalation	On-site	None	Minimal exposure to vapors emitted from surface water is anticipated (i.e., so low such that it is not worth quantifying).
	Sediment	Sediment	Pettibone Creek and the Boat Basin	Recreational Users	Adolescent	Ingestion	On-site	Quant	Access to the study areas is not limited by any physical constraints. Potential receptors may be exposed to chemicals in sediment while wading.
						Dermal	On-site	Quant	
					Adult	Ingestion	On-site	Quant	Access to the study areas is not limited by any physical constraints. Potential receptors may be exposed to chemicals in sediment while wading.
						Dermal	On-site	Quant	
		Fish Tissue	Boat Basin	Recreational Users	Adult and Adolescent	Ingestion	On-site	Quant	Fishing is known to occur in the Boat Basin. Potential receptors may be exposed by eating fish caught at the site.
		Air	Pettibone Creek and the Boat Basin	Recreational Users	Adult and Adolescent	Inhalation	On-site	None	Minimal exposure is anticipated (i.e., so low such that it is not worth quantifying).

TABLE 2.1

OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SEDIMENT
SITE 17- PETTIBONE CREEK - NORTH BRANCH
NTC GREAT LAKES

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Site 17 - North Branch Pettibone Creek

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used For Screening[1]	Background Value[2]	Region 9 PRG [3]		Potential ARAR/TBC Ingestion [4]	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection [5]
Volatiles (mg/kg)																
75-09-2	Methylene Chloride	0.011		0.011		PCSD0401	1/6	0.0053 - 0.0064	0.011	NA	8.9	C	85	TACO	No	BSL
Semivolatiles (mg/kg)																
91-57-6	2-Methylnaphthalene [6]	0.055	J	0.093	J	PCSD2301	3/6	0.36 - 0.41	0.093	NA	5.6	N	1600	TACO	No	BSL
208-96-8	Acenaphthylene	0.013	J	0.092	J	PCSD1001	8/24	0.4 - 16	0.092	NA	370	N	4700	TACO	No	BSL
120-12-7	Anthracene	0.037		4		PCSD0101	24/24	--	4	NA	2200	N	23000	TACO	No	BSL
100-52-7	Benzaldehyde	1.5		1.5		PCSD0401	1/6	0.35 - 0.42	1.5	NA	610	N	NA	NA	No	BSL
56-55-3	**Benzo(a)anthracene**	0.15		11		PCSD0101	24/24	--	11	NA	**0.62**	C	**0.9**	TACO	**Yes**	**ASL**
50-32-8	**Benzo(a)pyrene**	0.13		11		PCSD0101	24/24	--	11	NA	**0.062**	C	**0.09**	TACO	**Yes**	**ASL**
205-99-2	**Benzo(b)fluoranthene**	0.15		12		PCSD0101	24/24	--	12	NA	**0.62**	C	**0.9**	TACO	**Yes**	**ASL**
191-24-2	Benzo(g,h,i)perylene [6]	0.07		7.5	J	PCSD0101	23/24	0.085	7.5	NA	230	N	2300	TACO	No	BSL
207-08-9	**Benzo(k)fluoranthene**	0.078		6.3		PCSD0101	24/24	--	6.3	NA	**6.2**	C	9	TACO	**Yes**	**ASL**
117-81-7	Bis(2-ethylhexyl)phthalate	0.28	J	0.68		PCSD2301	6/6	--	0.68	NA	35	C	46	TACO	No	BSL
85-68-7	Butyl Benzyl Phthalate	0.037	J	0.037	J	PCSD1801	1/6	0.36 - 0.42	0.037	NA	1200	N	16000	TACO	No	BSL
105-60-2	Caprolactam	0.057	J	0.057	J	PCSD1801	1/6	0.36 - 0.42	0.057	NA	3100	N	NA	NA	No	BSL
86-74-8	Carbazole	0.075	J	0.72		PCSD1401	6/6	--	0.72	NA	24	C	32	TACO	No	BSL
218-01-9	Chrysene	0.15		12		PCSD0101	24/24	--	12	NA	62	C	88	TACO	No	BSL
132-64-9	Dibenzofuran	0.037	J	0.25	J	PCSD1401	6/6	--	0.25	NA	29	N	NA	NA	No	BSL
206-44-0	Fluoranthene	0.38		33		PCSD0101	24/24	--	33	NA	230	N	3100	TACO	No	BSL
86-73-7	Fluorene	0.021	J	2.4	J	PCSD0101	24/24	--	2.4	NA	260	N	3100	TACO	No	BSL
193-39-5	**Indeno(1,2,3-cd)pyrene**	0.07		5.8	J	PCSD0101	24/24	--	5.8	NA	**0.62**	C	**0.9**	TACO	**Yes**	**ASL**
85-01-8	Phenanthrene [6]	0.21		24		PCSD0101	24/24	--	24	NA	230	N	2300	TACO	No	BSL
108-95-2	Phenol	0.094	J	0.094	J	PCSD0401	1/6	0.35 - 0.42	0.094	NA	3700	N	47000	TACO	No	BSL
129-00-0	Pyrene	0.31		27		PCSD0101	24/24	--	27	NA	230	N	2300	TACO	No	BSL
Pesticides/PCBs (mg/kg)																
72-54-8	4,4'-DDD	0.0023		0.17		PCSD1901	24/24	--	0.17	NA	2.4	C	3	TACO	No	BSL
72-55-9	4,4'-DDE	0.0043		0.21		PCSD1901	24/24	--	0.21	NA	1.7	C	2	TACO	No	BSL
50-29-3	**4,4'-DDT**	0.0049		1.8		PCSD0501	24/24	--	1.8	NA	**1.7**	C	2	TACO	**Yes**	**ASL**
309-00-2	Aldrin	0.0064	J	0.0064	J	PCSD0101	1/24	0.0019 - 0.21	0.0064	NA	0.029	C	0.04	TACO	No	BSL
5103-71-9	Alpha-Chlordane [7]	0.00016	J	0.0069	J	PCSD1901	14/22	0.0019 - 0.21	0.0069	NA	1.6	C	1.8	TACO	No	BSL
11097-69-1	**Aroclor-1254**	0.056		0.44		PCSD1901	14/24	0.035 - 0.043	0.44	NA	**0.22**	C	1	TACO	**Yes**	**ASL**
11096-82-5	Aroclor-1260	0.041		0.15		PCSD0301	12/23	0.035 - 0.043	0.15	NA	0.22	C	1	TACO	No	BSL
60-57-1	Dieldrin	0.00023	J	0.0017	J	PCSD2101	6/22	0.018 - 0.21	0.0017	NA	0.03	C	0.04	TACO	No	BSL
959-98-8	Endosulfan I [8]	0.0011	J	0.0011	J	PCSD1201	1/24	0.0019 - 0.21	0.0011	NA	37	N	470	TACO	No	BSL
33213-65-9	Endosulfan II [8]	0.00052	J	0.012	J	PCSD0101	9/24	0.0041 - 0.21	0.012	NA	37	N	470	TACO	No	BSL
72-20-8	Endrin	0.0026	J	0.0026	J	PCSD0401	1/24	0.0019 - 0.21	0.0026	NA	1.8	N	23	TACO	No	BSL
7421-93-4	Endrin Aldehyde [9]	0.0033		0.0033		PCSD1001	1/24	0.0019 - 0.21	0.0033	NA	1.8	N	23	TACO	No	BSL
5103-74-2	Gamma-Chlordane [7]	0.00091	J	0.0029	J	PCSD0401	7/24	0.0019 - 0.21	0.0029	NA	1.6	C	1.8	TACO	No	BSL
1024-57-3	Heptachlor Epoxide	0.00013	J	0.0002	J	PCSD1001	3/24	0.0019 - 0.21	0.0002	NA	0.053	C	0.07	TACO	No	BSL

TABLE 2.1

OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SEDIMENT
SITE 17- PETTIBONE CREEK - NORTH BRANCH
NTC GREAT LAKES

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used For Screening[1]	Background Value[2]	Region 9 PRG [3]		Potential ARAR/TBC Ingestion [4]	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection [5]
Inorganics (mg/kg)																
7429-90-5	Aluminum	1960		4810		PCSD1001	24/24	--	4810	NA	7600	N	NA	NA	No	BSL
7440-36-0	Antimony	0.27		1.5		PCSD0101	11/24	0.29 - 0.87	1.5	NA	3.1	N	31	TACO	No	BSL
7440-38-2	**Arsenic**	3.7		10.4		PCSD0101	24/24	--	10.4	**8**	**0.39**	C	**0.43**	TACO	**Yes**	**ASL**
7440-39-3	Barium	17.2		122		PCSD0601	24/24	--	122	145	540	N	5500	TACO	No	BSL, BKG
7440-41-7	Beryllium	0.39		1.4		PCSD1501	18/24	0.24 - 0.36	1.4	NA	15	N	160	TACO	No	BSL
7440-43-9	**Cadmium**	0.11		4.2		PCSD1501	21/24	0.06	4.2	**0.5**	**3.7**	N	78	TACO	**Yes**	**ASL**
7440-70-2	Calcium	34300		110000		PCSD0601	24/24	--	110000	NA	NA	N	NA	NA	No	NUT
7440-47-3	**Chromium [10]**	8.4		55.8	J	PCSD0101	24/24	--	55.8	**16**	**30**	C	230	TACO	**Yes**	**ASL**
7440-48-4	Cobalt	4		11.3		PCSD2101	24/24	--	11.3	NA	470	N	4700	TACO	No	BSL
7440-50-8	**Copper**	35.1		477		PCSD0201	24/24	--	477	**38**	**290**	N	2900	TACO	**Yes**	**ASL**
7439-89-6	Iron	8570	J	14900	J	PCSD0101	24/24	--	14900	18000	**2300**	N	NA	NA	No	BKG
7439-92-1	Lead	30.8		322	J	PCSD0101	24/24	--	322	**28**	400	N	400	TACO	No	BSL
7439-95-4	Magnesium	17900		51400		PCSD1201	24/24	--	51400	NA	NA	N	NA	NA	No	NUT
7439-96-5	Manganese	243		662		PCSD0601	24/24	--	662	1300	**180**	N	3700	TACO	No	BKG
7439-97-6	**Mercury**	0.04		4.7		PCSD1401	24/24	--	4.7	**0.07**	**2.3**	N	23	TACO	**Yes**	**ASL**
7440-02-0	Nickel	8.1		23		PCSD1301	24/24	--	23	26	160	N	1600	TACO	No	BSL, BKG
7440-09-7	Potassium	292		798		PCSD1001	24/24	--	798	1500	NA	N	NA	NA	No	NUT, BKG
7782-49-2	Selenium	0.46		6.6		PCSD1601	4/24	0.35 - 0.43	6.6	NA	39	N	390	TACO	No	BSL
7440-22-4	Silver	0.55		3.2		PCSD0401	8/24	0.09 - 0.57	3.2	5	39	N	390	TACO	No	BSL
7440-23-5	Sodium	128		658		PCSD1501	24/24	--	658	NA	NA	N	NA	NA	No	NUT
7440-28-0	**Thallium**	0.74		2.1	J	PCSD1001	13/24	0.61 - 0.73	2.1	NA	**0.52**	N	6.3	TACO	**Yes**	**ASL**
7440-62-2	Vanadium	7.1		17.9		PCSD0901	24/24	--	17.9	NA	55	N	550	TACO	No	BSL
7440-66-6	Zinc	126		2120		PCSD1501	24/24	--	2120	**80**	2300	N	23000	TACO	No	BSL

[1] Maximum concentration used as screening value

[2] Illinois EPA Unsieved Stream Sediment Background

[3] Based on Preliminary Remediation Goals, USEPA Region 9, November 2000, Residential land use (Cancer benchmark value = 1E-06, Hazard Quotient = 0.1).

[4] Residential Soil Remediation Objective (SRO) for ingestion pathway, IEPA, TACO, online March 2002.

[5] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Deletion Reason:
- Maximum detected concentration is below background screening level (BKG)
- Essential Nutrient (NUT)
- Below Screening Levels (BSL)
- No Toxicity Information (NTX)

[6] 2-Methylnaphthalene evaluated as naphthalene. Benzo(g,h,i)perylene and phenanthrene evaluated as pyrene.

[7] Alpha- and gamma-chlordane evaluated as chlordane.

[8] Endosulfan I, and endosulfan II evaluated as endosulfan.

[9] Endrin aldehyde evaluated as endrin.

[10] Chromium evaluated as hexavalent chromium.

Chemical names in bold indicate that chemical was selected as a COPC

Definitions:
- ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
- C = carcinogen
- COPC = Chemical of Potential Concern
- J = Estimated Value
- N = noncarcinogen
- NA = Not Applicable
- TACO = Tiered Approach to Corrective Action Objectives, IEPA, online March 2002.

TABLE 2.2

OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SEDIMENT
SITE 17- PETTIBONE CREEK - SOUTH BRANCH
NTC GREAT LAKES

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Site 17 - South Branch Pettibone Creek

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used For Screening[1]	Background Value[2]	Region 9 PRG [3]		Potential ARAR/TBC Ingestion [4]	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection [5]
Volatiles (mg/kg)																
75-09-2	Methylene Chloride	0.0089		0.0089		PCSD2901	1/2	0.0063	0.0089	NA	8.9	C	85	TACO	No	BSL
Semivolatiles (mg/kg)																
208-96-8	Acenaphthylene	0.025	J	0.051	J	PCSD3501	2/14	0.079 - 4.1	0.051	NA	370	N	4700	TACO	No	BSL
120-12-7	Anthracene	0.019		1.1		PCSD2701	14/14	--	1.1	NA	2200	N	23000	TACO	No	BSL
56-55-3	**Benzo(a)anthracene**	0.069		2.8		PCSD2701	14/14	--	2.8	NA	**0.62**	C	**0.9**	TACO	**Yes**	**ASL**
50-32-8	**Benzo(a)pyrene**	0.066		2.1	J	PCSD2701	14/14	--	2.1	NA	**0.062**	C	**0.09**	TACO	**Yes**	**ASL**
205-99-2	**Benzo(b)fluoranthene**	0.061		2.2		PCSD2701	14/14	--	2.2	NA	**0.62**	C	**0.9**	TACO	**Yes**	**ASL**
191-24-2	Benzo(g,h,i)perylene [6]	0.034		0.99	J	PCSD2701	14/14	--	0.99	NA	230	N	2300	TACO	No	BSL
207-08-9	Benzo(k)fluoranthene	0.034		1.3		PCSD2701	14/14	--	1.3	NA	6.2	C	9	TACO	No	BSL
117-81-7	Bis(2-ethylhexyl)phthalate	0.08	J	0.13	J	PCSD2901	2/2	--	0.13	NA	35	C	46	TACO	No	BSL
218-01-9	Chrysene	0.065		2.9		PCSD2701	14/14	--	2.9	NA	62	C	88	TACO	No	BSL
206-44-0	Fluoranthene	0.16		9		PCSD2701	14/14	--	9	NA	230	N	3100	TACO	No	BSL
86-73-7	Fluorene	0.013	J	0.41	J	PCSD2701	14/14	--	0.41	NA	260	N	3100	TACO	No	BSL
193-39-5	**Indeno(1,2,3-cd)pyrene**	0.037		0.88	J	PCSD2701	14/14	--	0.88	NA	**0.62**	C	0.9	TACO	**Yes**	**ASL**
85-01-8	Phenanthrene [6]	0.085		6.3		PCSD2701	14/14	--	6.3	NA	230	N	2300	TACO	No	BSL
129-00-0	Pyrene	0.13		6.4		PCSD2701	14/14	--	6.4	NA	230	N	2300	TACO	No	BSL
Pesticides/PCBs (mg/kg)																
72-54-8	4,4'-DDD	0.0076		0.032		PCSD3501	14/14	--	0.032	NA	2.4	C	3	TACO	No	BSL
72-55-9	4,4'-DDE	0.01		0.031		PCSD2701	14/14	--	0.031	NA	1.7	C	2	TACO	No	BSL
50-29-3	4,4'-DDT	0.0085		0.29		PCSD3101	14/14	--	0.29	NA	1.7	C	2	TACO	No	BSL
5103-71-9	Alpha-Chlordane [7]	0.00035	J	0.0024	J	PCSD2901	13/14	0.02	0.0024	NA	1.6	C	1.8	TACO	No	BSL
12672-29-6	Aroclor-1248	0.05		0.05		PCSD3101	1/14	0.04 - 0.046	0.05	NA	0.22	C	1	TACO	No	BSL
11097-69-1	Aroclor-1254	0.084		0.14		PCSD2901	3/14	0.04 - 0.046	0.14	NA	0.22	C	1	TACO	No	BSL
11096-82-5	Aroclor-1260	0.055		0.055		PCSD3301	1/14	0.039 - 0.045	0.055	NA	0.22	C	1	TACO	No	BSL
60-57-1	Dieldrin	0.00016	J	0.0029		PCSD2801	12/13	0.02	0.0029	NA	0.03	C	0.04	TACO	No	BSL
33213-65-9	Endosulfan II [8]	0.0003	J	0.0019	J	PCSD3301	7/14	0.002 - 0.02	0.0019	NA	37	N	470	TACO	No	BSL
72-20-8	Endrin	0.00042	J	0.0013	J	PCSD2801	4/14	0.002 - 0.02	0.0013	NA	1.8	N	23	TACO	No	BSL
7421-93-4	Endrin Aldehyde [9]	0.004		0.004		PCSD3401	1/14	0.002 - 0.02	0.004	NA	1.8	N	23	TACO	No	BSL
5103-74-2	Gamma-Chlordane [7]	0.00031	J	0.0016	J	PCSD2701	12/14	0.002 - 0.02	0.0016	NA	1.6	C	1.8	TACO	No	BSL
1024-57-3	Heptachlor Epoxide	0.00015	J	0.00046	J	PCSD2801	4/14	0.002 - 0.02	0.00046	NA	0.053	C	0.07	TACO	No	BSL

TABLE 2.2

OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SEDIMENT
SITE 17- PETTIBONE CREEK - SOUTH BRANCH
NTC GREAT LAKES

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used For Screening[1]	Background Value[2]	Region 9 PRG [3]		Potential ARAR/TBC Ingestion [4]	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection [5]
Inorganics (mg/kg)																
7429-90-5	Aluminum	1480		3760		PCSD3401	14/14	--	3760	NA	7600	N	NA	NA	No	BSL
7440-36-0	Antimony	0.33		0.49		PCSD3801	4/14	0.28 - 0.33	0.49	NA	3.1	N	31	TACO	No	BSL
7440-38-2	Arsenic	1.5		5.4		PCSD3401	14/14	--	5.4	8	**0.39**	C	**0.43**	TACO	No	BKG
7440-39-3	Barium	6.9		40.4		PCSD2601	14/14	--	40.4	145	540	N	5500	TACO	No	BSL, BKG
7440-41-7	Beryllium	0.13		0.44		PCSD2601	11/14	0.1 - 0.3	0.44	NA	15	N	160	TACO	No	BSL, BKG
7440-43-9	Cadmium	0.07		0.19		PCSD3401	9/14	0.06 - 0.07	0.19	0.5	3.7	N	78	TACO	No	BSL, BKG
7440-70-2	Calcium	25700		99100		PCSD2501	14/14	--	99100	NA	NA	N	NA	NA	No	NUT
7440-47-3	Chromium [10]	5.5		14.7		PCSD2601	14/14	--	14.7	16	30	C	230	TACO	No	BSL, BKG
7440-48-4	Cobalt	2.4		7.6		PCSD3101	14/14	--	7.6	NA	470	N	4700	TACO	No	BSL, BKG
7440-50-8	Copper	3.4		46.2		PCSD2601	14/14	--	46.2	**38**	290	N	2900	TACO	No	BSL
7439-89-6	Iron	4900		13100	J	PCSD2701	14/14	--	13100	18000	**2300**	N	NA	NA	No	BKG
7439-92-1	Lead	8.3		57.9		PCSD2601	14/14	--	57.9	**26**	400	N	400	TACO	No	BSL
7439-95-4	Magnesium	14100		54500		PCSD2501	14/14	--	54500	NA	NA	N	NA	NA	No	NUT
7439-96-5	Manganese	177		504		PCSD2501	14/14	--	504	1300	**180**	N	3700	TACO	No	BKG
7439-97-6	Mercury	0.02		0.23		PCSD3401	14/14	--	0.23	**0.07**	2.3	N	23	TACO	No	BSL
7440-02-0	Nickel	3.6		15.4		PCSD3101	14/14	--	15.4	26	160	N	1600	TACO	No	BSL, BKG
7440-09-7	Potassium	306		602		PCSD3401	14/14	--	602	1500	NA	N	NA	NA	No	NUT, BKG
7440-23-5	Sodium	78.3		205		PCSD2601	14/14	--	205	NA	NA	N	NA	NA	No	NUT
7440-28-0	**Thallium**	0.73	J	1.5		PCSD3401	7/14	0.69 - 0.79	1.5	NA	**0.52**	N	6.3	TACO	**Yes**	**ASL**
7440-62-2	Vanadium	6.8		13.2		PCSD3401	14/14	--	13.2	NA	55	N	550	TACO	No	BSL
7440-66-6	Zinc	31		253		PCSD2601	14/14	--	253	**80**	2300	N	23000	TACO	No	BSL

[1] Maximum concentration used as screening value

[2] Illinois EPA Unsleved Stream Sediment Background

[3] Based on Preliminary Remediation Goals, USEPA Region 9, November 2000, Residential land use (Cancer benchmark value = 1E-06, Hazard Quotient = 0.1).

[4] Residential Soil Remediation Objective (SRO) for ingestion pathway, IEPA, TACO, online March 2002.

[5] Rationale Codes

Selection Reason	Above Screening Levels (ASL)
Deletion Reason	Maximum detected concentration is below background screening level (BKG) Essential Nutrient (NUT) Below Screening Levels (BSL) No Toxicity Information (NTX)

[6] Benzo(g,h,i)perylene, and phenanthrene evaluated as pyrene.

[7] Alpha- and gamma-chlordane evaluated as chlordane.

[8] Endosulfan II evaluated as endosulfan.

[9] Endrin aldehyde evaluated as endrin.

[10] Chromium evaluated as hexavalent chromium.

Chemical names in bold indicate that chemical was selected as a COPC

Definitions:
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
C = carcinogen
COPC = Chemical of Potential Concern
J = Estimated Value
N = noncarcinogen
NA = Not Applicable
TACO = Tiered Approach to Corrective Action Objectives, IEPA, online March 2002.

TABLE 2.3

OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SEDIMENT
SITE 17- BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Site 17 - Boat Basin

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used For Screening[1]	Background Value[2]	Region 9 PRG [3]		Potential ARAR/TBC Ingestion [4]	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection [5]
Volatiles (mg/kg)																
75-09-2	Methylene Chloride	0.0066		0.0066		BBSD4701	1/1	--	0.0066	NA	8.9	C	85	TACO	No	BSL
Semivolatiles (mg/kg)																
208-96-8	Acenaphthylene	0.024	J	0.2	J	BBSD5601	6/12	0.42 - 3.9	0.2	NA	370	N	4700	TACO	No	BSL
120-12-7	Anthracene	0.049	J	1.9		BBSD4601	12/12	--	1.9	NA	2200	N	23000	TACO	No	BSL
56-55-3	**Benzo(a)anthracene**	0.25		4.9		BBSD4501	12/12	--	4.9	NA	**0.62**	C	**0.9**	TACO	**Yes**	**ASL**
50-32-8	**Benzo(a)pyrene**	0.26		4.5		BBSD4501	12/12	--	4.5	NA	**0.062**	C	**0.09**	TACO	**Yes**	**ASL**
205-99-2	**Benzo(b)fluoranthene**	0.28		4.5		BBSD4501	12/12	--	4.5	NA	**0.62**	C	**0.9**	TACO	**Yes**	**ASL**
191-24-2	Benzo(g,h,i)perylene [6]	0.2	J	2.8		BBSD4501	10/12	0.16 - 0.45	2.8	NA	230	N	2300	TACO	No	BSL
207-08-9	Benzo(k)fluoranthene	0.15		2.5		BBSD4501	12/12	--	2.5	NA	6.2	C	9	TACO	No	BSL
117-81-7	Bis(2-ethylhexyl)phthalate	0.61	J	0.61	J	BBSD4701	1/1	--	0.61	NA	35	C	46	TACO	No	BSL
218-01-9	Chrysene	0.27		4.9		BBSD4501	12/12	--	4.9	NA	62	C	88	TACO	No	BSL
206-44-0	Fluoranthene	0.73		14		BBSD4501	12/12	--	14	NA	230	N	3100	TACO	No	BSL
86-73-7	Fluorene	0.04	J	1.3		BBSD4501	12/12	--	1.3	NA	260	N	3100	TACO	No	BSL
193-39-5	**Indeno(1,2,3-cd)pyrene**	0.15	J	2		BBSD4501	12/12	--	2	NA	**0.62**	C	**0.9**	TACO	**Yes**	**ASL**
91-20-3	Naphthalene	1.2	J	1.2	J	BBSD4601	1/12	0.36 - 4.2	1.2	NA	5.6	N	1600	TACO	No	BSL
85-01-8	Phenanthrene [6]	0.38		10		BBSD4501	12/12	--	10	NA	230	N	2300	TACO	No	BSL
129-00-0	Pyrene	0.56		11		BBSD4501	12/12	--	11	NA	230	N	2300	TACO	No	BSL
Pesticides/PCBs (mg/kg)																
72-54-8	4,4'-DDD	0.071		0.31		BBSD4801	12/12	--	0.31	NA	2.4	C	3	TACO	No	BSL
72-55-9	4,4'-DDE	0.055		0.23		BBSD4801	12/12	--	0.23	NA	1.7	C	2	TACO	No	BSL
50-29-3	4,4'-DDT	0.034		0.12		BBSD4701	11/12	0.046	0.12	NA	1.7	C	2	TACO	No	BSL
309-00-2	Aldrin	0.0041	J	0.0041	J	BBSD4701	1/12	0.0082 - 0.051	0.0041	NA	0.029	C	0.04	TACO	No	BSL
319-84-6	Alpha-Bhc	0.0065	J	0.0065	J	BBSD5601	1/12	0.0082 - 0.051	0.0065	NA	0.09	C	0.1	TACO	No	BSL
5103-71-9	Alpha-Chlordane [7]	0.0012	J	0.011	J	BBSD4801	12/12	--	0.011	NA	1.6	C	1.8	TACO	No	BSL
11097-69-1	**Aroclor-1254**	0.079		0.66		BBSD4801	4/12	0.036 - 0.044	0.66	NA	**0.22**	C	1	TACO	**Yes**	**ASL**
11096-82-5	**Aroclor-1260**	0.049		0.27		BBSD4801	3/12	0.036 - 0.047	0.27	NA	**0.22**	C	1	TACO	**Yes**	**ASL**
319-85-7	Beta-Bhc	0.0056	J	0.0076	J	BBSD5201	3/12	0.0082 - 0.051	0.0076	NA	0.32	C	0.1	TACO	No	BSL
319-86-8	Delta-Bhc	0.002	J	0.0085	J	BBSD5601	4/12	0.0082 - 0.021	0.0085	NA	0.09	C	0.1	TACO	No	BSL
60-57-1	Dieldrin	0.0015	J	0.013	J	BBSD4801	10/12	0.011 - 0.021	0.013	NA	0.03	C	0.04	TACO	No	BSL
959-98-8	Endosulfan I	0.00068	J	0.0087	J	BBSD4801	10/11	0.0097	0.0087	NA	37	N	470	TACO	No	BSL
33213-65-9	Endosulfan II [8]	0.00094	J	0.012	J	BBSD5201	9/11	0.015 - 0.021	0.012	NA	37	N	470	TACO	No	BSL
1031-07-8	Endosulfan Sulfate	0.0073	J	0.0073	J	BBSD5201	1/12	0.0082 - 0.051	0.0073	NA	37	N	470	TACO	No	BSL
72-20-8	Endrin	0.0013	J	0.0013	J	BBSD4601	1/12	0.0082 - 0.051	0.0013	NA	1.8	N	23	TACO	No	BSL
53494-70-5	Endrin Ketone	0.0047	J	0.0047	J	BBSD4501	1/12	0.0082 - 0.051	0.0047	NA	1.8	N	23	TACO	No	BSL
58-89-9	Gamma-Bhc (Lindane)	0.0046	J	0.0046	J	BBSD5601	1/12	0.0082 - 0.051	0.0046	NA	0.44	C	0.5	TACO	No	BSL
5103-74-2	Gamma-Chlordane [7]	0.0012	J	0.008	J	BBSD4801	10/12	0.021 - 0.046	0.008	NA	1.6	C	1.8	TACO	No	BSL
72-43-5	Methoxychlor	0.032	J	0.032	J	BBSD5201	1/12	0.082 - 0.51	0.032	NA	31	N	390	TACO	No	BSL

TABLE 2.3

OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SEDIMENT
SITE 17- BOAT BASIN
NTC GREAT LAKES

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used For Screening[1]	Background Value[2]	Region 9 PRG [3]		Potential ARAR/TBC Ingestion [4]	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection [5]
Inorganics (mg/kg)																
7429-90-5	Aluminum	1300		6860		BBSD4801	12/12	--	6860	NA	7600	N	NA	NA	No	BSL
7440-36-0	Antimony	0.45		0.47		BBSD5301	2/12	0.36 - 0.8	0.47	NA	3.1	N	31	TACO	No	BSL
7440-38-2	**Arsenic**	3.4		9.9		BBSD4801	12/12	--	9.9	**8**	**0.39**	C	**0.43**	TACO	**Yes**	**ASL**
7440-39-3	Barium	12		57.8		BBSD4801	12/12	--	57.8	145	540	N	5500	TACO	No	BSL, BKG
7440-41-7	Beryllium	0.26		6.7	J	BBSD4901	10/12	0.32 - 0.47	6.7	NA	15	N	160	TACO	No	BSL
7440-43-9	Cadmium	0.23		2.2		BBSD4801	12/12	--	2.2	**0.5**	3.7	N	78	TACO	No	BSL
7440-70-2	Calcium	33500		86300	J	BBSD4901	12/12	--	86300	NA	NA	N	NA	NA	No	NUT
7440-47-3	Chromium [10]	7.9		28.9		BBSD4801	12/12	--	28.9	**16**	30	C	230	TACO	No	BSL
7440-48-4	Cobalt	3.7		10.1		BBSD4801	12/12	--	10.1	NA	470	N	4700	TACO	No	BSL
7440-50-8	Copper	55.5		283		BBSD4801	12/12	--	283	**38**	290	N	2900	TACO	No	BSL
7439-89-6	**Iron**	7410		19200		BBSD4801	12/12	--	19200	**18000**	**2300**	N	NA	NA	**Yes**	**ASL**
7439-92-1	Lead	47.6		289		BBSD4801	12/12	--	289	**28**	400	N	400	TACO	No	BSL
7439-95-4	Magnesium	17200		46900	J	BBSD4901	12/12	--	46900	NA	NA	N	NA	NA	No	NUT
7439-96-5	Manganese	226		731	J	BBSD4901	12/12	--	731	1300	**180**	N	3700	TACO	No	BKG
7439-97-6	Mercury	0.068		0.95		BBSD4801	12/12	--	0.95	**0.07**	2.3	N	23	TACO	No	BSL
7440-02-0	Nickel	8.9		31.5		BBSD5401	12/12	--	31.5	**26**	160	N	1600	TACO	No	BSL
7440-09-7	Potassium	180		1150		BBSD4801	12/12	--	1150	1500	NA	N	NA	NA	No	NUT, BKG
7782-49-2	Selenium	0.66		1.2		BBSD4801	3/12	0.5 - 0.65	1.2	NA	39	N	390	TACO	No	BSL
7440-22-4	Silver	0.29		4.2		BBSD4801	12/12	--	4.2	5	39	N	390	TACO	No	BSL, BKG
7440-23-5	Sodium	136		487	J	BBSD4901	12/12	--	487	NA	NA	N	NA	NA	No	NUT
7440-62-2	Vanadium	6		18.9		BBSD4801	12/12	--	18.9	NA	55	N	550	TACO	No	BSL
7440-66-6	Zinc	247		2070	J	BBSD4901	12/12	--	2070	**80**	2300	N	23000	TACO	No	BSL

[1] Maximum concentration used as screening value
[2] Illinois EPA Unsieved Stream Sediment Background
[3] Based on Preliminary Remediation Goals, USEPA Region 9, November 2000, Residential land use (Cancer benchmark value = 1E-06, Hazard Quotient = 0.1).
[4] Residential Soil Remediation Objective (SRO) for Ingestion pathway, IEPA, TACO, online March 2002.
[5] Rationale Codes

Selection Reason	Above Screening Levels (ASL)
Deletion Reason	Maximum detected concentration is below background screening level (BKG)
	Essential Nutrient (NUT)
	Below Screening Levels (BSL)
	No Toxicity Information (NTX)

[6] Benzo(g,h,i)perylene, and phenanthrene evaluated as pyrene.
[7] Alpha- and gamma-chlordane evaluated as chlordane.
[8] Endosulfan II evaluated as endosulfan.
[9] Endrin aldehyde evaluated as endrin.
[10] Chromium evaluated as hexavalent chromium.
Chemical names in bold indicate that chemical was selected as a COPC

Definitions: ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
C = carcinogen
COPC = Chemical of Potential Concern
J = Estimated Value
N = noncarcinogen
NA = Not Applicable
TACO = Tiered Approach to Corrective Action Objectives, IEPA, online March 2002.

TABLE 2.4

OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN - SURFACE WATER
SITE 17 - PETTIBONE CREEK AND THE BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Site 17

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used For Screening[1]	Background Value[2]	Region 9 PRG [3]		TACO Tier 1 Ingestion GRO[4]	Federal MCL [5]	Federal SMCL [5]	Federal AWQC [7]	Illinois WQC [6]	COPC Flag	Rationale for Contaminant Deletion or Selection [8]
Volatile Organics (ug/L)																			
78-93-3	2-Butanone	5.6		5.6		PCSW0101	1/6	5	5.6	NA	190	N	NA	NA	NA	NA	NA	No	BSL
67-64-1	Acetone	2.6	J	11		PCSW0101	5/6	10	11	NA	61	N	700	NA	NA	NA	NA	No	BSL
75-27-4	Bromodichloromethane	0.34	J	0.74	J	PCSW0201	2/6	1	0.74	NA	0.18	C	0.2	80	NA	0.56	NA	Yes	ASL
124-48-1	Chlorodibromomethane	0.59	J	0.59	J	PCSW0201	1/6	1	0.59	NA	0.13	C	140	80	NA	0.41	NA	Yes	ASL
67-66-3	Chloroform	0.42	J	1.2		PCSW0201	2/6	1	1.2	NA	0.16	C	0.2	80	NA	5.7	130	Yes	ASL
156-59-2	cis-1,2-Dichloroethene	1.1		9 2		PCSW0101	2/6	1	9.2	NA	6.1	N	70	70	NA	NA	NA	Yes	ASL
127-18-4	Tetrachloroethene	0.41	J	1.4		PCSW0101	2/6	1	1.4	NA	1.1	C	5	5	NA	0.8	NA	Yes	ASL
108-88-3	Toluene	0.7	J	0.7	J	PCSW0101	1/6	1	0.7	NA	72	N	1000	1000	NA	6800	5600	No	BSL
79-01-6	Trichloroethene	0.46	J	5.5		PCSW0101	2/6	1	5.5	NA	1.6	C	5	5	NA	2.7	29	Yes	ASL
75-01-4	Vinyl Chloride	0.77	J	0.77	J	PCSW0101	1/6	2	0.77	NA	0.041	C	2	2	NA	2	NA	Yes	ASL
Semivolatile Organics (ug/L)																			
84-74-2	Di-N-butyl phthalate	2.7	J	2.7	J	PCSW0101	1/6	10	2.7	NA	360	N	700	NA	NA	2700	NA	No	BSL
Pesticides (ug/L)																			
72-54-8	4,4'-DDD	0.0054	J	0.0054	J	PCSW0201	1/6	0.05	0.0054	NA	0.28	C	14	NA	NA	0.00083	0.00015	Yes	ASL
72-55-9	4,4'-DDE	0.0064	J	0.024	J	PCSW0201	3/5	0.05	0.024	NA	0.2	C	10	NA	NA	0.00059	0.00015	Yes	ASL
50-29-3	4,4'-DDT	0.029	J	0.029	J	PCSW0201	1/6	0.05	0.029	NA	0.2	C	6	NA	NA	0.00059	0.00015	Yes	ASL
959-98-8	Endosulfan I	0.01	J	0.01	J	BBSW0501	1/6	0.05	0.01	NA	22	N	42	NA	NA	110	NA	No	BSL
Inorganics (ug/L)																			
7429-90-5	Aluminum	44.8		9460		PCSW0301	6/6	0	9460	NA	3600	N	NA	NA	50	NA	NA	Yes	ASL
7440-38-2	Arsenic	3.7		3.8		BBSW0501	3/6	3.2	3.8	NA	0.045	C	50	10	NA	0.018	50	Yes	ASL
7440-39-3	Barium	16.8	J	61.8		PCSW0301	6/6	0	61.8	NA	260	N	2000	2000	NA	1000	1000	No	BSL
7440-41-7	Beryllium	0.26		0.26		PCSW0301	1/6	0.17	0.26	NA	7.3	N	4	4	NA	NA	NA	No	BSL
7440-70-2	Calcium	23200	J	91600		PCSW0101	6/6	0	91600	NA	NA	N	NA	NA	NA	NA	NA	No	NUT
7440-47-3	Chromium [8]	14.4		14.4		PCSW0301	1/6	1.8 - 5.6	14.4	NA	11	N	100	100	NA	NA	NA	Yes	ASL
7440-48-4	Cobalt	4.6		4.6		PCSW0301	1/6	2.9	4.6	NA	220	N	1000	NA	NA	NA	NA	No	BSL
7440-50-8	Copper	6.9		22.2		PCSW0101	5/6	2.4	22.2	NA	140	N	650	1300	1000	1000	NA	No	BSL
7439-89-6	Iron	84.4	J	10900		PCSW0301	6/6	0	10900	NA	1100	N	5000	NA	300	300	300	Yes	ASL
7439-92-1	Lead	3		18		PCSW0301	5/6	1 8	18	NA	NA	N	7.5	15	NA	NA	50	Yes	ASL
7439-95-4	Magnesium	7720		37400		PCSW0101	6/6	0	37400	NA	NA	N	NA	NA	NA	NA	NA	No	NUT
7439-96-5	Manganese	14 6	J	245		PCSW0301	6/6	0	245	NA	88	N	150	NA	50	50	150	Yes	ASL
7439-97-6	Mercury	0.05		0.1		PCSW0401	4/6	0.047	0.1	NA	1.1	N	2	2	NA	0.05	0.0031	Yes	ASL
7440-02-0	Nickel	12.5		12.5		PCSW0301	1/6	10.4	12.5	NA	73	N	100	NA	NA	610	NA	No	BSL
7440-09-7	Potassium	1270		6280		PCSW0301	6/6	0	6280	NA	NA	N	NA	NA	NA	NA	NA	No	NUT
7440-23-5	Sodium	13100		122000		PCSW0101	6/6	0	122000	NA	NA	N	NA	NA	NA	NA	NA	No	NUT
7440-62-2	Vanadium	2.9		15.6		PCSW0301	3/6	2.5	15.6	NA	26	N	49	NA	NA	NA	NA	No	BSL
7440-66-6	Zinc	28		150		PCSW0101	4/6	13.5 - 32.7	150	NA	1100	N	5000	NA	5000	5000	1000	No	BSL

[1] Maximum concentration used as screening value
[2] No background values are available for surface water at Site 17.
[3] Based on Preliminary Remediation Goals, USEPA Region 9, November 2000, for Tap Water (Cancer benchmark value = 1E-06, Hazard Quotient = 0.1).
[4] IEPA 1996 TACO Class I Groundwater remediation objectives (IEPA, online, March 2002).
[5] *Federal Maximum Contaminant Levels (USEPA, Summer 2000).*
[6] Illinois Environmental Protection Agency Ambient Water Quality Criteria.
[7] Rationale Codes
Selection Reason: Above Screening Levels (ASL)
Deletion Reason: Maximum detected concentration is below background screening level (BKG)
Essential Nutrient (NUT)
Below Screening Levels (BSL)
[8] Chromium evaluated as hexavalent chromium.

Definitions:
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
C = carcinogen
COPC = Chemical of Potential Concern
J = Estimated Value
MCL = Maximum Contaminant Level
NA = Not Applicable
N = noncarcinogen
SMCL = Secondary Maximum Contaminant Level

OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN - FISH TISSUE
SITE 17- BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Fish Tissue
Exposure Point: Fish Tissue from Site 17 - Boat Basin

CAS Number	Chemical	Minimum Sediment Concentration	Minimum Qualifier	Maximum Sediment Concentration	Maximum Qualifier	Location of Maximum Sediment Concentration	Detection Frequency	Range of Sediment Detection Limits	Biotransfer Factor (sed to fish)[1]	Fish Tissue Concentration Used For Screening [2]	Sediment Background Value[3]	Potential ARAR/TBC Ingestion[4]		Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection[5]
Organic Volatiles (mg/kg)																
75-09-2	Methylene Chloride	0 0066		0.0066		BBSD4701	1/1	--	NA	NA	NA	NA	C	NA	No	BSL
Organic Semi-volatiles (mg/kg)																
208-96-8	Acenaphthylene[6]	0.024	J	0 2	J	BBSD5601	6/12	0 42 - 3 9	0.29	0 322	NA	8.1	N	EPA III	No	BSL
120-12-7	Anthracene	0.049	J	1 9		BBSD4601	12/12	--	0.29	3.06	NA	41	N	EPA III	No	BSL
56-55-3	**Benzo(a)anthracene**	0.25		4.9		BBSD4501	12/12	--	0 29	7.88	NA	**0.0043**	C	EPA III	**Yes**	**ASL**
50-32-8	**Benzo(a)pyrene**	0 26		4.5		BBSD4501	12/12	--	0 29	7 24	NA	**0.00043**	C	EPA III	**Yes**	**ASL**
205-99-2	**Benzo(b)fluoranthene**	0.28		4.5		BBSD4501	12/12	--	0.29	7 24	NA	**0.0043**	C	EPA III	**Yes**	**ASL**
191-24-2	**Benzo(g,h,i)perylene**[7]	0.2	J	2.8		BBSD4501	10/12	0.16 - 0 45	0.29	4 5	NA	**4.1**	N	EPA III	**Yes**	**ASL**
207-08-9	**Benzo(k)fluoranthene**	0.15		2.5		BBSD4501	12/12	--	0.29	4.02	NA	**0.043**	C	EPA III	**Yes**	**ASL**
117-81-7	**Bis(2-ethylhexyl)phthalate**	0.61	J	0 61	J	BBSD4701	1/1	--	1	3.38	NA	**0.23**	C	EPA III	**Yes**	**ASL**
218-01-9	**Chrysene**	0.27		4.9		BBSD4501	12/12	--	0 29	7.88	NA	**0.43**	C	EPA III	**Yes**	**ASL**
206-44-0	**Fluoranthene**	0.73		14		BBSD4501	12/12	--	0 29	22.5	NA	**5.4**	N	EPA III	**Yes**	**ASL**
86-73-7	Fluorene	0.04	J	1.3		BBSD4501	12/12	--	0 29	2.09	NA	5.4	N	EPA III	No	BSL
193-39-5	**Indeno(1,2,3-cd)pyrene**	0.15	J	2		BBSD4501	12/12	--	0.29	3.22	NA	**0.0043**	C	EPA III	**Yes**	**ASL**
91-20-3	Naphthalene	1.2	J	1.2	J	BBSD4601	1/12	0.36 - 4.2	0.29	1 93	NA	2.7	N	EPA III	No	BSL
85-01-8	**Phenanthrene**[7]	0.38		10		BBSD4501	12/12	--	0.29	16 1	NA	**4.1**	N	EPA III	**Yes**	**ASL**
129-00-0	**Pyrene**	0.56		11		BBSD4501	12/12	--	0.29	17.7	NA	**4.1**	N	EPA III	**Yes**	**ASL**
Pesticides/PCBs (mg/kg)																
72-54-8	**4,4'-DDD**	0.071		0.31		BBSD4801	12/12	--	0.28	0.481	NA	**0.013**	C	EPA III	**Yes**	**ASL**
72-55-9	**4,4'-DDE**	0.055		0.23		BBSD4801	12/12	--	7.7	9.82	NA	**0.0093**	C	EPA III	**Yes**	**ASL**
50-29-3	**4,4'-DDT**	0.034		0.12		BBSD4701	11/12	0.046	1.67	1.11	NA	**0.0093**	C	EPA III	**Yes**	**ASL**
309-00-2	**Aldrin**	0 0041	J	0.0041	J	BBSD4701	1/12	0.0082 - 0.051	1.8	0.0409	NA	**0.00019**	C	EPA III	**Yes**	**ASL**
319-84-6	**Alpha-BHC**	0 0065	J	0.0065	J	BBSD5601	1/12	0.0082 - 0.051	1.8	0.0649	NA	**0.0005**	C	EPA III	**Yes**	**ASL**
5103-71-9	**Alpha-Chlordane**[8]	0.0012	J	0.011	J	BBSD4801	12/12	--	4.77	0.291	NA	**0.009**	C	EPA III	**Yes**	**ASL**
11097-69-1	**Aroclor-1254**	0.079		0.66		BBSD4801	4/12	0.036 - 0.044	1.85	6.77	NA	**0.0016**	C	EPA III	**Yes**	**ASL**
11096-82-5	**Aroclor-1260**	0.049		0.27		BBSD4801	3/12	0.036 - 0 047	1 85	2.77	NA	**0.0016**	C	EPA III	**Yes**	**ASL**
319-85-7	**Beta-BHC**	0.0056	J	0.0076	J	BBSD5201	3/12	0.0082 - 0.051	1.8	0.0759	NA	**0.0018**	C	EPA III	**Yes**	**ASL**
319-86-8	**Delta-BHC**[9]	0.002	J	0.0085	J	BBSD5601	4/12	0.0082 - 0.021	1.8	0.0848	NA	**0.0005**	C	EPA III	**Yes**	**ASL**
60-57-1	**Dieldrin**	0.0015	J	0.013	J	BBSD4801	10/12	0.011 - 0.021	1.8	0.13	NA	**0.0002**	C	EPA III	**Yes**	**ASL**
959-98-8	Endosulfan I	0.00068	J	0.0087	J	BBSD4801	10/11	0 0097	1 8	0.0868	NA	0.81	N	EPA III	No	BSL
33213-65-9	Endosulfan II[10]	0.00094	J	0.012	J	BBSD5201	9/11	0.015 - 0.021	1.8	0.12	NA	0.81	N	EPA III	No	BSL
1031-07-8	*Endosulfan Sulfate*[10]	0.0073	J	0.0073	J	BBSD5201	1/12	0.0082 - 0.051	1.8	0.0729	NA	0.81	N	EPA III	No	BSL
72-20-8	Endrin	0.0013	J	0.0013	J	BBSD4601	1/12	0 0082 - 0.051	1.8	0.013	NA	0 041	N	EPA III	No	BSL
53494-70-5	**Endrin Ketone**[11]	0.0047	J	0.0047	J	BBSD4501	1/12	0.0082 - 0.051	1.8	0.0469	NA	**0.041**	N	EPA III	**Yes**	**ASL**
58-89-9	**Gamma-BHC (Lindane)**	0.0046	J	0.0046	J	BBSD5601	1/12	0.0082 - 0.051	1.8	0.0459	NA	**0.0024**	C	EPA III	**Yes**	**ASL**
5103-74-2	**Gamma-Chlordane**[8]	0.0012	J	0.008	J	BBSD4801	10/12	0.021 - 0 046	2.22	0.0985	NA	**0.009**	C	EPA III	**Yes**	**ASL**
72-43-5	Methoxychlor	0.032	J	0.032	J	BBSD5201	1/12	0.082 - 0.51	1.8	0.319	NA	0.68	N	EPA III	No	BSL

TABLE 2.5

OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN - FISH TISSUE
SITE 17- BOAT BASIN
NTC GREAT LAKES

CAS Number	Chemical	Minimum Sediment Concentration	Minimum Qualifier	Maximum Sediment Concentration	Maximum Qualifier	Location of Maximum Sediment Concentration	Detection Frequency	Range of Sediment Detection Limits	Biotransfer Factor (sed to fish)[1]	Fish Tissue Concentration Used For Screening[2]	Sediment Background Value[3]	Potential ARAR/TBC Ingestion[4]		Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection[5]
Inorganics (mg/kg)																
7429-90-5	**Aluminum**	1300		6860		BBSD4801	12/12	--	1	6174	NA	**140**	N	EPA III	**Yes**	**ASL**
7440-36-0	**Antimony**	0.45		0.47		BBSD5301	2/12	0.36 - 0.8	1	0.423	NA	**0.054**	N	EPA III	**Yes**	**ASL**
7440-38-2	**Arsenic**	3.4		9.9		BBSD4801	12/12	--	1	0.41	**8**	**0.0021**	C	EPA III	**Yes**	**ASL**
7440-39-3	Barium	12		57.8		BBSD4801	12/12	--	1	52.0	145	**9.5**	N	EPA III	No	BKG
7440-41-7	**Beryllium**	0.26		6.7	J	BBSD4901	10/12	0.32 - 0.47	1	6.03	NA	**0.27**	N	EPA III	**Yes**	**ASL**
7440-43-9	**Cadmium**	0.23		2.2		BBSD4801	12/12	--	1	0.38	**0.5**	**0.14**	N	EPA III	**Yes**	**ASL**
7440-70-2	Calcium	33500		86300	J	BBSD4901	12/12	--	NA	86300	NA	NA	N		No	NUT
7440-47-3	**Chromium**[12]	7.9		28.9		BBSD4801	12/12	--	1	0.8381	**16**	**0.41**	N	EPA III	**Yes**	**ASL**
7440-48-4	**Cobalt**	3.7		10.1		BBSD4801	12/12	--	1	10.1	NA	**2.7**	N	EPA III	**Yes**	**ASL**
7440-50-8	**Copper**	55.5		283		BBSD4801	12/12	--	1	128	**38**	**5.4**	N	EPA III	**Yes**	**ASL**
7439-89-6	**Iron**	7410		19200		BBSD4801	12/12	--	1	19200	**18000**	**81**	N	EPA III	**Yes**	**ASL**
7439-92-1	Lead	47.6		289		BBSD4801	12/12	--	1	5.95	**28**	NA	N		No	BSL
7439-95-4	Magnesium	17200		46900	J	BBSD4901	12/12	--	NA	46900	NA	NA	N		No	NUT
7439-96-5	Manganese	226		731	J	BBSD4901	12/12	--	1	731	1300	**19**	N	EPA III	No	BKG
7439-97-6	**Mercury**[13]	0.068		0.95		BBSD4801	12/12	--	1	0.31	**0.07**	**0.014**	N	EPA III	**Yes**	**ASL**
7440-02-0	**Nickel**	8.9		31.5		BBSD5401	12/12	--	1	4.44	**26**	**2.7**	N	EPA III	**Yes**	**ASL**
7440-09-7	Potassium	180		1150		BBSD4801	12/12	--	NA	1150	1500	NA	N		No	NUT, BKG
7782-49-2	**Selenium**	0.66		1.2		BBSD4801	3/12	0.5 - 0.65	1	1.08	NA	**0.68**	N	EPA III	**Yes**	**ASL**
7440-22-4	Silver	0.29		4.2		BBSD4801	12/12	--	1	3.78	5	**0.68**	N	EPA III	No	BKG
7440-23-5	Sodium	136		487	J	BBSD4901	12/12	--	NA	487	NA	NA	N		No	NUT
7440-62-2	**Vanadium**	6		18.9		BBSD4801	12/12	--	1	18.9	NA	**0.95**	N	EPA III	**Yes**	**ASL**
7440-66-6	**Zinc**	247		2070	J	BBSD4901	12/12	--	1	1162	**80**	**41**	N	EPA III	**Yes**	**ASL**

[1] BSAF: Biota-sediment Accumulation Factor
[2] Concentration in fish tissue (mg/kg) - estimated from maximum sediment concentration and BSAF.
[3] Illinois EPA Unsieved Stream Sediment Background
[4] Based on Risk-Based Concentrations (RBCs) from USEPA Region III RBC Tables. (Cancer benchmark value = 1E-06, Hazard Quotient = 0.1)
[5] Rationale Codes

Selection Reason	Above Screening Levels (ASL)
Deletion Reason	Maximum detected concentration is below background screening level (BKG)
	Essential Nutrient (NUT)
	Below Screening Levels (BSL)
	No Toxicity Information (NTX)

[6] Acenaphthylene evaluated as acenaphthene.
[7] Benzo(g,h,i)perylene, and phenanthrene evaluated as pyrene.
[8] Alpha- and gamma-chlordane evaluated as chlordane.
[9] Delta BHC evaluated as alpha-BHC.
[10] Endosulfan II and endosulfan sulfate evaluated as endosulfan.
[11] Endrin ketone evaluated as endrin.
[12] Chromium evaluated as hexavalent chromium.
[13] Mercury evaluated as methylmercury.
Chemical names in bold indicate that chemical was selected as a COPC

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
C = carcinogen
COPC = Chemical of Potential Concern
J = Estimated Value
N = noncarcinogen
NA = Not Applicable

TABLE 3.1
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Site 17 - North Branch Pettibone Creek

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	mg/kg	1.30E+00	2.07E+00	1.10E+01		mg/kg	1.86E+00	95%UCL-L	1
Benzo(a)pyrene	mg/kg	1.29E+00	2.06E+00	1.10E+01		mg/kg	1.87E+00	95%UCL-L	1
Benzo(b)fluoranthene	mg/kg	1.36E+00	2.19E+00	1.20E+01		mg/kg	1.95E+00	95%UCL-L	1
Benzo(k)fluoranthene	mg/kg	7.40E-01	1.18E+00	6.30E+00		mg/kg	1.07E+00	95%UCL-L	1
Indeno(1,2,3-cd)pyrene	mg/kg	6.58E-01	1.06E+00	5.80E+00	J	mg/kg	9.55E-01	95%UCL-L	1
4,4'-DDT	mg/kg	1.74E-01	2.98E-01	1.80E+00		mg/kg	4.40E-01	95%UCL-L	1
Aroclor-1254	mg/kg	1.20E-01	1.64E-01	4.40E-01		mg/kg	2.57E-01	95%UCL-L	1
Arsenic	mg/kg	5.84E+00	6.40E+00	1.04E+01		mg/kg	6.40E+00	95%UCL-L	1
Cadmium	mg/kg	7.32E-01	1.10E+00	4.20E+00		mg/kg	1.76E+00	95%UCL-L	1
Chromium	mg/kg	1.65E+01	1.99E+01	5.58E+01	J	mg/kg	1.92E+01	95%UCL-L	1
Copper	mg/kg	1.56E+02	1.92E+02	4.77E+02		mg/kg	2.20E+02	95%UCL-L	1
Mercury	mg/kg	3.90E-01	7.20E-01	4.70E+00		mg/kg	5.38E-01	95%UCL-L	1
Thallium	mg/kg	8.17E-01	1.01E+00	2.10E+00	J	mg/kg	1.12E+00	95%UCL-L	1

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-L);
UCL = Upper Confidence Level
EPC = *Exposure Point Concentration*

Potential Rationale
(1) Shapiro-Wilk W Test indicates data are log-normally distributed
(2) Shapiro-Wilk W Test indicates data are normally distributed
(3) Shapiro-Wilk W Test is inconclusive. Therefore, data are assumed to be lognormally distributed.
(4) The 95% UCL exceeded the maximum; therefore the maximum was used.
(5) There were less than 10 samples taken. Therefore, the maximum detected concentration was used.

TABLE 3.2
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
SEDIMENT
SITE 17 - SOUTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Site 17 - South Branch Pettibone Creek

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	mg/kg	3.60E-01	6.96E-01	2.80E+00		mg/kg	5.70E-01	95%UCL-L	1
Benzo(a)pyrene	mg/kg	3.27E-01	5.75E-01	2.10E+00	J	mg/kg	5.38E-01	95%UCL-L	1
Benzo(b)fluoranthene	mg/kg	3.24E-01	5.84E-01	2.20E+00		mg/kg	5.22E-01	95%UCL-L	1
Indeno(1,2,3-cd)pyrene	mg/kg	1.60E-01	2.61E-01	8.80E-01	J	mg/kg	2.50E-01	95%UCL-L	1
Thallium	mg/kg	7.29E-01	9.35E-01	1.50E+00		mg/kg	1.05E+00	95%UCL-L	1

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-L);
UCL = Upper Confidence Level
EPC = Exposure Point Concentration

Potential Rationale
(1) Shapiro-Wilk W Test indicates data are log-normally distributed
(2) Shapiro-Wilk W Test indicates data are normally distributed
(3) Shapiro-Wilk W Test is inconclusive. Therefore, data are assumed to be lognormally distributed.
(4) The 95% UCL exceeded the maximum; therefore the maximum was used.
(5) There were less than 10 samples taken. Therefore, the maximum detected concentration was used.

TABLE 3.3
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
SEDIMENT
SITE 17 - BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Site 17 - Boat Basin

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	mg/kg	1.25E+00	2.00E+00	4.90E+00		mg/kg	2.73E+00	95%UCL-L	1
Benzo(a)pyrene	mg/kg	1.13E+00	1.79E+00	4.50E+00		mg/kg	2.25E+00	95%UCL-L	1
Benzo(b)fluoranthene	mg/kg	1.14E+00	1.80E+00	4.50E+00		mg/kg	2.26E+00	95%UCL-L	1
Indeno(1,2,3-cd)pyrene	mg/kg	4.82E-01	7.56E-01	2.00E+00		mg/kg	8.16E-01	95%UCL-L	1
Aroclor-1254	mg/kg	1.16E-01	2.21E-01	6.60E-01		mg/kg	3.71E-01	95%UCL-L	1
Aroclor-1260	mg/kg	5.62E-02	9.76E-02	2.70E-01		mg/kg	1.08E-01	95%UCL-L	1
Arsenic	mg/kg	5.37E+00	6.19E+00	9.90E+00		mg/kg	6.21E+00	95%UCL-L	1
Iron	mg/kg	1.17E+04	1.34E+04	1.92E+04		mg/kg	1.36E+04	95%UCL-L	1

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-L);
UCL = Upper Confidence Level
EPC = Exposure Point Concentration

Potential Rationale
(1) Shapiro-Wilk W Test indicates data are log-normally distributed
(2) Shapiro-Wilk W Test indicates data are normally distributed
(3) Shapiro-Wilk W Test is inconclusive. Therefore, data are assumed to be lognormally distributed.
(4) The 95% UCL exceeded the maximum; therefore the maximum was used.
(5) There were less than 10 samples taken. Therefore, the maximum detected concentration was used.

TABLE 3.4
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
FISH TISSUE
SITE 17 - BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Fish Tissue
Exposure Point: Fish Tissue from Site 17 - Boat Basin

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	mg/kg	2.01E+00	3.21E+00	7.88E+00		mg/kg	4.38E+00	95%UCL-L	1
Benzo(a)pyrene	mg/kg	1.81E+00	2.88E+00	7.24E+00		mg/kg	3.61E+00	95%UCL-L	1
Benzo(b)fluoranthene	mg/kg	1.84E+00	2.89E+00	7.24E+00		mg/kg	3.63E+00	95%UCL-L	1
Benzo(g,h,i)perylene	mg/kg	1.02E+00	1.67E+00	4.50E+00		mg/kg	2.31E+00	95%UCL-L	1
Benzo(k)fluoranthene	mg/kg	1.04E+00	1.63E+00	4.02E+00		mg/kg	2.11E+00	95%UCL-L	1
Bis(2-ethylhexyl)phthalate	mg/kg	3.38E+00	********	3.38E+00	J	mg/kg	3.38E+00	max	5
Chrysene	mg/kg	1.99E+00	3.16E+00	7.88E+00		mg/kg	4.18E+00	95%UCL-L	1
Fluoranthene	mg/kg	5.77E+00	9.25E+00	2.25E+01		mg/kg	1.27E+01	95%UCL-L	1
Indeno(1,2,3-cd)pyrene	mg/kg	7.75E-01	1.22E+00	3.22E+00		mg/kg	1.31E+00	95%UCL-L	1
Phenanthrene	mg/kg	4.27E+00	7.14E+00	1.61E+01		mg/kg	1.16E+01	95%UCL-L	1
Pyrene	mg/kg	4.38E+00	7.13E+00	1.77E+01		mg/kg	1.01E+01	95%UCL-L	1
4,4'-DDD	mg/kg	1.82E-01	2.38E-01	4.81E-01		mg/kg	2.38E-01	95%UCL-L	1
4,4'-DDE	mg/kg	3.69E+00	4.84E+00	9.82E+00		mg/kg	4.82E+00	95%UCL-L	1
4,4'-DDT	mg/kg	5.91E-01	7.28E-01	1.11E+00		mg/kg	8.17E-01	95%UCL-L	1
Aldrin	mg/kg	8.95E-02	1.28E-01	4.09E-02	J	mg/kg	4.09E-02	95%UCL-L	1
Alpha-BHC	mg/kg	9.62E-02	1.33E-01	6.49E-02	J	mg/kg	6.49E-02	95%UCL-L	1
Alpha-Chlordane	mg/kg	9.41E-02	1.35E-01	2.91E-01	J	mg/kg	1.49E-01	95%UCL-L	1
Aroclor-1254	mg/kg	1.19E+00	2.27E+00	6.77E+00		mg/kg	3.81E+00	95%UCL-L	1
Aroclor-1260	mg/kg	5.77E-01	1.00E+00	2.77E+00		mg/kg	1.11E+00	95%UCL-L	1
Beta-BHC	mg/kg	7.88E-02	1.09E-01	7.59E-02	J	mg/kg	7.59E-02	95%UCL-L	1
Delta-BHC	mg/kg	6.06E-02	7.21E-02	8.48E-02	J	mg/kg	7.21E-02	95%UCL-N	2
Dieldrin	mg/kg	4.67E-02	6.58E-02	1.30E-01	J	mg/kg	7.92E-02	95%UCL-L	1
Endrin Ketone	mg/kg	9.41E-02	1.32E-01	4.69E-02	J	mg/kg	4.69E-02	95%UCL-L	1
Gamma-BHC (Lindane)	mg/kg	9.46E-02	1.32E-01	4.59E-02	J	mg/kg	4.59E-02	95%UCL-L	1
Gamma-Chlordane	mg/kg	5.95E-02	1.01E-01	9.85E-02	J	mg/kg	9.85E-02	95%UCL-L	1
Aluminum	mg/kg	2.45E+03	3.12E+03	6.17E+03		mg/kg	3.16E+03	95%UCL-L	1
Antimony	mg/kg	2.70E-01	3.19E-01	4.23E-01		mg/kg	3.37E-01	95%UCL-L	1
Arsenic	mg/kg	2.23E-01	2.57E-01	4.11E-01		mg/kg	2.57E-01	95%UCL-L	1
Beryllium	mg/kg	1.02E+00	1.86E+00	6.03E+00	J	mg/kg	2.33E+00	95%UCL-L	1
Cadmium	mg/kg	1.13E-01	1.60E-01	3.83E-01		mg/kg	1.62E-01	95%UCL-L	1
Chromium	mg/kg	3.65E-01	4.51E-01	8.38E-01		mg/kg	4.49E-01	95%UCL-L	1
Cobalt	mg/kg	5.63E+00	6.62E+00	1.01E+01		mg/kg	6.71E+00	95%UCL-L	1
Copper	mg/kg	5.22E+01	6.91E+01	1.28E+02		mg/kg	7.27E+01	95%UCL-L	1
Iron	mg/kg	1.17E+04	1.34E+04	1.92E+04		mg/kg	1.36E+04	95%UCL-L	1
Mercury	mg/kg	7.14E-02	1.13E-01	3.13E-01		mg/kg	1.14E-01	95%UCL-L	1
Nickel	mg/kg	2.38E+00	2.91E+00	4.44E+00		mg/kg	3.03E+00	95%UCL-L	1
Selenium	mg/kg	3.87E-01	5.22E-01	1.08E+00		mg/kg	5.29E-01	95%UCL-L	3
Vanadium	mg/kg	1.02E+01	1.20E+01	1.89E+01		mg/kg	1.23E+01	95%UCL-L	1
Zinc	mg/kg	3.72E+02	5.20E+02	1.16E+03	J	mg/kg	5.65E+02	95%UCL-L	1

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-L);
UCL = Upper Confidence Level
EPC = Exposure Point Concentration

Potential Rationale
(1) Shapiro-Wilk W Test indicates data are log-normally distributed
(2) Shapiro-Wilk W Test indicates data are normally distributed
(3) Shapiro-Wilk W Test is inconclusive. Therefore, data are assumed to be lognormally distributed.
(4) The 95% UCL exceeded the maximum; therefore the maximum was used.
(5) There were less than 10 samples taken. Therefore, the maximum detec entration was used.

TABLE 3.5
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
SURFACE WATER
SITE 17 - BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current/Future
Medium: Surface water
Exposure Medium:Surface Water
Exposure Point: Site 17 - Boat Basin

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Bromodichloromethane	ug/L	5.40E-01	·····	7.40E-01	J	ug/L	7.40E-01	max	5
Chlorodibromomethane	ug/L	5.90E-01	·····	5.90E-01	J	ug/L	5.90E-01	max	5
Chloroform	ug/L	8.10E-01	·····	1.20E+00		ug/L	1.20E+00	max	5
cis-1,2-Dichloroethene	ug/L	5.15E+00	·····	9.20E+00		ug/L	9.20E+00	max	5
Tetrachloroethene	ug/L	9.05E-01	·····	1.40E+00		ug/L	1.40E+00	max	5
Trichloroethene	ug/L	2.98E+00	·····	5.50E+00		ug/L	5.50E+00	max	5
Vinyl Chloride	ug/L	7.70E-01	·····	7.70E-01	J	ug/L	7.70E-01	max	5
4,4'-DDD	ug/L	5.40E-03	·····	5.40E-03	J	ug/L	5.40E-03	max	5
4,4'-DDE	ug/L	1.35E-02	·····	2.40E-02	J	ug/L	2.40E-02	max	5
4,4'-DDT	ug/L	2.90E-02	·····	2.90E-02	J	ug/L	2.90E-02	max	5
Aluminum	ug/L	2.38E+03	·····	9.46E+03		ug/L	9.46E+03	max	5
Arsenic	ug/L	3.73E+00	·····	3.80E+00		ug/L	3.80E+00	max	5
Chromium	ug/L	1.44E+01	·····	1.44E+01		ug/L	1.44E+01	max	5
Iron	ug/L	2.81E+03	·····	1.09E+04		ug/L	1.09E+04	max	5
Lead	ug/L	7.82E+00	·····	1.80E+01		ug/L	1.80E+01	max	5
Manganese	ug/L	8.31E+01	·····	2.45E+02		ug/L	2.45E+02	max	5
Mercury	ug/L	7.00E-02	·····	1.00E-01		ug/L	1.00E-01	max	5

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-L);
UCL = Upper Confidence Level
EPC = Exposure Point Concentration

Potential Rationale
(1) Shapiro-Wilk W Test indicates data are log-normally distributed
(2) Shapiro-Wilk W Test indicates data are normally distributed
(3) Shapiro-Wilk W Test is inconclusive. Therefore, data are assumed to be lognormally distributed.
(4) The 95% UCL exceeded the maximum; therefore the maximum was used.
(5) There were less than 10 samples taken. Therefore, the maximum detected concentration was used.

TABLE 4.1
VALUES OF DAILY INTAKE CALCULATIONS FOR EXPOSURE OF
ADULT RECREATIONAL USERS TO SEDIMENT
SITE 17 - PETTIBONE CREEK AND THE BOAT BASIN
NTC GREAT LAKES

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference[2]	CTE Value	CTE Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Csed	Chemical Concentration in Sediment	mg/kg	95% UCL	EPA 1993	95%UCL	EPA 1993	Ingestion CDI[3] (mg/kg-day) = Csed x IR x FI x EF x ED x CF / BW x AT
	IR	Ingestion Rate of Soil	mg/day	100	EPA 1993	50	EPA 1993	
	EF	Exposure Frequency	days/year	52.0	Professional Judgement (2 days per week in warm weather months)	26.0	Professional Judgement (1/2 the RME)	
	FI	Fraction Ingested	unitless	1	Professional Judgement	1	Professional Judgement	
	ED	Exposure Duration	years	24	EPA 1993. Assumed length of residence for adult living near the site.	7	EPA 1993. Assumed length of residence for adult living near the site.	
	CF	Conversion Factor	kg/mg	1.0E-06	EPA 1989	1.0E-06	EPA 1989	
	BW	Body Weight	kg	70	EPA 1989	70	EPA 1989	
	AT-C	Averaging Time (Cancer)	days	25,550	EPA 1989	25,550	EPA 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	EPA 1989	2,555	EPA 1989	
Dermal	Csed	Chemical Concentration in Sediment	mg/kg	95%UCL	EPA 1993	95%UCL	EPA 1993	Dermal CDI[3] (mg/kg-day) = DAevent x SA x EF x ED / BW x AT; DAevent = Csed x AF x ABS x CF
	AF	Soil to Skin Adherence Factor	mg/cm^2	0.3	EPA 2000	0.04	EPA 2000	
	SA	Skin Surface Area Available for Contact	cm^2/day	9,190	EPA 1997	7,770	EPA 1997	
	ABS	Absorption Factor	unitless	chemical-specific	EPA 2000	chemical-specific	EPA 2000	
	EF	Exposure Frequency	days/year	52	Professional Judgement (2 days per week in warm weather months)	26	Professional Judgement (1/2 the RME)	
	ED	Exposure Duration	years	24	EPA 1993. Assumed length of residence for adult living near the site.	7	EPA 1993. Assumed length of residence for adult living near the site.	
	CF	Conversion Factor	kg/mg	0.000001	EPA 1989	0.000001	EPA 1989	
	BW	Body Weight	kg	70	EPA 1989	70	EPA 1989	
	AT-C	Averaging Time (Cancer)	days	25,550	EPA 1989	25,550	EPA 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	EPA 1989	2,555	EPA 1989	

UCL - 95 percent upper confidence limit calculated according to Supplemental Guidance to RAGS: Calculating the Concentration Term, May 1992. PB92-963373.

USEPA, 1989: Risk Assessment Guidance for Superfund. Vol 1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

USEPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure. Office of Solid Waste and Emergency Response, Washington, DC. May.

USEPA, 1997: Exposure Factors Handbook, EPA/600/P-95/002Fa/, Office of Research and Development, August.

USEPA, 2000: Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment), Interim Guidance.

TABLE 4.2
VALUES OF DAILY INTAKE CALCULATIONS FOR EXPOSURE OF
ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - PETTIBONE CREEK AND THE BOAT BASIN
NTC GREAT LAKES

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference[2]	CTE Value	CTE Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Csed	Chemical Concentration in Sediment	mg/kg	95% UCL	USEPA 1993	95%UCL	USEPA 1993	Ingestion CDI[3] (mg/kg-day) =
	IR	Ingestion Rate of Soil	mg/day	100	USEPA 1993	50	USEPA 1993	$\frac{Csed \times IR \times FI \times EF \times ED \times CF}{BW \times AT}$
	FI	Fraction Ingested	unitless	1.0	Professional Judgement	1.0	Professional Judgement	
	EF	Exposure Frequency	days/year	52	Professional Judgement (2 days per week in warm weather months)	26	Professional Judgement (1/2 the RME)	
	ED	Exposure Duration	years	10	Adolescent, Age 7 - 16	10	Adolescent, Age 7 - 16	
	CF	Conversion Factor	kg/mg	1.0E-06	USEPA 1989	1.0E-06	USEPA 1989	
	BW	Body Weight	kg	42	USEPA 1997	42	USEPA 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA 1989	25,550	USEPA 1989	
	AT-N	Averaging Time (Non-Cancer)	days	3,650	USEPA 1989	3,650	USEPA 1989	
Dermal	Csed	Chemical Concentration in Sediment	mg/kg	95%UCL	USEPA 1993	95%UCL	USEPA 1993	Dermal CDI[3] (mg/kg-day) =
	AF	Soil to Skin Adherence Factor	mg/cm^2	0.3	USEPA 2000	0.04	USEPA 2000	$\frac{DAevent \times SA \times EF \times ED}{BW \times AT}$
	SA	Skin Surface Area Available for Contact	cm^2/day	3,280	USEPA 1997	3,100	USEPA 1997	
	ABS	Absorption Factor	unitless	chemical-specific	USEPA 2000	chemical-specific	USEPA 2000	DAevent = Csed x AF x ABS x CF
	EF	Exposure Frequency	days/year	52	Professional Judgement (2 days per week in warm weather months)	26	Professional Judgement (1/2 the RME)	
	ED	Exposure Duration	years	10	Adolescent, Age 7 - 16	10	Adolescent, Age 6 - 16	
	CF	Conversion Factor	kg/mg	0.000001	USEPA 1989	0.000001	USEPA 1989	
	BW	Body Weight	kg	42	USEPA 1997	42	USEPA 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA 1989	25,550	USEPA 1989	
	AT-N	Averaging Time (Non-Cancer)	days	3,650	USEPA 1989	3,650	USEPA 1989	

UCL - 95 percent upper confidence limit calculated according to Supplemental Guidance to RAGS: Calculating the Concentration Term, May 1992. PB92-963373.

USEPA, 1989: Risk Assessment Guidance for Superfund. Vol 1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

USEPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure. Office of Solid Waste and Emergency Response, Washington, DC. May.

USEPA, 1997: Exposure Factors Handbook, EPA/600/P-95/002Fa/, Office of Research and Development, August.

USEPA, 2000: Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment), Interim Guidance.

TABLE 4.3

VALUES OF DAILY INTAKE CALCULATIONS FOR EXPOSURE OF ADULT RECREATIONAL USERS TO SURFACE WATER SITE 17 - PETTIBONE CREEK AND THE BOAT BASIN NTC GREAT LAKES

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference[1]	CTE Value	CTE Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Csw	Chemical Concentration in Surface Water	ug/L	95% UCL	USEPA 1993	95%UCL	USEPA 1993	Ingestion CDI[2] (mg/kg-day) =
	CR	Contact Rate	L/hour	0.05	USEPA, 1989	0.05	USEPA, 1989	
	ET	Exposure Time	hours/event	4	Professional Judgement	2	Professional Judgement (1/2 the RME)	$\frac{Csw \times CR \times ET \times EF \times EV \times ED}{BW \times AT}$
	EF	Exposure Frequency	(days/year)	52	Professional Judgement (2 days per week in warm weather months)	26	Professional Judgement (1/2 the RME)	
	EV	Event Frequency	event/day	1	Professional Judgement	1	Professional Judgement	
	ED	Exposure Duration	years	24	EPA 1993. Assumed length of residence for adult living near the site.	7	EPA 1993. Assumed length of residence for adult living near the site.	
	CF	conversion factor	mg/ug	0.001		0.001		
	BW	Body Weight	kg	70	USEPA 1989	70	USEPA 1989	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	USEPA, 1989	2,555	USEPA, 1989	
Dermal	Cwater	Chemical Concentration in Groundwater	mg/L	95% UCL	USEPA 1993	95%UCL	USEPA 1993	DAD[3] (mg/kg-day) =
	DAevent	Absorbed Dose per Event	mg/cm2-event	chemical-specific	USEPA, 2001	chemical-specific	USEPA, 2001	
	EV	Event Frequency	event/day	1	Professional Judgement	1	Professional Judgement	$\frac{DAevent \times EV \times ED \times EF \times A}{BW \times AT}$
	ED	Exposure Duration	years	24	EPA 1993. Assumed length of residence for adult living near the site.	7	EPA 1993. Assumed length of residence for adult living near the site.	
	EF	Exposure Frequency	days/year	52	Professional Judgement (2 days per week in warm weather months)	26	Professional Judgement (1/2 the RME)	
	A	Skin Surface Available for Contact	cm2	9,190	USEPA 1997	7,770	USEPA 1997	
	t_{event}	Duration of Event	hour/event	4	Professional Judgement	2	Professional Judgement (1/2 the RME)	
	Kp	Permeability Coefficient from Water	cm/hour	chemical-specific	USEPA, 2001	chemical-specific	USEPA, 2001	
	τ	Lag Time	hour/event	chemical-specific	USEPA, 2001	chemical-specific	USEPA, 2001	
	t^*	Time to Reach Steady State	hour/event	chemical-specific	USEPA, 2001	chemical-specific	USEPA, 2001	
	B	Bunge Model Constant	dimensionless	chemical-specific	USEPA, 2001	chemical-specific	USEPA, 2001	
	BW	Body Weight	kg	70	USEPA 1989	70	USEPA 1989	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	USEPA, 1989	2,555	USEPA, 1989	

UCL - 95 percent upper confidence limit calculated according to Supplemental Guidance to RAGS: Calculating the Concentration Term, May 1992. PB92-963373.

USEPA, 1989: Risk Assessment Guidance for Superfund. Vol 1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

USEPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure. Office of Solid Waste and Emergency Response, Washington, DC. May.

USEPA, 1997: Exposure Factors Handbook, EPA/600/P-95/002Fa/, Office of Research and Development, August.

USEPA, September 2001: Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment). Interim Guidance.

TABLE 4.4

VALUES OF DAILY INTAKE CALCULATIONS FOR EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SURFACE WATER SITE 17 - PETTIBONE CREEK AND THE BOAT BASIN NTC GREAT LAKES

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference[1]	CTE Value	CTE Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Csw	Chemical Concentration in Surface Water	mg/L	95% UCL	USEPA 1993	95%UCL	USEPA 1993	Ingestion CDI[2] (mg/kg-day) =
	CR	Contact Rate	L/hour	0.05	USEPA, 1989	0.05	USEPA, 1989	
	ET	Exposure Time	hours/event	4	Professional Judgement	2	Professional Judgement (1/2 the RME)	$\frac{Csw \times CR \times ET \times EF \times EV \times ED}{BW \times AT}$
	EF	Exposure Frequency	(days/year)	52	*Professional Judgement (2* days per week in warm weather months)	26	Professional Judgement (1/2 the RME)	
	EV	Event Frequency	event/day	1	Professional Judgement	1	Professional Judgement	
	ED	Exposure Duration	years	10	Adolescent, Age 7 - 16	10	Adolescent, Age 7 - 16	
	CF	conversion factor	mg/ug	0.001		0.001		
	BW	Body Weight	kg	42	USEPA, 1997	42	USEPA, 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	3,650	USEPA, 1989	3,650	USEPA, 1989	
Dermal	Cwater	Chemical Concentration in Groundwater	mg/L	95% UCL	USEPA 1993	95%UCL	USEPA 1993	DAD[3] (mg/kg-day) =
	DAevent	Absorbed Dose per Event	mg/cm2-event	chemical-specific	USEPA, 2001	chemical-specific	USEPA, 2001	
	EV	Event Frequency	event/day	1	Professional Judgement	1	Professional Judgement	$\frac{DAevent \times EV \times ED \times EF \times A}{BW \times AT}$
	ED	Exposure Duration	years	10	Adolescent, Age 7 - 16	10	Adolescent, Age 7 - 16	
	EF	Exposure Frequency	days/year	52	Professional Judgement (2 days per week in warm weather months)	26	Professional Judgement (1/2 the RME)	
	A	Skin Surface Available for Contact	cm2	3,820	USEPA, 1997	3,100	USEPA, 1997	
	t_{event}	Duration of Event	hour/event	4	Professional Judgement	2	Professional Judgement (1/2 the RME)	
	Kp	Permeability Coefficient from Water	cm/hour	chemical-specific	USEPA, 2001	chemical-specific	USEPA, 2001	
	τ	Lag Time	hour/event	chemical-specific	USEPA, 2001	chemical-specific	USEPA, 2001	
	t^*	Time to Reach Steady State	hour/event	chemical-specific	USEPA, 2001	chemical-specific	USEPA, 2001	
	B	Bunge Model Constant	dimensionless	chemical-specific	USEPA, 2001	chemical-specific	USEPA, 2001	
	BW	Body Weight	kg	42	USEPA, 1997	42	USEPA, 1997	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	3,650	USEPA, 1989	3,650	USEPA, 1989	

UCL - 95 percent upper confidence limit calculated according to Supplemental Guidance to RAGS: Calculating the Concentration Term, May 1992. PB92-963373.

USEPA, 1989: Risk Assessment Guidance for Superfund. Vol 1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

USEPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure. Office of Solid Waste and Emergency Response, Washington, DC. May.

USEPA, 1997: Exposure Factors Handbook, EPA/600/P-95/002Fa/, Office of Research and Development, August.

USEPA, September 2001: Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment), Interim Guidance.

TABLE 4.5

VALUES OF DAILY INTAKE CALCULATIONS FOR EXPOSURE OF ADULT RECREATIONAL USERS BY INGESTION OF FISH SITE 17 - BOAT BASIN NTC GREAT LAKES

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference[2]	CTE Value	CTE Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CFish	Chemical Concentration in Fish	mg/kg	Calculated by multiplying 95% UCL for Sediment by BASF	USEPA 1993	Calculated by multiplying 95% UCL for Sediment by BASF	USEPA 1993	Intake (mg/kg-day) = $\frac{Cfish \times IR \times FI \times EF \times ED}{BW \times AT}$
	IR	Ingestion Rate of fish	kg/meal	0.02	IEPA, 2002	0.008	USEPA, 1997	
	FI	Fraction ingested from source	unitless	0.1	Professional Judgement	0.1	Professional Judgement	
	EF	Exposure Frequency	meals/year	365	USEPA 1997	365	USEPA 1997	
	ED	Exposure Duration	years	30	USEPA, 1993	9	USEPA, 1993	
	BW	Body Weight	kg	70	USEPA, 1989	70	USEPA, 1989	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	10,950	USEPA, 1989	3,285	USEPA, 1989	

UCL - 95 percent upper confidence limit calculated according to Supplemental Guidance to RAGS: Calculating the Concentration Term, May 1992. PB92-963373.

USEPA, 1989: Risk Assessment Guidance for Superfund. Vol 1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002, December.

USEPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure. Office of Solid Waste and Emergency Response, Washington, DC. May.

USEPA, 1997: Exposure Factors Handbook, EPA/600/P-95/002Fa/, Office of Research and Development, August.

IEPA, 2002 - Comments on the Presentation and Draft Meeting Minutes for the March 28, 2002 Meeting Held at Great Lakes NTC, April 5.

TABLE 5-1

NON-CANCER TOXICITY DATA - ORAL/DERMAL
SITE 17 - PETTIBONE CREEK AND THE BOAT BASIN
NTC GREAT LAKES

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD	Oral RfD Units	Oral to Dermal Adjustment Factor [1]	Adjusted Dermal RfD[1]	Dermal RfD Units	Primary Target Organ	Combined Uncertainty/ Modifying Factors [2]	Sources of RfD/Target Organ
Bromodichloromethane	Chronic	2.00E-02	mg/kg-day	1	2.00E-02	mg/kg-day	Renal Cytomegaly	UF = 1000	Iris
Chlorodibromomethane	Chronic	2.00E-02	mg/kg-day	1	2.00E-02	mg/kg-day	Hepatic Lesions	UF = 1000	Iris
Chloroform	Chronic	1.00E-02	mg/kg-day	1	1.00E-02	mg/kg-day	Liver	UF = 100	Iris
cis-1,2-Dichloroethene	Chronic	1.00E-02	mg/kg-day	1	1.00E-02	mg/kg-day	Circulatory		HEAST
Tetrachloroethene	Chronic	1.00E-02	mg/kg-day	1	1.00E-02	mg/kg-day	Body Weight - Liver	UF = 1000	Iris
Trichloroethene	Chronic	6.00E-03	mg/kg-day	1	6.00E-03	mg/kg-day	CNS		NCEA
Vinyl Chloride	Chronic	3.00E-03	mg/kg-day	1	3.00E-03	mg/kg-day	Liver	UF = 30	Iris
Benzo(g,h,I,)perylene [3]	Chronic	3.00E-02	mg/kg-day	1	3.00E-02	mg/kg-day	Kidney	UF = 3000	Iris
Bis(2-ethylhexyl)phthalate	Chronic	2.00E-02	mg/kg-day	1	2.00E-02	mg/kg-day	Liver	UF = 1000	Iris
Fluoranthene	Chronic	4.00E-02	mg/kg-day	1	4.00E-02	mg/kg-day	Blood - Kidney - Liver		Iris
Phenanthrene [3]	Chronic	3.00E-02	mg/kg-day	1	3.00E-02	mg/kg-day	Kidney	UF = 3000	Iris
Pyrene	Chronic	3.00E-02	mg/kg-day	1	3.00E-02	mg/kg-day	Kidney	UF = 3000	Iris
4,4'-DDT	Chronic	5.00E-04	mg/kg-day	1	5.00E-04	mg/kg-day	Liver	UF = 100	Iris
Aldrin	Chronic	3.00E-05	mg/kg-day	1	3.00E-05	mg/kg-day	Liver	UF = 1000	Iris
Alpha-Chlordane [4]	Chronic	5.00E-04	mg/kg-day	1	5.00E-04	mg/kg-day	Hepatic Effects	UF = 300	Iris
Aroclor-1254	Chronic	2.00E-05	mg/kg-day	1	2.00E-05	mg/kg-day	Immunological	UF = 300	Iris
Dieldrin	Chronic	5.00E-05	mg/kg-day	1	5.00E-05	mg/kg-day	Liver	UF = 100	Iris
Endrin Ketone [5]	Chronic	3.00E-04	mg/kg-day	1	3.00E-04	mg/kg-day	Liver - Neurological	UF = 100	Iris/ TACO
Gamma-BHC (Lindane)	Chronic	3.00E-04	mg/kg-day	1	3.00E-04	mg/kg-day	Kidney - Liver	UF = 1000	Iris
Gamma-Chlordane [4]	Chronic	5.00E-04	mg/kg-day	1	5.00E-04	mg/kg-day	Hepatic Effects	UF = 300	Iris
Aluminum	Chronic	1.00E+00	mg/kg-day	1	1.00E+00	mg/kg-day	Body Weight		NCEA
Antimony	Chronic	4.00E-04	mg/kg-day	0.15	6.00E-05	mg/kg-day	Circulatory	UF = 1000	Iris
Arsenic	Chronic	3.00E-04	mg/kg-day	1	3.00E-04	mg/kg-day	Skin - Cardiovascular	UF = 3	Iris
Beryllium	Chronic	2.00E-03	mg/kg-day			mg/kg-day	Gastrointestinal	UF = 300	Iris
Cadmium -water	Chronic	5.00E-04	mg/kg-day	0.025	1.25E-05	mg/kg-day	Kidney - Ingestion	UF = 10	Iris
Cadmium - soil	Chronic	1.00E-03	mg/kg-day	0.025	2.50E-05	mg/kg-day	Kidney - Ingestion	UF = 10	Iris
Chromium [6]	Chronic	3.00E-03	mg/kg-day	0.025	7.50E-05	mg/kg-day	Respiratory	UF = 300 MF = 3	Iris
Cobalt	Chronic	6.00E-02	mg/kg-day	1	6.00E-02	mg/kg-day	Cardiovascular, Neurological, Immuniological		NCEA
Copper	Chronic	3.71E-02	mg/kg-day	1	3.71E-02	mg/kg-day	Gastrointestinal		HEAST
Iron - Adult	Chronic	6.00E-01	mg/kg-day	1	6.00E-01	mg/kg-day	Gastrointestinal		NCEA
Iron - Child	Chronic	1.10E+00	mg/kg-day	1	1.10E+00	mg/kg-day	Gastrointestinal		NCEA
Manganese--soil	Chronic	1.4E-01	mg/kg-day	0.04	5.60E-03	mg/kg-day	Neurological	UF = 1	Iris
Manganese--water	Chronic	4.6E-02	mg/kg-day	0.04	1.84E-03	mg/kg-day	Neurological	UF = 1	Iris
Mercury [7]	Chronic	3.00E-04	mg/kg-day	0.07	2.10E-05	mg/kg-day	Neurological - inh Immuniological - ing	UF = 30	Iris
Nickel	Chronic	2.00E-02	mg/kg-day	0.04	8.00E-04	mg/kg-day	Body Weight	UF = 300	Iris
Selenium	Chronic	5.00E-03	mg/kg-day	1	5.00E-03	mg/kg-day	Skin - Neurological	UF = 3	Iris
Thallium [8]	Chronic	8.00E-05	mg/kg-day	1	8.00E-05	mg/kg-day	Increased levels of SGOT and LDH	UF = 3000	Iris
Vanadium	Chronic	7.00E-03	mg/kg-day	0.026	1.82E-04	mg/kg-day	NOEL		HEAST
Zinc	Chronic	3.00E-01	mg/kg-day	1	3.00E-01	mg/kg-day	Blood	UF = 3	Iris

Source: Iris, Region 9 PRGs.
HEAST = Health Effects Assessment Summary Tables (USEPA, July 1997)
NCEA = USEPA National Center for Environmental Assessment (USEPA Region 9 PRG Table, November 2000)
[1] RfD dermal = RfDoral x (Oral to Dermal Adjustment Factor) as given in RAGS Part E (USEPA, Sept. 2001).
[2] Modifying Factor not shown if equal to unity.
[3] Value given for Pyrene.
[4] Value given for Chlordane.
[6] Value given for hexavalent chromium..
[7] Lead will be evaluated using the EPA Technical Workgroup for Lead. USEPA 1996
[8] Value given for Thallium Carbonate

RfD = Reference dose
UF = Uncertainty Factor
MF = Modifying Factor
EPA 9 = USEPA Region 9 Preliminary Remediation Goals
NA = Not Available
TACO = Illinois Tiered Approach to Corrective Action Objectives.
NOEL = No-observed-effect-level.

TABLE 6-1

CANCER TOXICITY DATA - ORAL/DERMAL
SITE 17 - PETTIBONE CREEK AND THE BOAT BASIN
NTC GREAT LAKES

Chemical of Potential Concern	Oral CSF	Oral to Dermal Adjustment Factor[1]	Adjusted Dermal Cancer Slope Factor[1]	Units	Weight of Evidence/ Cancer Guideline Description	Comments
Benzo(a)anthracene	7.3E-01	1	7.30E-01	$(mg/kg\text{-}day)^{-1}$	B2	NCEA
Benzo(a)pyrene	7.3E+00	1	7.30E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS
Benzo(b)fluoranthene	7.3E-01	1	7.30E-01	$(mg/kg\text{-}day)^{-1}$	B2	NCEA
Benzo(k)fluoranthene	7.3E-02	1	7.30E-02	$(mg/kg\text{-}day)^{-1}$	B2	NCEA
Bis(2-ethylhexyl)phthalate	1.4E-02	1	1.40E-02	$(mg/kg\text{-}day)^{-1}$	B2	IRIS
Chrysene	7.3E-03	1	7.30E-03	$(mg/kg\text{-}day)^{-1}$	B2	NCEA
Indeno(1,2,3-cd)pyrene	7.3E-01	1	7.30E-01	$(mg/kg\text{-}day)^{-1}$	B2	NCEA
4,4'-DDD	2.4E-01	1	2.40E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS
4,4'-DDE	3.4E-01	1	3.40E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS
4,4'-DDT	3.4E-01	1	3.40E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS
Aldrin	1.7E+01	1	1.70E+01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS
Alpha-BHC	6.3E+00	1	6.30E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS
Alpha-Chlordane [2]	3.5E-01	1	3.50E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS
Aroclor-1254	2.0E+00	1	2.00E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS
Aroclor-1260	2.0E+00	1	2.00E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS
Dieldrin	1.6E+01	1	1.60E+01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS
Gamma-BHC (Lindane)	1.3E+00	1	1.30E+00	$(mg/kg\text{-}day)^{-1}$	B2	HEAST
Gamma-Chlordane [2]	3.5E-01	1	3.50E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS
Arsenic	1.5E+00	1	1.50E+00	$(mg/kg\text{-}day)^{-1}$	A	IRIS

Source: Iris, Region 9 PRGs.
HEAST = Health Effects Assessment Summary Tables (USEPA, July 1997)
NCEA = USEPA National Center for Environmental Assessment
(USEPA Region 9 PRG Table, November 2000)
[1] CSFdermal = CSForal/(Oral to Dermal Adjustment Factor)
If no adjustment recommended, factor = 1.00.
Source: RAGS E (USEPA September 2001)
[2] Value given for chlordane.

Notes:
CSF = Cancer Slope Factor

EPA Group:
A - Human carcinogen
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E - Evidence of noncarcinogenicity
NA - Not Available

TABLE 7.1 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADULT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	3.8E-07	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	3.8E-07	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	4.0E-07	mg/kg-day		mg/kg-day			
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	2.2E-07	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	9.55E-01	mg/kg	M	1.9E-07	mg/kg-day		mg/kg-day			
	4,4'-DDT	4.40E-01	mg/kg	4.40E-01	mg/kg	M	9.0E-08	mg/kg-day	5.00E-04	mg/kg-day			1.8E-04
	Aroclor-1254	2.57E-01	mg/kg	2.57E-01	mg/kg	M	5.2E-08	mg/kg-day	2.00E-05	mg/kg-day			2.6E-03
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	1.3E-06	mg/kg-day	3.00E-04	mg/kg-day			4.3E-03
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	3.6E-07	mg/kg-day	1.00E-03	mg/kg-day			3.6E-04
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	3.9E-06	mg/kg-day	3.00E-03	mg/kg-day			1.3E-03
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	4.5E-05	mg/kg-day	3.71E-02	mg/kg-day			1.2E-03
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	1.1E-07	mg/kg-day	3.00E-04	mg/kg-day			3.6E-04
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	2.3E-07	mg/kg-day	8.00E-05	mg/kg-day			2.8E-03
	(total)												1.3E-02
Dermal	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	1.4E-06	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	1.4E-06	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	1.4E-06	mg/kg-day		mg/kg-day			
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	7.8E-07	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	9.55E-01	mg/kg	M	7.0E-07	mg/kg-day		mg/kg-day			
	4,4'-DDT	4.40E-01	mg/kg	4.40E-01	mg/kg	M	0.0E+00	mg/kg-day	5.00E-04	mg/kg-day			0.0E+00
	Aroclor-1254	2.57E-01	mg/kg	2.57E-01	mg/kg	M	2.0E-07	mg/kg-day	2.00E-05	mg/kg-day			1.0E-02
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	1.1E-06	mg/kg-day	3.00E-04	mg/kg-day			3.6E-03
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	0.0E+00	mg/kg-day	2.50E-05	mg/kg-day			0.0E+00
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	0.0E+00	mg/kg-day	7.50E-05	mg/kg-day			0.0E+00
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	0.0E+00	mg/kg-day	3.71E-02	mg/kg-day			0.0E+00
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	0.0E+00	mg/kg-day	2.10E-05	mg/kg-day			0.0E+00
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	0.0E+00	mg/kg-day	8.00E-05	mg/kg-day			0.0E+00
	(total)												1.4E-02
										Total Hazard Index Across All Exposure Routes/Pathways			**2.7E-02**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 7.1 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADULT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	9.4E-08	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	9.5E-08	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	9.9E-08	mg/kg-day		mg/kg-day			
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	5.5E-08	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	9.55E-01	mg/kg	M	4.9E-08	mg/kg-day		mg/kg-day			
	4,4'-DDT	4.40E-01	mg/kg	4.40E-01	mg/kg	M	2.2E-08	mg/kg-day	5.00E-04	mg/kg-day			4.5E-05
	Aroclor-1254	2.57E-01	mg/kg	2.57E-01	mg/kg	M	1.3E-08	mg/kg-day	2.00E-05	mg/kg-day			6.5E-04
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	3.3E-07	mg/kg-day	3.00E-04	mg/kg-day			1.1E-03
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	9.0E-08	mg/kg-day	1.00E-03	mg/kg-day			9.0E-05
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	9.8E-07	mg/kg-day	3.00E-03	mg/kg-day			3.3E-04
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	1.1E-05	mg/kg-day	3.71E-02	mg/kg-day			3.0E-04
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	2.7E-08	mg/kg-day	3.00E-04	mg/kg-day			9.1E-05
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	5.7E-08	mg/kg-day	8.00E-05	mg/kg-day			7.1E-04
	(total)												3.3E-03
Dermal	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	7.6E-08	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	7.7E-08	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	8.0E-08	mg/kg-day		mg/kg-day			
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	4.4E-08	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	9.55E-01	mg/kg	M	3.9E-08	mg/kg-day		mg/kg-day			
	4,4'-DDT	4.40E-01	mg/kg	4.40E-01	mg/kg	M	0.0E+00	mg/kg-day	5.00E-04	mg/kg-day			0.0E+00
	Aroclor-1254	2.57E-01	mg/kg	2.57E-01	mg/kg	M	1.1E-08	mg/kg-day	2.00E-05	mg/kg-day			5.7E-04
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	6.1E-08	mg/kg-day	3.00E-04	mg/kg-day			2.0E-04
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	0.0E+00	mg/kg-day	2.50E-05	mg/kg-day			0.0E+00
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	0.0E+00	mg/kg-day	7.50E-05	mg/kg-day			0.0E+00
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	0.0E+00	mg/kg-day	3.71E-02	mg/kg-day			0.0E+00
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	0.0E+00	mg/kg-day	2.10E-05	mg/kg-day			0.0E+00
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	0.0E+00	mg/kg-day	8.00E-05	mg/kg-day			0.0E+00
	(total)												7.7E-04
												Total Hazard Index Across All Exposure Routes/Pathways	**4.1E-03**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 8.1 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADULT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	1.3E-07	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	9.5E-08
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	1.3E-07	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	9.5E-07
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	1.4E-07	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	9.9E-08
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	7.5E-08	mg/kg-day	7.30E-02	$(mg/kg\text{-}day)^{-1}$	5.5E-09
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	2.57E-01	mg/kg	M	6.7E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	4.9E-08
	4,4'-DDT	4.40E-01	mg/kg	6.40E+00	mg/kg	M	3.1E-08	mg/kg-day	3.40E-01	$(mg/kg\text{-}day)^{-1}$	1.0E-08
	Aroclor-1254	2.57E-01	mg/kg	1.76E+00	mg/kg	M	1.8E-08	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	3.6E-08
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	4.5E-07	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	6.7E-07
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	1.2E-07	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	1.3E-06	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	1.5E-05	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	3.8E-08	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	7.8E-08	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										1.9E-06
Dermal	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	4.6E-07	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	3.4E-07
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	4.7E-07	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	3.4E-06
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	4.9E-07	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	3.6E-07
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	2.7E-07	mg/kg-day	7.30E-02	$(mg/kg\text{-}day)^{-1}$	2.0E-08
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	9.55E-01	mg/kg	M	2.4E-07	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.7E-07
	4,4'-DDT	4.40E-01	mg/kg	4.40E-01	mg/kg	M	0.0E+00	mg/kg-day	3.40E-01	$(mg/kg\text{-}day)^{-1}$	0.0E+00
	Aroclor-1254	2.57E-01	mg/kg	2.57E-01	mg/kg	M	6.9E-08	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	1.4E-07
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	3.7E-07	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	5.5E-07
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										5.0E-06
											6.9E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 8.1 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADULT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	9.4E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	6.9E-09
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	9.5E-09	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	6.9E-08
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	9.9E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	7.2E-09
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	5.5E-09	mg/kg-day	7.30E-02	$(mg/kg\text{-}day)^{-1}$	4.0E-10
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	2.57E-01	mg/kg	M	4.9E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	3.5E-09
	4,4'-DDT	4.40E-01	mg/kg	6.40E+00	mg/kg	M	2.2E-09	mg/kg-day	3.40E-01	$(mg/kg\text{-}day)^{-1}$	7.6E-10
	Aroclor-1254	2.57E-01	mg/kg	1.76E+00	mg/kg	M	1.3E-09	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	2.6E-09
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	3.3E-08	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	4.9E-08
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	9.0E-09	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	9.8E-08	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	1.1E-06	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	2.7E-09	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	5.7E-09	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										1.4E-07
Dermal	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	7.6E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	5.6E-09
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	7.7E-09	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	5.6E-08
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	8.0E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	5.8E-09
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	4.4E-09	mg/kg-day	7.30E-02	$(mg/kg\text{-}day)^{-1}$	3.2E-10
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	9.55E-01	mg/kg	M	3.9E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	2.9E-09
	4,4'-DDT	4.40E-01	mg/kg	4.40E-01	mg/kg	M	0.0E+00	mg/kg-day	3.40E-01	$(mg/kg\text{-}day)^{-1}$	0.0E+00
	Aroclor-1254	2.57E-01	mg/kg	2.57E-01	mg/kg	M	1.1E-09	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	2.3E-09
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	6.1E-09	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	9.1E-09
	Cadmium	*1.76E+00*	*mg/kg*	*1.76E+00*	*mg/kg*	*M*	*0.0E+00*	*mg/kg-day*		$(mg/kg\text{-}day)^{-1}$	
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										8.2E-08
											2.2E-07

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 7.2 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	6.3E-07	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	6.3E-07	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	6.6E-07	mg/kg-day		mg/kg-day			
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	3.6E-07	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	9.55E-01	mg/kg	M	3.2E-07	mg/kg-day		mg/kg-day			
	4,4'-DDT	4.40E-01	mg/kg	4.40E-01	mg/kg	M	1.5E-07	mg/kg-day	5.00E-04	mg/kg-day			3.0E-04
	Aroclor-1254	2.57E-01	mg/kg	2.57E-01	mg/kg	M	8.7E-08	mg/kg-day	2.00E-05	mg/kg-day			4.4E-03
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	2.2E-06	mg/kg-day	3.00E-04	mg/kg-day			7.2E-03
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	6.0E-07	mg/kg-day	1.00E-03	mg/kg-day			6.0E-04
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	6.5E-06	mg/kg-day	3.00E-03	mg/kg-day			2.2E-03
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	7.5E-05	mg/kg-day	3.71E-02	mg/kg-day			2.0E-03
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	1.8E-07	mg/kg-day	3.00E-04	mg/kg-day			6.1E-04
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	3.8E-07	mg/kg-day	8.00E-05	mg/kg-day			4.7E-03
	(total)												2.2E-02
Dermal	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	8.1E-07	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	8.1E-07	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	8.5E-07	mg/kg-day		mg/kg-day			
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	4.7E-07	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	9.55E-01	mg/kg	M	4.1E-07	mg/kg-day		mg/kg-day			
	4,4'-DDT	4.40E-01	mg/kg	4.40E-01	mg/kg	M	0.0E+00	mg/kg-day	5.00E-04	mg/kg-day			0.0E+00
	Aroclor-1254	2.57E-01	mg/kg	2.57E-01	mg/kg	M	1.2E-07	mg/kg-day	2.00E-05	mg/kg-day			6.0E-03
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	6.4E-07	mg/kg-day	3.00E-04	mg/kg-day			2.1E-03
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	0.0E+00	mg/kg-day	2.50E-05	mg/kg-day			0.0E+00
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	0.0E+00	mg/kg-day	7.50E-05	mg/kg-day			0.0E+00
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	0.0E+00	mg/kg-day	3.71E-02	mg/kg-day			0.0E+00
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	0.0E+00	mg/kg-day	2.10E-05	mg/kg-day			0.0E+00
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	0.0E+00	mg/kg-day	8.00E-05	mg/kg-day			0.0E+00
	(total)												8.1E-03
												Total Hazard Index Across All Exposure Routes/Pathways	**3.0E-02**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 7.2 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	1.6E-07	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	1.6E-07	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	1.7E-07	mg/kg-day		mg/kg-day			
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	9.1E-08	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	9.55E-01	mg/kg	M	8.1E-08	mg/kg-day		mg/kg-day			
	4,4'-DDT	4.40E-01	mg/kg	4.40E-01	mg/kg	M	3.7E-08	mg/kg-day	5.00E-04	mg/kg-day			7.5E-05
	Aroclor-1254	2.57E-01	mg/kg	2.57E-01	mg/kg	M	2.2E-08	mg/kg-day	2.00E-05	mg/kg-day			1.1E-03
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	5.4E-07	mg/kg-day	3.00E-04	mg/kg-day			1.8E-03
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	1.5E-07	mg/kg-day	1.00E-03	mg/kg-day			1.5E-04
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	1.6E-06	mg/kg-day	3.00E-03	mg/kg-day			5.4E-04
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	1.9E-05	mg/kg-day	3.71E-02	mg/kg-day			5.0E-04
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	4.6E-08	mg/kg-day	3.00E-04	mg/kg-day			1.5E-04
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	9.5E-08	mg/kg-day	8.00E-05	mg/kg-day			1.2E-03
	(total)												5.5E-03
Dermal	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	5.1E-08	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	5.1E-08	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	5.3E-08	mg/kg-day		mg/kg-day			
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	2.9E-08	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	9.55E-01	mg/kg	M	2.6E-08	mg/kg-day		mg/kg-day			
	4,4'-DDT	4.40E-01	mg/kg	4.40E-01	mg/kg	M	0.0E+00	mg/kg-day	5.00E-04	mg/kg-day			0.0E+00
	Aroclor-1254	2.57E-01	mg/kg	2.57E-01	mg/kg	M	7.6E-09	mg/kg-day	2.00E-05	mg/kg-day			3.8E-04
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	4.0E-08	mg/kg-day	3.00E-04	mg/kg-day			1.3E-04
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	0.0E+00	mg/kg-day	2.50E-05	mg/kg-day			0.0E+00
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	0.0E+00	mg/kg-day	7.50E-05	mg/kg-day			0.0E+00
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	0.0E+00	mg/kg-day	3.71E-02	mg/kg-day			0.0E+00
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	0.0E+00	mg/kg-day	2.10E-05	mg/kg-day			0.0E+00
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	0.0E+00	mg/kg-day	8.00E-05	mg/kg-day			0.0E+00
	(total)												5.1E-04
										Total Hazard Index Across All Exposure Routes/Pathways			**6.0E-03**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 8.2 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	9.0E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	6.6E-08
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	9.1E-08	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	6.6E-07
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	9.4E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	6.9E-08
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	5.2E-08	mg/kg-day	7.30E-02	$(mg/kg\text{-}day)^{-1}$	3.8E-09
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	2.57E-01	mg/kg	M	4.6E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	3.4E-08
	4,4'-DDT	4.40E-01	mg/kg	6.40E+00	mg/kg	M	2.1E-08	mg/kg-day	3.40E-01	$(mg/kg\text{-}day)^{-1}$	7.3E-09
	Aroclor-1254	2.57E-01	mg/kg	1.76E+00	mg/kg	M	1.2E-08	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	2.5E-08
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	3.1E-07	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	4.7E-07
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	8.5E-08	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	9.3E-07	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	1.1E-05	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	2.6E-08	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	5.4E-08	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										1.3E-06
Dermal	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	1.2E-07	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	8.4E-08
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	1.2E-07	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	8.5E-07
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	1.2E-07	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	8.8E-08
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	6.6E-08	mg/kg-day	7.30E-02	$(mg/kg\text{-}day)^{-1}$	4.9E-09
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	9.55E-01	mg/kg	M	5.9E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	4.3E-08
	4,4'-DDT	4.40E-01	mg/kg	4.40E-01	mg/kg	M	0.0E+00	mg/kg-day	3.40E-01	$(mg/kg\text{-}day)^{-1}$	0.0E+00
	Aroclor-1254	2.57E-01	mg/kg	2.57E-01	mg/kg	M	1.7E-08	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	3.4E-08
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	9.2E-08	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	1.4E-07
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										1.2E-06
											2.6E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 8.2 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	2.2E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.6E-08
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	2.3E-08	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	1.7E-07
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	2.4E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.7E-08
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	1.3E-08	mg/kg-day	7.30E-02	$(mg/kg\text{-}day)^{-1}$	9.5E-10
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	2.57E-01	mg/kg	M	1.2E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	8.4E-09
	4,4'-DDT	4.40E-01	mg/kg	6.40E+00	mg/kg	M	5.3E-09	mg/kg-day	3.40E-01	$(mg/kg\text{-}day)^{-1}$	1.8E-09
	Aroclor-1254	2.57E-01	mg/kg	1.76E+00	mg/kg	M	3.1E-09	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	6.2E-09
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	7.8E-08	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	1.2E-07
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	2.1E-08	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	2.3E-07	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	2.7E-06	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	6.5E-09	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	1.4E-08	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										3.3E-07
Dermal	Benzo(a)anthracene	1.86E+00	mg/kg	1.86E+00	mg/kg	M	7.3E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	5.3E-09
	Benzo(a)pyrene	1.87E+00	mg/kg	1.87E+00	mg/kg	M	7.3E-09	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	5.3E-08
	Benzo(b)fluoranthene	1.95E+00	mg/kg	1.95E+00	mg/kg	M	7.6E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	5.6E-09
	Benzo(k)fluoranthene	1.07E+00	mg/kg	1.07E+00	mg/kg	M	4.2E-09	mg/kg-day	7.30E-02	$(mg/kg\text{-}day)^{-1}$	3.1E-10
	Indeno(1,2,3-cd)pyrene	9.55E-01	mg/kg	9.55E-01	mg/kg	M	3.7E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	2.7E-09
	4,4'-DDT	4.40E-01	mg/kg	4.40E-01	mg/kg	M	0.0E+00	mg/kg-day	3.40E-01	$(mg/kg\text{-}day)^{-1}$	0.0E+00
	Aroclor-1254	2.57E-01	mg/kg	2.57E-01	mg/kg	M	1.1E-09	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	2.2E-09
	Arsenic	6.40E+00	mg/kg	6.40E+00	mg/kg	M	5.8E-09	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	8.7E-09
	Cadmium	1.76E+00	mg/kg	1.76E+00	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Chromium	1.92E+01	mg/kg	1.92E+01	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Copper	2.20E+02	mg/kg	2.20E+02	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Mercury	5.38E-01	mg/kg	5.38E-01	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Thallium	1.12E+00	mg/kg	1.12E+00	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										7.8E-08
											4.1E-07

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 7.3 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADULT RECREATIONAL USERS TO SEDIMENT
SITE 17 - SOUTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: South Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	1.2E-07	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	1.1E-07	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	1.1E-07	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	5.1E-08	mg/kg-day		mg/kg-day			
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	2.1E-07	mg/kg-day	8.00E-05	mg/kg-day			2.7E-03
	(total)												2.7E-03
Dermal	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	4.2E-07	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	3.9E-07	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	3.8E-07	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	1.8E-07	mg/kg-day		mg/kg-day			
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	0.0E+00	mg/kg-day	8.00E-05	mg/kg-day			0.0E+00
	(total)												0.0E+00
												Total Hazard Index Across All Exposure Routes/Pathways	**2.7E-03**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 7.3 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADULT RECREATIONAL USERS TO SEDIMENT
SITE 17 - SOUTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: South Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	2.9E-08	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	2.7E-08	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	2.7E-08	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	1.3E-08	mg/kg-day		mg/kg-day			
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	5.3E-08	mg/kg-day	8.00E-05	mg/kg-day			6.6E-04
	(total)												6.6E-04
Dermal	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	2.3E-08	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	2.2E-08	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	2.1E-08	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	1.0E-08	mg/kg-day		mg/kg-day			
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	0.0E+00	mg/kg-day	8.00E-05	mg/kg-day			0.0E+00
	(total)												0.0E+00
												Total Hazard Index Across All Exposure Routes/Pathways	**6.6E-04**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 8.3 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADULT RECREATIONAL USERS TO SEDIMENT
SITE 17 - SOUTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: South Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	4.0E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	2.9E-08
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	3.8E-08	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	2.7E-07
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	3.6E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	2.7E-08
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	1.7E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.3E-08
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	7.3E-08	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										3.4E-07
Dermal	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	1.4E-07	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.0E-07
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	1.3E-07	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	9.8E-07
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	1.3E-07	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	9.5E-08
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	6.3E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	4.6E-08
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										1.2E-06
											1.6E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 8.3 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADULT RECREATIONAL USERS TO SEDIMENT
SITE 17 - SOUTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: South Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	2.9E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	2.1E-09
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	2.7E-09	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	2.0E-08
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	2.7E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.9E-09
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	1.3E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	9.3E-10
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	5.3E-09	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										2.5E-08
Dermal	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	2.3E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.7E-09
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	2.2E-09	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	1.6E-08
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	2.1E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.6E-09
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	1.0E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	7.5E-10
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										2.0E-08
											4.5E-08

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 7.4 A

REASONABLE MAXIMUM EXPOSURE (RME)

CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT

SITE 17 - SOUTH BRANCH OF PETTIBONE CREEK

NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: South Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	1.9E-07	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	1.8E-07	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	1.8E-07	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	8.5E-08	mg/kg-day		mg/kg-day			
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	3.5E-07	mg/kg-day	8.00E-05	mg/kg-day			4.4E-03
	(total)												4.4E-03
Dermal	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	2.5E-07	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	2.3E-07	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	2.3E-07	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	1.1E-07	mg/kg-day		mg/kg-day			
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	0.0E+00	mg/kg-day	8.00E-05	mg/kg-day			0.0E+00
	(total)												0.0E+00
										Total Hazard Index Across All Exposure Routes/Pathways			**4.4E-03**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 7.4 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - SOUTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: South Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	4.8E-08	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	4.6E-08	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	4.4E-08	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	2 1E-08	mg/kg-day		mg/kg-day			
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	8.9E-08	mg/kg-day	8.00E-05	mg/kg-day			1.1E-03
	(total)												1.1E-03
Dermal	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	1.6E-08	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	1.5E-08	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	1.4E-08	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	6.8E-09	mg/kg-day		mg/kg-day			
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	0.0E+00	mg/kg-day	8.00E-05	mg/kg-day			0.0E+00
	(total)												0.0E+00
												Total Hazard Index Across All Exposure Routes/Pathways	**1.1E-03**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 8.4 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - SOUTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: South Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	2.8E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	2.0E-08
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	2.6E-08	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	1.9E-07
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	2.5E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.8E-08
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	1.2E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	8.8E-09
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	5.1E-08	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										2.4E-07
Dermal	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	3.5E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	2.6E-08
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	3.3E-08	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	2.4E-07
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	3.2E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	2.4E-08
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	1.5E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.1E-08
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										3.0E-07
											5.4E-07

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 8.4 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - SOUTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: South Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	6.9E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	5.0E-09
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	6.5E-09	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	4.8E-08
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	6.3E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	4.6E-09
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	3.0E-09	mg/kg-day	7.30E-01 a	$(mg/kg\text{-}day)^{-1}$	2.2E-09
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	1.3E-08	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										5.9E-08
Dermal	Benzo(a)anthracene	5.70E-01	mg/kg	5.70E-01	mg/kg	M	2.2E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.6E-09
	Benzo(a)pyrene	5.38E-01	mg/kg	5.38E-01	mg/kg	M	2.1E-09	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	1.5E-08
	Benzo(b)fluoranthene	5.22E-01	mg/kg	5.22E-01	mg/kg	M	2.0E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.5E-09
	Indeno(1,2,3-cd)pyrene	2.50E-01	mg/kg	2.50E-01	mg/kg	M	9.8E-10	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	7.1E-10
	Thallium	1.05E+00	mg/kg	1.05E+00	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										1.9E-08
											7.9E-08

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 7.5 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADULT RECREATIONAL USERS TO SEDIMENT
SITE 17 - THE BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Boat Basin
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	5.5E-07	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	4.6E-07	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	4.6E-07	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	1.7E-07	mg/kg-day		mg/kg-day			
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	7.5E-08	mg/kg-day	2.00E-05	mg/kg-day			3.8E-03
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	2.2E-08	mg/kg-day		mg/kg-day			
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	1.3E-06	mg/kg-day	3.00E-04	mg/kg-day			4.2E-03
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	2.8E-03	mg/kg-day	6.00E-01	mg/kg-day			4.6E-03
	(total)												1.3E-02
Dermal	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	2.0E-06	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	1.6E-06	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	1.6E-06	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	6.0E-07	mg/kg-day		mg/kg-day			
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	2.9E-07	mg/kg-day	2.00E-05	mg/kg-day			1.5E-02
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	8.5E-08	mg/kg-day		mg/kg-day			
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	1.0E-06	mg/kg-day	3.00E-04	mg/kg-day			3.5E-03
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	0.0E+00	mg/kg-day	6.00E-01	mg/kg-day			0.0E+00
	(total)												1.8E-02
												Total Hazard Index Across All Exposure Routes/Pathways	**3.1E-02**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 7.5 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADULT RECREATIONAL USERS TO SEDIMENT
SITE 17 - THE BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Boat Basin
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	1.4E-07	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	1.1E-07	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	1.1E-07	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	4.2E-08	mg/kg-day		mg/kg-day			
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	1.9E-08	mg/kg-day	2.00E-05	mg/kg-day			9.4E-04
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	5.5E-09	mg/kg-day		mg/kg-day			
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	3.2E-07	mg/kg-day	3.00E-04	mg/kg-day			1.1E-03
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	6.9E-04	mg/kg-day	6.00E-01	mg/kg-day			1.2E-03
	(total)												3.2E-03
Dermal	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	1.1E-07	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	9.2E-08	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	9.3E-08	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	3.4E-08	mg/kg-day		mg/kg-day			
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	1.6E-08	mg/kg-day	2.00E-05	mg/kg-day			8.2E-04
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	4.8E-09	mg/kg-day		mg/kg-day			
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	5.9E-08	mg/kg-day	3.00E-04	mg/kg-day			2.0E-04
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	0.0E+00	mg/kg-day	6.00E-01	mg/kg-day			0.0E+00
	(total)												1.0E-03
										Total Hazard Index Across All Exposure Routes/Pathways			**4.2E-03**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 8.5 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADULT RECREATIONAL USERS TO SEDIMENT
SITE 17 - THE BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Boat Basin
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	1.9E-07	mg/kg-day	7.30E-01	$(mg/kg-day)^{-1}$	1.4E-07
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	1.6E-07	mg/kg-day	7.30E+00	$(mg/kg-day)^{-1}$	1.1E-06
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	1.6E-07	mg/kg-day	7.30E-01	$(mg/kg-day)^{-1}$	1.2E-07
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	5.7E-08	mg/kg-day	7.30E-01	$(mg/kg-day)^{-1}$	4.2E-08
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	2.6E-08	mg/kg-day	2.00E+00	$(mg/kg-day)^{-1}$	5.2E-08
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	7.5E-09	mg/kg-day	2.00E+00	$(mg/kg-day)^{-1}$	1.5E-08
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	4.3E-07	mg/kg-day	1.50E+00	$(mg/kg-day)^{-1}$	6.5E-07
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	9.5E-04	mg/kg-day		$(mg/kg-day)^{-1}$	
	(total)										2.2E-06
Dermal	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	6.8E-07	mg/kg-day	7.30E-01	$(mg/kg-day)^{-1}$	5.0E-07
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	5.6E-07	mg/kg-day	7.30E+00	$(mg/kg-day)^{-1}$	4.1E-06
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	5.7E-07	mg/kg-day	7.30E-01	$(mg/kg-day)^{-1}$	4.1E-07
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	2.0E-07	mg/kg-day	7.30E-01	$(mg/kg-day)^{-1}$	1.5E-07
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	1.0E-07	mg/kg-day	2.00E+00	$(mg/kg-day)^{-1}$	2.0E-07
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	2.9E-08	mg/kg-day	2.00E+00	$(mg/kg-day)^{-1}$	5.8E-08
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	3.6E-07	mg/kg-day	1.50E+00	$(mg/kg-day)^{-1}$	5.4E-07
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg-day)^{-1}$	
	(total)										6.0E-06
											8.1E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 8.5 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADULT RECREATIONAL USERS TO SEDIMENT
SITE 17 - THE BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Boat Basin
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	1.4E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.0E-08
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	1.1E-08	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	8.3E-08
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	1.1E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	8.4E-09
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	4.2E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	3.0E-09
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	1.9E-09	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	3.8E-09
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	5.5E-10	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	1.1E-09
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	3.2E-08	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	4.7E-08
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	6.9E-05	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										1.6E-07
Dermal	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	1.1E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	8.2E-09
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	9.2E-09	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	6.7E-08
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	9.3E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	6.8E-09
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	3.4E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	2.4E-09
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	1.6E-09	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	3.3E-09
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	4.8E-10	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	9.5E-10
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	5.9E-09	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	8.8E-09
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										9.8E-08
											2.6E-07

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 7.6 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - THE BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Boat Basin
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	9.2E-07	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	7.6E-07	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	7.7E-07	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	2.8E-07	mg/kg-day		mg/kg-day			
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	1.3E-07	mg/kg-day	2.00E-05	mg/kg-day			6.3E-03
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	3.7E-08	mg/kg-day		mg/kg-day			
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	2.1E-06	mg/kg-day	3.00E-04	mg/kg-day			7.0E-03
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	4.6E-03	mg/kg-day	6.00E-01	mg/kg-day			7.7E-03
	(total)												2.1E-02
Dermal	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	1.2E-06	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	9.8E-07	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	9.8E-07	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	3.5E-07	mg/kg-day		mg/kg-day			
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	1.7E-07	mg/kg-day	2.00E-05	mg/kg-day			8.7E-03
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	5.0E-08	mg/kg-day		mg/kg-day			
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	6.2E-07	mg/kg-day	3.00E-04	mg/kg-day			2.1E-03
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	0.0E+00	mg/kg-day	6.00E-01	mg/kg-day			0.0E+00
	(total)												1.1E-02
												Total Hazard Index Across All Exposure Routes/Pathways	**3.2E-02**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 7.6 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - THE BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Boat Basin
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	2.3E-07	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	1.9E-07	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	1.9E-07	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	6.9E-08	mg/kg-day		mg/kg-day			
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	3.1E-08	mg/kg-day	2.00E-05	mg/kg-day			1.6E-03
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	9.1E-09	mg/kg-day		mg/kg-day			
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	5.3E-07	mg/kg-day	3.00E-04	mg/kg-day			1.8E-03
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	1.2E-03	mg/kg-day	6.00E-01	mg/kg-day			1.9E-03
	(total)												5.3E-03
Dermal	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	7.5E-08	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	6.1E-08	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	6.2E-08	mg/kg-day		mg/kg-day			
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	2.2E-08	mg/kg-day		mg/kg-day			
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	1.1E-08	mg/kg-day	2.00E-05	mg/kg-day			5.5E-04
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	3.2E-09	mg/kg-day		mg/kg-day			
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	3.9E-08	mg/kg-day	3.00E-04	mg/kg-day			1.3E-04
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	0.0E+00	mg/kg-day	6.00E-01	mg/kg-day			0.0E+00
	(total)												6.8E-04
										Total Hazard Index Across All Exposure Routes/Pathways			**5.9E-03**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 8.6 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - THE BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Boat Basin
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	1.3E-07	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	9.6E-08
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	1.1E-07	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	8.0E-07
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	1.1E-07	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	8.0E-08
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	4.0E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	2.9E-08
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	1.8E-08	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	3.6E-08
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	5.2E-09	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	1.0E-08
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	3.0E-07	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	4.5E-07
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	6.6E-04	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										1.5E-06
Dermal	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	1.7E-07	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.2E-07
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	1.4E-07	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	1.0E-06
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	1.4E-07	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.0E-07
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	5.1E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	3.7E-08
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	2.5E-08	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	5.0E-08
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	7.2E-09	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	1.4E-08
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	8.9E-08	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	1.3E-07
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										1.5E-06
											3.0E-06

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 8.6 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - THE BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Boat Basin
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	3.3E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	2.4E-08
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	2.7E-08	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	2.0E-07
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	2.7E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	2.0E-08
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	9.9E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	7.2E-09
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	4.5E-09	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	9.0E-09
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	1.3E-09	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	2.6E-09
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	7.5E-08	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	1.1E-07
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	1.7E-04	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										3.7E-07
Dermal	Benzo(a)anthracene	2.73E+00	mg/kg	2.73E+00	mg/kg	M	1.1E-08	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	7.8E-09
	Benzo(a)pyrene	2.25E+00	mg/kg	2.25E+00	mg/kg	M	8.8E-09	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	6.4E-08
	Benzo(b)fluoranthene	2.26E+00	mg/kg	2.26E+00	mg/kg	M	8.8E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	6.4E-09
	Indeno(1,2,3-cd)pyrene	8.16E-01	mg/kg	8.16E-01	mg/kg	M	3.2E-09	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	2.3E-09
	Aroclor-1254	3.71E-01	mg/kg	3.71E-01	mg/kg	M	1.6E-09	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	3.1E-09
	Aroclor-1260	1.08E-01	mg/kg	1.08E-01	mg/kg	M	4.5E-10	mg/kg-day	2.00E+00	$(mg/kg\text{-}day)^{-1}$	9.1E-10
	Arsenic	6.21E+00	mg/kg	6.21E+00	mg/kg	M	5.6E-09	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	8.4E-09
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	0.0E+00	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										9.3E-08
											4.7E-07

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 7.7 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	1.5E-07	mg/kg-day	2.00E-02	mg/kg-day			7.5E-06
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	1.2E-07	mg/kg-day	2.00E-02	mg/kg-day			6.0E-06
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	2.4E-07	mg/kg-day	1.00E-02	mg/kg-day			2.4E-05
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	1.9E-06	mg/kg-day	1.00E-02	mg/kg-day			1.9E-04
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	2.8E-07	mg/kg-day	1.00E-02	mg/kg-day			2.8E-05
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	1.1E-06	mg/kg-day	6.00E-03	mg/kg-day			1.9E-04
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	1.6E-07	mg/kg-day	3.00E-03	mg/kg-day			5.2E-05
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	1.1E-09	mg/kg-day		mg/kg-day			
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	4.9E-09	mg/kg-day		mg/kg-day			
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	5.9E-09	mg/kg-day	5.00E-04	mg/kg-day			1.2E-05
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	1.9E-03	mg/kg-day	1.00E+00	mg/kg-day			1.9E-03
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	7.7E-07	mg/kg-day	3.00E-04	mg/kg-day			2.6E-03
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	2.9E-06	mg/kg-day	3.00E-03	mg/kg-day			9.8E-04
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	2.2E-03	mg/kg-day	6.00E-01	mg/kg-day			3.7E-03
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	3.7E-06	mg/kg-day		mg/kg-day			
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	5.0E-05	mg/kg-day	4.60E-02	mg/kg-day			1.1E-03
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	2.0E-08	mg/kg-day	3.00E-04	mg/kg-day			6.8E-05
	(total)												1.1E-02
Dermal	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	2.3E-07	mg/kg-day	2.00E-02	mg/kg-day			1.2E-05
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	1.7E-07	mg/kg-day	2.00E-02	mg/kg-day			8.6E-06
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	4.5E-07	mg/kg-day	1.00E-02	mg/kg-day			4.5E-05
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	3.6E-06	mg/kg-day	1.00E-02	mg/kg-day			3.6E-04
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	3.2E-06	mg/kg-day	1.00E-02	mg/kg-day			3.2E-04
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	3.7E-06	mg/kg-day	6.00E-03	mg/kg-day			6.1E-04
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	2.0E-07	mg/kg-day	3.00E-03	mg/kg-day			6.6E-05
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	1.4E-07	mg/kg-day		mg/kg-day			
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	5.3E-07	mg/kg-day		mg/kg-day			
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	1.2E-06	mg/kg-day	5.00E-04	mg/kg-day			2.4E-03
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	3.5E-04	mg/kg-day	1.00E+00	mg/kg-day			3.5E-04
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	1.4E-07	mg/kg-day	3.00E-04	mg/kg-day			4.7E-04
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	1.1E-06	mg/kg-day	7.50E-05	mg/kg-day			1.4E-02
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	4.1E-04	mg/kg-day	6.00E-01	mg/kg-day			6.8E-04
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	6.7E-07	mg/kg-day		mg/kg-day			
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	9.2E-06	mg/kg-day	1.84E-03	mg/kg-day			5.0E-03
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	3.7E-09	mg/kg-day	2.10E-05	mg/kg-day			1.8E-04
	(total)												2.5E-02
										Total Hazard Index Across All Exposure Routes/Pathways			**3.6E-02**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 7.7 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	3.8E-08	mg/kg-day	2.00E-02	mg/kg-day			1.9E-06
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	3.0E-08	mg/kg-day	2.00E-02	mg/kg-day			1.5E-06
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	6.1E-08	mg/kg-day	1.00E-02	mg/kg-day			6.1E-06
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	4.7E-07	mg/kg-day	1.00E-02	mg/kg-day			4.7E-05
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	7.1E-08	mg/kg-day	1.00E-02	mg/kg-day			7.1E-06
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	2.8E-07	mg/kg-day	6.00E-03	mg/kg-day			4.7E-05
	Vinyl Chloride	*7.70E-01*	ug/L	*7.70E-01*	ug/L	*M*	*3.9E-08*	mg/kg-day	*3.00E-03*	mg/kg-day			*1.3E-05*
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	2.7E-10	mg/kg-day		mg/kg-day			
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	1.2E-09	mg/kg-day		mg/kg-day			
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	1.5E-09	mg/kg-day	5.00E-04	mg/kg-day			3.0E-06
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	4.8E-04	mg/kg-day	1.00E+00	mg/kg-day			4.8E-04
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	1.9E-07	mg/kg-day	3.00E-04	mg/kg-day			6.4E-04
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	7.3E-07	mg/kg-day	3.00E-03	mg/kg-day			2.4E-04
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	5.5E-04	mg/kg-day	6.00E-01	mg/kg-day			9.2E-04
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	9.2E-07	mg/kg-day		mg/kg-day			
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	1.2E-05	mg/kg-day	4.60E-02	mg/kg-day			2.7E-04
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	5.1E-09	mg/kg-day	3.00E-04	mg/kg-day			1.7E-05
	(total)												2.7E-03
Dermal	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	6.9E-08	mg/kg-day	2.00E-02	mg/kg-day			3.5E-06
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	5.1E-08	mg/kg-day	2.00E-02	mg/kg-day			2.6E-06
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	1.2E-07	mg/kg-day	1.00E-02	mg/kg-day			1.2E-05
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	9.6E-07	mg/kg-day	1.00E-02	mg/kg-day			9.6E-05
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	9.5E-07	mg/kg-day	1.00E-02	mg/kg-day			9.5E-05
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	1.0E-06	mg/kg-day	6.00E-03	mg/kg-day			1.7E-04
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	5.0E-08	mg/kg-day	3.00E-03	mg/kg-day			1.7E-05
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	4.1E-08	mg/kg-day		mg/kg-day			
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	1.6E-07	mg/kg-day		mg/kg-day			
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	3.6E-07	mg/kg-day	5.00E-04	mg/kg-day			7.3E-04
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	7.5E-05	mg/kg-day	1.00E+00	mg/kg-day			7.5E-05
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	3.0E-08	mg/kg-day	3.00E-04	mg/kg-day			1.0E-04
	Chromium	*1.44E+01*	ug/L	*1.44E+01*	ug/L	*M*	*2.3E-07*	mg/kg-day	*7.50E-05*	mg/kg-day			*3.0E-03*
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	8.6E-05	mg/kg-day	6.00E-01	mg/kg-day			1.4E-04
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	1.4E-07	mg/kg-day		mg/kg-day			
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	1.9E-06	mg/kg-day	1.84E-03	mg/kg-day			1.1E-03
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	7.9E-10	mg/kg-day	2.10E-05	mg/kg-day			3.8E-05
	(total)												5.6E-03
												Total Hazard Index Across All Exposure Routes/Pathways	**8.3E-03**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 8.7 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	5.2E-08	mg/kg-day	6.20E-02	(mg/kg-day)$^{-1}$	3.2E-09
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	4.1E-08	mg/kg-day	8.40E-02	(mg/kg-day)$^{-1}$	3.5E-09
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	8.4E-08	mg/kg-day	6.10E-03	(mg/kg-day)$^{-1}$	5.1E-10
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	6.4E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	9.8E-08	mg/kg-day	5.20E-02	(mg/kg-day)$^{-1}$	5.1E-09
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	3.8E-07	mg/kg-day	1.10E-02	(mg/kg-day)$^{-1}$	4.2E-09
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	5.4E-08	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	8.1E-08
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	3.8E-10	mg/kg-day	2.40E-01	(mg/kg-day)$^{-1}$	9.0E-11
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	1.7E-09	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	5.7E-10
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	2.0E-09	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	6.9E-10
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	6.6E-04	mg/kg-day		(mg/kg-day)$^{-1}$	
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	2.7E-07	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	4.0E-07
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	1.0E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	7.6E-04	mg/kg-day		(mg/kg-day)$^{-1}$	
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	1.3E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	1.7E-05	mg/kg-day		(mg/kg-day)$^{-1}$	
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	7.0E-09	mg/kg-day		(mg/kg-day)$^{-1}$	
	(total)										5.0E-07
Dermal	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	7.9E-08	mg/kg-day	6.20E-02	(mg/kg-day)$^{-1}$	4.9E-09
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	5.9E-08	mg/kg-day	8.40E-02	(mg/kg-day)$^{-1}$	4.9E-09
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	1.5E-07	mg/kg-day	6.10E-03	(mg/kg-day)$^{-1}$	9.4E-10
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	1.2E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	1.1E-06	mg/kg-day	5.20E-02	(mg/kg-day)$^{-1}$	5.6E-08
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	1.3E-06	mg/kg-day	1.10E-02	(mg/kg-day)$^{-1}$	1.4E-08
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	6.8E-08	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	1.0E-07
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	4.8E-08	mg/kg-day	2.40E-01	(mg/kg-day)$^{-1}$	1.1E-08
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	1.8E-07	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	6.2E-08
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	4.2E-07	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	1.4E-07
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	1.2E-04	mg/kg-day		(mg/kg-day)$^{-1}$	
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	4.9E-08	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	7.3E-08
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	3.7E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	1.4E-04	mg/kg-day		(mg/kg-day)$^{-1}$	
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	2.3E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	3.1E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	1.3E-09	mg/kg-day		(mg/kg-day)$^{-1}$	
	(total)										4.7E-07
											9.7E-07

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 8.7 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	3.8E-09	mg/kg-day	6.20E-02	(mg/kg-day)$^{-1}$	2.3E-10
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	3.0E-09	mg/kg-day	8.40E-02	(mg/kg-day)$^{-1}$	2.5E-10
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	6.1E-09	mg/kg-day	6.10E-03	(mg/kg-day)$^{-1}$	3.7E-11
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	4.7E-08	mg/kg-day		(mg/kg-day)$^{-1}$	
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	7.1E-09	mg/kg-day	5.20E-02	(mg/kg-day)$^{-1}$	3.7E-10
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	2.8E-08	mg/kg-day	1.10E-02	(mg/kg-day)$^{-1}$	3.1E-10
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	3.9E-09	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	5.9E-09
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	2.7E-11	mg/kg-day	2.40E-01	(mg/kg-day)$^{-1}$	6.6E-12
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	1.2E-10	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	4.2E-11
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	1.5E-10	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	5.0E-11
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	4.8E-05	mg/kg-day		(mg/kg-day)$^{-1}$	
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	1.9E-08	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	2.9E-08
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	7.3E-08	mg/kg-day		(mg/kg-day)$^{-1}$	
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	5.5E-05	mg/kg-day		(mg/kg-day)$^{-1}$	
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	9.2E-08	mg/kg-day		(mg/kg-day)$^{-1}$	
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	1.2E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	5.1E-10	mg/kg-day		(mg/kg-day)$^{-1}$	
	(total)										3.6E-08
Dermal	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	6.9E-09	mg/kg-day	6.20E-02	(mg/kg-day)$^{-1}$	4.3E-10
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	5.1E-09	mg/kg-day	8.40E-02	(mg/kg-day)$^{-1}$	4.3E-10
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	1.2E-08	mg/kg-day	6.10E-03	(mg/kg-day)$^{-1}$	7.6E-11
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	9.6E-08	mg/kg-day		(mg/kg-day)$^{-1}$	
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	9.5E-08	mg/kg-day	5.20E-02	(mg/kg-day)$^{-1}$	4.9E-09
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	1.0E-07	mg/kg-day	1.10E-02	(mg/kg-day)$^{-1}$	1.2E-09
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	5.0E-09	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	7.5E-09
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	4.1E-09	mg/kg-day	2.40E-01	(mg/kg-day)$^{-1}$	1.0E-09
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	1.6E-08	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	5.4E-09
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	3.6E-08	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	1.2E-08
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	7.5E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	3.0E-09	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	4.5E-09
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	2.3E-08	mg/kg-day		(mg/kg-day)$^{-1}$	
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	8.6E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	1.4E-08	mg/kg-day		(mg/kg-day)$^{-1}$	
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	1.9E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	7.9E-11	mg/kg-day		(mg/kg-day)$^{-1}$	
	(total)										3.8E-08
											7.4E-08

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 7.8 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	2.5E-07	mg/kg-day	2.00E-02	mg/kg-day			1.3E-05
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	2.0E-07	mg/kg-day	2.00E-02	mg/kg-day			1.0E-05
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	4.1E-07	mg/kg-day	1.00E-02	mg/kg-day			4.1E-05
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	3.1E-06	mg/kg-day	1.00E-02	mg/kg-day			3.1E-04
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	4.7E-07	mg/kg-day	1.00E-02	mg/kg-day			4.7E-05
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	1.9E-06	mg/kg-day	6.00E-03	mg/kg-day			3.1E-04
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	2.6E-07	mg/kg-day	3.00E-03	mg/kg-day			8.7E-05
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	1.8E-09	mg/kg-day		mg/kg-day			
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	8.1E-09	mg/kg-day		mg/kg-day			
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	9.8E-09	mg/kg-day	5.00E-04	mg/kg-day			2.0E-05
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	3.2E-03	mg/kg-day	1.00E+00	mg/kg-day			3.2E-03
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	1.3E-06	mg/kg-day	3.00E-04	mg/kg-day			4.3E-03
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	4.9E-06	mg/kg-day	3.00E-03	mg/kg-day			1.6E-03
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	3.7E-03	mg/kg-day	6.00E-01	mg/kg-day			6.2E-03
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	6.1E-06	mg/kg-day		mg/kg-day			
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	8.3E-05	mg/kg-day	4.60E-02	mg/kg-day			1.8E-03
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	3.4E-08	mg/kg-day	3.00E-04	mg/kg-day			1.1E-04
	(total)												1.8E-02
Dermal	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	1.6E-07	mg/kg-day	2.00E-02	mg/kg-day			8.0E-06
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	1.2E-07	mg/kg-day	2.00E-02	mg/kg-day			5.9E-06
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	3.1E-07	mg/kg-day	1.00E-02	mg/kg-day			3.1E-05
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	2.5E-06	mg/kg-day	1.00E-02	mg/kg-day			2.5E-04
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	2.2E-06	mg/kg-day	1.00E-02	mg/kg-day			2.2E-04
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	2.5E-06	mg/kg-day	6.00E-03	mg/kg-day			4.2E-04
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	1.4E-07	mg/kg-day	3.00E-03	mg/kg-day			4.5E-05
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	9.6E-08	mg/kg-day		mg/kg-day			
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	3.7E-07	mg/kg-day		mg/kg-day			
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	8.4E-07	mg/kg-day	5.00E-04	mg/kg-day			1.7E-03
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	2.5E-04	mg/kg-day	1.00E+00	mg/kg-day			2.5E-04
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	9.8E-08	mg/kg-day	3.00E-04	mg/kg-day			3.3E-04
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	7.5E-07	mg/kg-day	7.50E-05	mg/kg-day			1.0E-02
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	2.8E-04	mg/kg-day	6.00E-01	mg/kg-day			4.7E-04
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	4.7E-07	mg/kg-day		mg/kg-day			
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	6.3E-06	mg/kg-day	1.84E-03	mg/kg-day			3.5E-03
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	2.6E-09	mg/kg-day	2.10E-05	mg/kg-day			1.2E-04
	(total)												1.7E-02
										Total Hazard Index Across All Exposure Routes/Pathways			**3.5E-02**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) *Specify if subchronic.*

TABLE 7.8 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Bromodichloromethane	7 40E-01	ug/L	7.40E-01	ug/L	M	6.3E-08	mg/kg-day	2.00E-02	mg/kg-day			3.1E-06
	Chlorodibromomethane	5.90E-01	ug/L	5 90E-01	ug/L	M	5 0E-08	mg/kg-day	2 00E-02	mg/kg-day			2.5E-06
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	1 0E-07	mg/kg-day	1 00E-02	mg/kg-day			1.0E-05
	cis-1,2-Dichloroethene	9 20E+00	ug/L	9.20E+00	ug/L	M	7.8E-07	mg/kg-day	1.00E-02	mg/kg-day			7 8E-05
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	1.2E-07	mg/kg-day	1 00E-02	mg/kg-day			1.2E-05
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	4.7E-07	mg/kg-day	6.00E-03	mg/kg-day			7 8E-05
	Vinyl Chloride	7.70E-01	ug/L	7 70E-01	ug/L	M	6.5E-08	mg/kg-day	3.00E-03	mg/kg-day			2.2E-05
	4,4'-DDD	5.40E-03	ug/L	5 40E-03	ug/L	M	4.6E-10	mg/kg-day		mg/kg-day			
	4,4'-DDE	2.40E-02	ug/L	2 40E-02	ug/L	M	2.0E-09	mg/kg-day		mg/kg-day			
	4,4'-DDT	2 90E-02	ug/L	2.90E-02	ug/L	M	2.5E-09	mg/kg-day	5 00E-04	mg/kg-day			4 9E-06
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	8 0E-04	mg/kg-day	1.00E+00	mg/kg-day			8.0E-04
	Arsenic	3 80E+00	ug/L	3.80E+00	ug/L	M	3 2E-07	mg/kg-day	3.00E-04	mg/kg-day			1.1E-03
	Chromium	1 44E+01	ug/L	1.44E+01	ug/L	M	1 2E-06	mg/kg-day	3.00E-03	mg/kg-day			4.1E-04
	Iron	1 09E+04	ug/L	1.09E+04	ug/L	M	9 2E-04	mg/kg-day	6.00E-01	mg/kg-day			1.5E-03
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	1.5E-06	mg/kg-day		mg/kg-day			
	Manganese	2 45E+02	ug/L	2.45E+02	ug/L	M	2.1E-05	mg/kg-day	4.60E-02	mg/kg-day			4.5E-04
	Mercury	1 00E-01	ug/L	1 00E-01	ug/L	M	8.5E-09	mg/kg-day	3.00E-04	mg/kg-day			2.8E-05
	(total)												4.5E-03
Dermal	Bromodichloromethane	7.40E-01	ug/L	7 40E-01	ug/L	M	4 6E-08	mg/kg-day	2.00E-02	mg/kg-day			2.3E-06
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	3.4E-08	mg/kg-day	2.00E-02	mg/kg-day			1.7E-06
	Chloroform	1 20E+00	ug/L	1.20E+00	ug/L	M	8.3E-08	mg/kg-day	1.00E-02	mg/kg-day			8 3E-06
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	6.4E-07	mg/kg-day	1.00E-02	mg/kg-day			6.4E-05
	Tetrachloroethene	1 40E+00	ug/L	1.40E+00	ug/L	M	6 3E-07	mg/kg-day	1.00E-02	mg/kg-day			6 3E-05
	Trichloroethene	5 50E+00	ug/L	5.50E+00	ug/L	M	7.0E-07	mg/kg-day	6.00E-03	mg/kg-day			1.2E-04
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	3.3E-08	mg/kg-day	3.00E-03	mg/kg-day			1 1E 05
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	2.8E-08	mg/kg-day		mg/kg-day			
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	1.1E-07	mg/kg-day		mg/kg-day			
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	2 4E-07	mg/kg-day	5.00E-04	mg/kg-day			4.8E-04
	Aluminum	9 46E+03	ug/L	9.46E+03	ug/L	M	5 0E-05	mg/kg-day	1 00E+00	mg/kg-day			5 0E-05
	Arsenic	3 80E+00	ug/L	3 80E+00	ug/L	M	2 0E-08	mg/kg-day	3.00E-04	mg/kg-day			6.7E-05
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	1.5E-07	mg/kg-day	7.50E-05	mg/kg-day			2.0E-03
	Iron	1 09E+04	ug/L	1 09E+04	ug/L	M	5.7E-05	mg/kg-day	6.00E-01	mg/kg-day			9.6E-05
	Lead	1 80E+01	ug/L	1 80E+01	ug/L	M	9 5E-08	mg/kg-day		mg/kg-day			
	Manganese	2.45E+02	ug/L	2 45E+02	ug/L	M	1.3E-06	mg/kg-day	1.84E-03	mg/kg-day			7.0E-04
	Mercury	1 00E-01	ug/L	1.00E-01	ug/L	M	5.3E-10	mg/kg-day	2.10E-05	mg/kg-day			2.5E-05
	(total)												3.7E-03

Total Hazard Index Across All Exposure Routes/Pathways **8.2E-03**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

TABLE 8.8 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	3.6E-08	mg/kg-day	6.20E-02	$(mg/kg\text{-}day)^{-1}$	2.2E-09
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	2.9E-08	mg/kg-day	8.40E-02	$(mg/kg\text{-}day)^{-1}$	2.4E-09
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	5.8E-08	mg/kg-day	6.10E-03	$(mg/kg\text{-}day)^{-1}$	3.5E-10
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	4.5E-07	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	6.8E-08	mg/kg-day	5.20E-02	$(mg/kg\text{-}day)^{-1}$	3.5E-09
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	2.7E-07	mg/kg-day	1.10E-02	$(mg/kg\text{-}day)^{-1}$	2.9E-09
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	3.7E-08	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	5.6E-08
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	2.6E-10	mg/kg-day	2.40E-01	$(mg/kg\text{-}day)^{-1}$	6.3E-11
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	1.2E-09	mg/kg-day	3.40E-01	$(mg/kg\text{-}day)^{-1}$	4.0E-10
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	1.4E-09	mg/kg-day	3.40E-01	$(mg/kg\text{-}day)^{-1}$	4.8E-10
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	4.6E-04	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	1.8E-07	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	2.8E-07
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	7.0E-07	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	5.3E-04	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	8.7E-07	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	1.2E-05	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	4.8E-09	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										3.4E-07
Dermal	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	2.3E-08	mg/kg-day	6.20E-02	$(mg/kg\text{-}day)^{-1}$	1.4E-09
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	1.7E-08	mg/kg-day	8.40E-02	$(mg/kg\text{-}day)^{-1}$	1.4E-09
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	4.4E-08	mg/kg-day	6.10E-03	$(mg/kg\text{-}day)^{-1}$	2.7E-10
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	3.5E-07	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	3.1E-07	mg/kg-day	5.20E-02	$(mg/kg\text{-}day)^{-1}$	1.6E-08
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	3.6E-07	mg/kg-day	1.10E-02	$(mg/kg\text{-}day)^{-1}$	4.0E-09
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	1.9E-08	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	2.9E-08
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	1.4E-08	mg/kg-day	2.40E-01	$(mg/kg\text{-}day)^{-1}$	3.3E-09
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	5.2E-08	mg/kg-day	3.40E-01	$(mg/kg\text{-}day)^{-1}$	1.8E-08
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	1.2E-07	mg/kg-day	3.40E-01	$(mg/kg\text{-}day)^{-1}$	4.1E-08
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	3.5E-05	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	1.4E-08	mg/kg-day	1.50E+00	$(mg/kg\text{-}day)^{-1}$	2.1E-08
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	1.1E-07	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	4.0E-05	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	6.7E-08	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	9.1E-07	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	3.7E-10	mg/kg-day		$(mg/kg\text{-}day)^{-1}$	
	(total)										1.4E-07
											4.8E-07

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 8.8 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADOLESCENT RECREATIONAL USERS TO SEDIMENT
SITE 17 - NORTH BRANCH OF PETTIBONE CREEK
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Branch of Pettybone Creek
Receptor Population: Recreational User
Receptor Age: Adolescent (7 to 16 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	9.0E-09	mg/kg-day	6.20E-02	(mg/kg-day)$^{-1}$	5.6E-10
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	7.1E-09	mg/kg-day	8.40E-02	(mg/kg-day)$^{-1}$	6.0E-10
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	1.5E-08	mg/kg-day	6.10E-03	(mg/kg-day)$^{-1}$	8.9E-11
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	1.1E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	1.7E-08	mg/kg-day	5.20E-02	(mg/kg-day)$^{-1}$	8.8E-10
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	6.7E-08	mg/kg-day	1.10E-02	(mg/kg-day)$^{-1}$	7.3E-10
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	9.3E-09	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	1.4E-08
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	6.5E-11	mg/kg-day	2.40E-01	(mg/kg-day)$^{-1}$	1.6E-11
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	2.9E-10	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	9.9E-11
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	3.5E-10	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	1.2E-10
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	1.1E-04	mg/kg-day		(mg/kg-day)$^{-1}$	
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	4.6E-08	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	6.9E-08
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	1.7E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	1.3E-04	mg/kg-day		(mg/kg-day)$^{-1}$	
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	2.2E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	3.0E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	1.2E-09	mg/kg-day		(mg/kg-day)$^{-1}$	
	(total)										8.6E-08
Dermal	Bromodichloromethane	7.40E-01	ug/L	7.40E-01	ug/L	M	6.6E-09	mg/kg-day	6.20E-02	(mg/kg-day)$^{-1}$	4.1E-10
	Chlorodibromomethane	5.90E-01	ug/L	5.90E-01	ug/L	M	4.9E-09	mg/kg-day	8.40E-02	(mg/kg-day)$^{-1}$	4.1E-10
	Chloroform	1.20E+00	ug/L	1.20E+00	ug/L	M	1.2E-08	mg/kg-day	6.10E-03	(mg/kg-day)$^{-1}$	7.2E-11
	cis-1,2-Dichloroethene	9.20E+00	ug/L	9.20E+00	ug/L	M	9.1E-08	mg/kg-day		(mg/kg-day)$^{-1}$	
	Tetrachloroethene	1.40E+00	ug/L	1.40E+00	ug/L	M	9.0E-08	mg/kg-day	5.20E-02	(mg/kg-day)$^{-1}$	4.7E-09
	Trichloroethene	5.50E+00	ug/L	5.50E+00	ug/L	M	9.9E-08	mg/kg-day	1.10E-02	(mg/kg-day)$^{-1}$	1.1E-09
	Vinyl Chloride	7.70E-01	ug/L	7.70E-01	ug/L	M	4.7E-09	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	7.1E-09
	4,4'-DDD	5.40E-03	ug/L	5.40E-03	ug/L	M	3.9E-09	mg/kg-day	2.40E-01	(mg/kg-day)$^{-1}$	9.5E-10
	4,4'-DDE	2.40E-02	ug/L	2.40E-02	ug/L	M	1.5E-08	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	5.1E-09
	4,4'-DDT	2.90E-02	ug/L	2.90E-02	ug/L	M	3.5E-08	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	1.2E-08
	Aluminum	9.46E+03	ug/L	9.46E+03	ug/L	M	7.1E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Arsenic	3.80E+00	ug/L	3.80E+00	ug/L	M	2.9E-09	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	4.3E-09
	Chromium	1.44E+01	ug/L	1.44E+01	ug/L	M	2.2E-08	mg/kg-day		(mg/kg-day)$^{-1}$	
	Iron	1.09E+04	ug/L	1.09E+04	ug/L	M	8.2E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Lead	1.80E+01	ug/L	1.80E+01	ug/L	M	1.4E-08	mg/kg-day		(mg/kg-day)$^{-1}$	
	Manganese	2.45E+02	ug/L	2.45E+02	ug/L	M	1.8E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Mercury	1.00E-01	ug/L	1.00E-01	ug/L	M	7.5E-11	mg/kg-day		(mg/kg-day)$^{-1}$	
	(total)										3.6E-08
											1.2E-07

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TA. .9 A
REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADULT RECREATIONAL USERS BY FISH INGESTION
SITE 17 - THE BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Fish
Exposure Medium: Fish Tissue
Exposure Point: Boat Basin
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	4.38E+00	mg/kg	4.38E+00	mg/kg	M	1.3E-04	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	3.61E+00	mg/kg	3.61E+00	mg/kg	M	1.0E-04	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	3.63E+00	mg/kg	3.63E+00	mg/kg	M	1.0E-04	mg/kg-day		mg/kg-day			
	Benzo(g,h,i)perylene	2.31E+00	mg/kg	2.31E+00	mg/kg	M	6.6E-05	mg/kg-day	3.00E-02	mg/kg-day			
	Benzo(k)fluoranthene	2.11E+00	mg/kg	2.11E+00	mg/kg	M	6.0E-05	mg/kg-day		mg/kg-day			
	Bis(2-ethylhexyl)phthalate	3.38E+00	mg/kg	3.38E+00	mg/kg	M	9.7E-05	mg/kg-day	2.00E-02	mg/kg-day			4.8E-03
	Chrysene	4.18E+00	mg/kg	4.18E+00	mg/kg	M	1.2E-04	mg/kg-day		mg/kg-day			
	Fluoranthene	1.27E+01	mg/kg	1.27E+01	mg/kg	M	3.6E-04	mg/kg-day	4.00E-02	mg/kg-day			
	Indeno(1,2,3-cd)pyrene	1.31E+00	mg/kg	1.31E+00	mg/kg	M	3.8E-05	mg/kg-day		mg/kg-day			
	Phenanthrene	1.16E+01	mg/kg	1.16E+01	mg/kg	M	3.3E-04	mg/kg-day	3.00E-02	mg/kg-day			
	Pyrene	1.01E+01	mg/kg	1.01E+01	mg/kg	M	2.9E-04	mg/kg-day	3.00E-02	mg/kg-day			
	4,4'-DDD	2.38E-01	mg/kg	2.38E-01	mg/kg	M	6.8E-06	mg/kg-day		mg/kg-day			
	4,4'-DDE	4.82E+00	mg/kg	4.82E+00	mg/kg	M	1.4E-04	mg/kg-day		mg/kg-day			
	4,4'-DDT	8.17E-01	mg/kg	8.17E-01	mg/kg	M	2.3E-05	mg/kg-day	5.00E-04	mg/kg-day			4.7E-02
	Aldrin	4.09E-02	mg/kg	4.09E-02	mg/kg	M	1.2E-06	mg/kg-day	3.00E-05	mg/kg-day			3.9E-02
	Alpha-BHC	6.49E-02	mg/kg	6.49E-02	mg/kg	M	1.9E-06	mg/kg-day		mg/kg-day			
	Alpha-Chlordane	1.49E-01	mg/kg	1.49E-01	mg/kg	M	4.3E-06	mg/kg-day	5.00E-04	mg/kg-day			8.5E-03
	Aroclor-1254	3.81E+00	mg/kg	3.81E+00	mg/kg	M	1.1E-04	mg/kg-day	2.00E-05	mg/kg-day			5.4E+00
	Aroclor-1260	1.11E+00	mg/kg	1.11E+00	mg/kg	M	3.2E-05	mg/kg-day		mg/kg-day			
	Dieldrin	7.92E-02	mg/kg	7.92E-02	mg/kg	M	2.3E-06	mg/kg-day	5.00E-05	mg/kg-day			4.5E-02
	Endrin Ketone	4.69E-02	mg/kg	4.69E-02	mg/kg	M	1.3E-06	mg/kg-day	3.00E-04	mg/kg-day			4.5E-03
	Gamma-BHC (Lindane)	4.59E-02	mg/kg	4.59E-02	mg/kg	M	1.3E-06	mg/kg-day	3.00E-04	mg/kg-day			4.4E-03
	Gamma-Chlordane	9.85E-02	mg/kg	9.85E-02	mg/kg	M	2.8E-06	mg/kg-day	5.00E-04	mg/kg-day			5.6E-03
	Aluminum	3.16E+03	mg/kg	3.16E+03	mg/kg	M	9.0E-02	mg/kg-day	1.00E+00	mg/kg-day			9.0E-02
	Antimony	3.37E-01	mg/kg	3.37E-01	mg/kg	M	9.6E-06	mg/kg-day	4.00E-04	mg/kg-day			2.4E-02
	Arsenic	2.57E-01	mg/kg	2.57E-01	mg/kg	M	7.4E-06	mg/kg-day	3.00E-04	mg/kg-day			
	Beryllium	2.33E+00	mg/kg	2.33E+00	mg/kg	M	6.7E-05	mg/kg-day	2.00E-03	mg/kg-day			3.3E-02
	Cadmium	1.62E-01	mg/kg	1.62E-01	mg/kg	M	4.6E-06	mg/kg-day	1.00E-03	mg/kg-day			4.6E-03
	Chromium	4.49E-01	mg/kg	4.49E-01	mg/kg	M	1.3E-05	mg/kg-day	3.00E-03	mg/kg-day			4.3E-03
	Cobalt	6.71E+00	mg/kg	6.71E+00	mg/kg	M	1.9E-04	mg/kg-day	6.00E-02	mg/kg-day			3.2E-03
	Copper	7.27E+01	mg/kg	7.27E+01	mg/kg	M	2.1E-03	mg/kg-day	3.71E-02	mg/kg-day			5.6E-02
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	3.9E-01	mg/kg-day	6.00E-01	mg/kg-day			6.5E-01
	Mercury	1.14E-01	mg/kg	1.14E-01	mg/kg	M	3.3E-06	mg/kg-day	3.00E-04	mg/kg-day			1.1E-02
	Nickel	3.03E+00	mg/kg	3.03E+00	mg/kg	M	8.7E-05	mg/kg-day	2.00E-02	mg/kg-day			4.3E-03
	Selenium	5.29E-01	mg/kg	5.29E-01	mg/kg	M	1.5E-05	mg/kg-day	5.00E-03	mg/kg-day			3.0E-03
	Vanadium	1.23E+01	mg/kg	1.23E+01	mg/kg	M	3.5E-04	mg/kg-day	7.00E-03	mg/kg-day			5.0E-02
	Zinc	5.65E+02	mg/kg	5.65E+02	mg/kg	M	1.6E-02	mg/kg-day	3.00E-01	mg/kg-day			5.4E-02
	(total)												6.6E+00
										Total Hazard Index Across All Exposure Routes/Pathways			**6.6E+00**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
(2) Specify if subchronic.

TABLE 7.9 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF NON-CANCER HAZARDS FROM EXPOSURE OF ADULT RECREATIONAL USERS BY FISH INGESTION
SITE 17 - THE BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Fish
Exposure Medium: Fish Tissue
Exposure Point: Boat Basin
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Benzo(a)anthracene	4.38E+00	mg/kg	4.38E+00	mg/kg	M	5.0E-05	mg/kg-day		mg/kg-day			
	Benzo(a)pyrene	3.61E+00	mg/kg	3.61E+00	mg/kg	M	4.1E-05	mg/kg-day		mg/kg-day			
	Benzo(b)fluoranthene	3.63E+00	mg/kg	3.63E+00	mg/kg	M	4.2E-05	mg/kg-day		mg/kg-day			
	Benzo(g,h,i)perylene	2.31E+00	mg/kg	2.31E+00	mg/kg	M	2.6E-05	mg/kg-day	3.00E-02	mg/kg-day			
	Benzo(k)fluoranthene	2.11E+00	mg/kg	2.11E+00	mg/kg	M	2.4E-05	mg/kg-day		mg/kg-day			
	Bis(2-ethylhexyl)phthalate	3.38E+00	mg/kg	3.38E+00	mg/kg	M	3.9E-05	mg/kg-day	2.00E-02	mg/kg-day			1.9E-03
	Chrysene	4.18E+00	mg/kg	4.18E+00	mg/kg	M	4.8E-05	mg/kg-day		mg/kg-day			
	Fluoranthene	1.27E+01	mg/kg	1.27E+01	mg/kg	M	1.5E-04	mg/kg-day	4.00E-02	mg/kg-day			
	Indeno(1,2,3-cd)pyrene	1.31E+00	mg/kg	1.31E+00	mg/kg	M	1.5E-05	mg/kg-day		mg/kg-day			
	Phenanthrene	1.16E+01	mg/kg	1.16E+01	mg/kg	M	1.3E-04	mg/kg-day	3.00E-02	mg/kg-day			
	Pyrene	1.01E+01	mg/kg	1.01E+01	mg/kg	M	1.2E-04	mg/kg-day	3.00E-02	mg/kg-day			
	4,4'-DDD	2.38E-01	mg/kg	2.38E-01	mg/kg	M	2.7E-06	mg/kg-day		mg/kg-day			
	4,4'-DDE	4.82E+00	mg/kg	4.82E+00	mg/kg	M	5.5E-05	mg/kg-day		mg/kg-day			
	4,4'-DDT	8.17E-01	mg/kg	8.17E-01	mg/kg	M	9.3E-06	mg/kg-day	5.00E-04	mg/kg-day			1.9E-02
	Aldrin	4.09E-02	mg/kg	4.09E-02	mg/kg	M	4.7E-07	mg/kg-day	3.00E-05	mg/kg-day			1.6E-02
	Alpha-BHC	6.49E-02	mg/kg	6.49E-02	mg/kg	M	7.4E-07	mg/kg-day		mg/kg-day			
	Alpha-Chlordane	1.49E-01	mg/kg	1.49E-01	mg/kg	M	1.7E-06	mg/kg-day	5.00E-04	mg/kg-day			3.4E-03
	Aroclor-1254	3.81E+00	mg/kg	3.81E+00	mg/kg	M	4.3E-05	mg/kg-day	2.00E-05	mg/kg-day			2.2E+00
	Aroclor-1260	1.11E+00	mg/kg	1.11E+00	mg/kg	M	1.3E-05	mg/kg-day		mg/kg-day			
	Dieldrin	7.92E-02	mg/kg	7.92E-02	mg/kg	M	9.1E-07	mg/kg-day	5.00E-05	mg/kg-day			1.8E-02
	Endrin Ketone	4.69E-02	mg/kg	4.69E-02	mg/kg	M	5.4E-07	mg/kg-day	3.00E-04	mg/kg-day			1.8E-03
	Gamma-BHC (Lindane)	4.59E-02	mg/kg	4.59E-02	mg/kg	M	5.2E-07	mg/kg-day	3.00E-04	mg/kg-day			1.7E-03
	Gamma-Chlordane	9.85E-02	mg/kg	9.85E-02	mg/kg	M	1.1E-06	mg/kg-day	5.00E-04	mg/kg-day			2.3E-03
	Aluminum	3.16E+03	mg/kg	3.16E+03	mg/kg	M	3.6E-02	mg/kg-day	1.00E+00	mg/kg-day			3.6E-02
	Antimony	3.37E-01	mg/kg	3.37E-01	mg/kg	M	3.9E-06	mg/kg-day	4.00E-04	mg/kg-day			9.6E-03
	Arsenic	2.57E-01	mg/kg	2.57E-01	mg/kg	M	2.9E-06	mg/kg-day	3.00E-04	mg/kg-day			
	Beryllium	2.33E+00	mg/kg	2.33E+00	mg/kg	M	2.7E-05	mg/kg-day	2.00E-03	mg/kg-day			1.3E-02
	Cadmium	1.62E-01	mg/kg	1.62E-01	mg/kg	M	1.9E-06	mg/kg-day	1.00E-03	mg/kg-day			1.9E-03
	Chromium	4.49E-01	mg/kg	4.49E-01	mg/kg	M	5.1E-06	mg/kg-day	3.00E-03	mg/kg-day			1.7E-03
	Cobalt	6.71E+00	mg/kg	6.71E+00	mg/kg	M	7.7E-05	mg/kg-day	6.00E-02	mg/kg-day			1.3E-03
	Copper	7.27E+01	mg/kg	7.27E+01	mg/kg	M	8.3E-04	mg/kg-day	3.71E-02	mg/kg-day			2.2E-02
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	1.6E-01	mg/kg-day	6.00E-01	mg/kg-day			2.6E-01
	Mercury	1.14E-01	mg/kg	1.14E-01	mg/kg	M	1.3E-06	mg/kg-day	3.00E-04	mg/kg-day			4.3E-03
	Nickel	3.03E+00	mg/kg	3.03E+00	mg/kg	M	3.5E-05	mg/kg-day	2.00E-02	mg/kg-day			1.7E-03
	Selenium	5.29E-01	mg/kg	5.29E-01	mg/kg	M	6.0E-06	mg/kg-day	5.00E-03	mg/kg-day			1.2E-03
	Vanadium	1.23E+01	mg/kg	1.23E+01	mg/kg	M	1.4E-04	mg/kg-day	7.00E-03	mg/kg-day			2.0E-02
	Zinc	5.65E+02	mg/kg	5.65E+02	mg/kg	M	6.5E-03	mg/kg-day	3.00E-01	mg/kg-day			2.2E-02
	(total)												2.6E+00
												Total Hazard Index Across All Exposure Routes/Pathways	**2.6E+00**

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.
Specify if subchronic.

TAL .9A

REASONABLE MAXIMUM EXPOSURE (RME)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADULT RECREATIONAL USERS BY FISH INGESTION
SITE 17 - THE BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Fish
Exposure Medium: Fish Tissue
Exposure Point: Boat Basin
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	4.38E+00	mg/kg	4.38E+00	mg/kg	M	5.4E-05	mg/kg-day	7.30E-01	(mg/kg-day)$^{-1}$	
	Benzo(a)pyrene	3.61E+00	mg/kg	3.61E+00	mg/kg	M	4.4E-05	mg/kg-day	7.30E+00	(mg/kg-day)$^{-1}$	
	Benzo(b)fluoranthene	3.63E+00	mg/kg	3.63E+00	mg/kg	M	4.5E-05	mg/kg-day	7.30E-01	(mg/kg-day)$^{-1}$	
	Benzo(g,h,i)perylene	2.31E+00	mg/kg	2.31E+00	mg/kg	M	2.8E-05	mg/kg-day		(mg/kg-day)$^{-1}$	
	Benzo(k)fluoranthene	2.11E+00	mg/kg	2.11E+00	mg/kg	M	2.6E-05	mg/kg-day	7.30E-02	(mg/kg-day)$^{-1}$	
	Bis(2-ethylhexyl)phthalate	3.38E+00	mg/kg	3.38E+00	mg/kg	M	4.1E-05	mg/kg-day	1.40E-02	(mg/kg-day)$^{-1}$	5.8E-07
	Chrysene	4.18E+00	mg/kg	4.18E+00	mg/kg	M	5.1E-05	mg/kg-day	7.30E-03	(mg/kg-day)$^{-1}$	
	Fluoranthene	1.27E+01	mg/kg	1.27E+01	mg/kg	M	1.6E-04	mg/kg-day		(mg/kg-day)$^{-1}$	
	Indeno(1,2,3-cd)pyrene	1.31E+00	mg/kg	1.31E+00	mg/kg	M	1.6E-05	mg/kg-day	7.30E-01	(mg/kg-day)$^{-1}$	
	Phenanthrene	1.16E+01	mg/kg	1.16E+01	mg/kg	M	1.4E-04	mg/kg-day		(mg/kg-day)$^{-1}$	
	Pyrene	1.01E+01	mg/kg	1.01E+01	mg/kg	M	1.2E-04	mg/kg-day		(mg/kg-day)$^{-1}$	
	4,4'-DDD	2.38E-01	mg/kg	2.38E-01	mg/kg	M	2.9E-06	mg/kg-day	2.40E-01	(mg/kg-day)$^{-1}$	7.0E-07
	4,4'-DDE	4.82E+00	mg/kg	4.82E+00	mg/kg	M	5.9E-05	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	2.0E-05
	4,4'-DDT	8.17E-01	mg/kg	8.17E-01	mg/kg	M	1.0E-05	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	3.4E-06
	Aldrin	4.09E-02	mg/kg	4.09E-02	mg/kg	M	5.0E-07	mg/kg-day	1.70E+01	(mg/kg-day)$^{-1}$	8.5E-06
	Alpha-BHC	6.49E-02	mg/kg	6.49E-02	mg/kg	M	7.9E-07	mg/kg-day	6.30E+00	(mg/kg-day)$^{-1}$	5.0E-06
	Alpha-Chlordane	1.49E-01	mg/kg	1.49E-01	mg/kg	M	1.8E-06	mg/kg-day	3.50E-01	(mg/kg-day)$^{-1}$	6.4E-07
	Aroclor-1254	3.81E+00	mg/kg	3.81E+00	mg/kg	M	4.7E-05	mg/kg-day	2.00E+00	(mg/kg-day)$^{-1}$	9.3E-05
	Aroclor-1260	1.11E+00	mg/kg	1.11E+00	mg/kg	M	1.4E-05	mg/kg-day	2.00E+00	(mg/kg-day)$^{-1}$	2.7E-05
	Dieldrin	7.92E-02	mg/kg	7.92E-02	mg/kg	M	9.7E-07	mg/kg-day	1.60E+01	(mg/kg-day)$^{-1}$	1.6E-05
	Endrin Ketone	4.69E-02	mg/kg	4.69E-02	mg/kg	M	5.7E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Gamma-BHC (Lindane)	4.59E-02	mg/kg	4.59E-02	mg/kg	M	5.6E-07	mg/kg-day	1.30E+00	(mg/kg-day)$^{-1}$	7.3E-07
	Gamma-Chlordane	9.85E-02	mg/kg	9.85E-02	mg/kg	M	1.2E-06	mg/kg-day	3.50E-01	(mg/kg-day)$^{-1}$	4.2E-07
	Aluminum	3.16E+03	mg/kg	3.16E+03	mg/kg	M	3.9E-02	mg/kg-day		(mg/kg-day)$^{-1}$	
	Antimony	3.37E-01	mg/kg	3.37E-01	mg/kg	M	4.1E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Arsenic	2.57E-01	mg/kg	2.57E-01	mg/kg	M	3.2E-06	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	
	Beryllium	2.33E+00	mg/kg	2.33E+00	mg/kg	M	2.9E-05	mg/kg-day		(mg/kg-day)$^{-1}$	
	Cadmium	1.62E-01	mg/kg	1.62E-01	mg/kg	M	2.0E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Chromium	4.49E-01	mg/kg	4.49E-01	mg/kg	M	5.5E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Cobalt	6.71E+00	mg/kg	6.71E+00	mg/kg	M	8.2E-05	mg/kg-day		(mg/kg-day)$^{-1}$	
	Copper	7.27E+01	mg/kg	7.27E+01	mg/kg	M	8.9E-04	mg/kg-day		(mg/kg-day)$^{-1}$	
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	1.7E-01	mg/kg-day		(mg/kg-day)$^{-1}$	
	Mercury	1.14E-01	mg/kg	1.14E-01	mg/kg	M	1.4E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Nickel	3.03E+00	mg/kg	3.03E+00	mg/kg	M	3.7E-05	mg/kg-day		(mg/kg-day)$^{-1}$	
	Selenium	5.29E-01	mg/kg	5.29E-01	mg/kg	M	6.5E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Vanadium	1.23E+01	mg/kg	1.23E+01	mg/kg	M	1.5E-04	mg/kg-day		(mg/kg-day)$^{-1}$	
	Zinc	5.65E+02	mg/kg	5.65E+02	mg/kg	M	6.9E-03	mg/kg-day		(mg/kg-day)$^{-1}$	
	(total)										1.8E-04
											1.8E-04

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

TABLE 8.9 B
CENTRAL TENDANCY EXPOSURE (CTE)
CALCULATION OF CANCER RISKS FROM EXPOSURE OF ADULT RECREATIONAL USERS BY FISH INGESTION
SITE 17 - THE BOAT BASIN
NTC GREAT LAKES

Scenario Timeframe: Current / Future
Medium: Fish
Exposure Medium: Fish Tissue
Exposure Point: Boat Basin
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Benzo(a)anthracene	4.38E+00	mg/kg	4.38E+00	mg/kg	M	6.4E-06	mg/kg-day	7.30E-01	(mg/kg-day)$^{-1}$	
	Benzo(a)pyrene	3.61E+00	mg/kg	3.61E+00	mg/kg	M	5.3E-06	mg/kg-day	7.30E+00	(mg/kg-day)$^{-1}$	
	Benzo(b)fluoranthene	3.63E+00	mg/kg	3.63E+00	mg/kg	M	5.3E-06	mg/kg-day	7.30E-01	(mg/kg-day)$^{-1}$	
	Benzo(g,h,i)perylene	2.31E+00	mg/kg	2.31E+00	mg/kg	M	3.4E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Benzo(k)fluoranthene	2.11E+00	mg/kg	2.11E+00	mg/kg	M	3.1E-06	mg/kg-day	7.30E-02	(mg/kg-day)$^{-1}$	
	Bis(2-ethylhexyl)phthalate	3.38E+00	mg/kg	3.38E+00	mg/kg	M	5.0E-06	mg/kg-day	1.40E-02	(mg/kg-day)$^{-1}$	7.0E-08
	Chrysene	4.18E+00	mg/kg	4.18E+00	mg/kg	M	6.1E-06	mg/kg-day	7.30E-03	(mg/kg-day)$^{-1}$	
	Fluoranthene	1.27E+01	mg/kg	1.27E+01	mg/kg	M	1.9E-05	mg/kg-day		(mg/kg-day)$^{-1}$	
	Indeno(1,2,3-cd)pyrene	1.31E+00	mg/kg	1.31E+00	mg/kg	M	1.9E-06	mg/kg-day	7.30E-01	(mg/kg-day)$^{-1}$	
	Phenanthrene	1.16E+01	mg/kg	1.16E+01	mg/kg	M	1.7E-05	mg/kg-day		(mg/kg-day)$^{-1}$	
	Pyrene	1.01E+01	mg/kg	1.01E+01	mg/kg	M	1.5E-05	mg/kg-day		(mg/kg-day)$^{-1}$	
	4,4'-DDD	2.38E-01	mg/kg	2.38E-01	mg/kg	M	3.5E-07	mg/kg-day	2.40E-01	(mg/kg-day)$^{-1}$	8.4E-08
	4,4'-DDE	4.82E+00	mg/kg	4.82E+00	mg/kg	M	7.1E-06	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	2.4E-06
	4,4'-DDT	8.17E-01	mg/kg	8.17E-01	mg/kg	M	1.2E-06	mg/kg-day	3.40E-01	(mg/kg-day)$^{-1}$	4.1E-07
	Aldrin	4.09E-02	mg/kg	4.09E-02	mg/kg	M	6.0E-08	mg/kg-day	1.70E+01	(mg/kg-day)$^{-1}$	1.0E-06
	Alpha-BHC	6.49E-02	mg/kg	6.49E-02	mg/kg	M	9.5E-08	mg/kg-day	6.30E+00	(mg/kg-day)$^{-1}$	6.0E-07
	Alpha-Chlordane	1.49E-01	mg/kg	1.49E-01	mg/kg	M	2.2E-07	mg/kg-day	3.50E-01	(mg/kg-day)$^{-1}$	7.7E-08
	Aroclor-1254	3.81E+00	mg/kg	3.81E+00	mg/kg	M	5.6E-06	mg/kg-day	2.00E+00	(mg/kg-day)$^{-1}$	1.1E-05
	Aroclor-1260	1.11E+00	mg/kg	1.11E+00	mg/kg	M	1.6E-06	mg/kg-day	2.00E+00	(mg/kg-day)$^{-1}$	3.2E-06
	Dieldrin	7.92E-02	mg/kg	7.92E-02	mg/kg	M	1.2E-07	mg/kg-day	1.60E+01	(mg/kg-day)$^{-1}$	1.9E-06
	Endrin Ketone	4.69E-02	mg/kg	4.69E-02	mg/kg	M	6.9E-08	mg/kg-day		(mg/kg-day)$^{-1}$	
	Gamma-BHC (Lindane)	4.59E-02	mg/kg	4.59E-02	mg/kg	M	6.7E-08	mg/kg-day	1.30E+00	(mg/kg-day)$^{-1}$	8.8E-08
	Gamma-Chlordane	9.85E-02	mg/kg	9.85E-02	mg/kg	M	1.4E-07	mg/kg-day	3.50E-01	(mg/kg-day)$^{-1}$	5.1E-08
	Aluminum	3.16E+03	mg/kg	3.16E+03	mg/kg	M	4.6E-03	mg/kg-day		(mg/kg-day)$^{-1}$	
	Antimony	3.37E-01	mg/kg	3.37E-01	mg/kg	M	5.0E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Arsenic	2.57E-01	mg/kg	2.57E-01	mg/kg	M	3.8E-07	mg/kg-day	1.50E+00	(mg/kg-day)$^{-1}$	
	Beryllium	2.33E+00	mg/kg	2.33E+00	mg/kg	M	3.4E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Cadmium	1.62E-01	mg/kg	1.62E-01	mg/kg	M	2.4E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Chromium	4.49E-01	mg/kg	4.49E-01	mg/kg	M	6.6E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Cobalt	6.71E+00	mg/kg	6.71E+00	mg/kg	M	9.9E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Copper	7.27E+01	mg/kg	7.27E+01	mg/kg	M	1.1E-04	mg/kg-day		(mg/kg-day)$^{-1}$	
	Iron	1.36E+04	mg/kg	1.36E+04	mg/kg	M	2.0E-02	mg/kg-day		(mg/kg-day)$^{-1}$	
	Mercury	1.14E-01	mg/kg	1.14E-01	mg/kg	M	1.7E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Nickel	3.03E+00	mg/kg	3.03E+00	mg/kg	M	4.5E-06	mg/kg-day		(mg/kg-day)$^{-1}$	
	Selenium	5.29E-01	mg/kg	5.29E-01	mg/kg	M	7.8E-07	mg/kg-day		(mg/kg-day)$^{-1}$	
	Vanadium	1.23E+01	mg/kg	1.23E+01	mg/kg	M	1.8E-05	mg/kg-day		(mg/kg-day)$^{-1}$	
	Zinc	5.65E+02	mg/kg	5.65E+02	mg/kg	M	8.3E-04	mg/kg-day		(mg/kg-day)$^{-1}$	
	(total)										2.1E-05
											2.1E-05

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

REASONABLE MAXIMUM EXPOSURE (RME)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADOLESCENT RECTREATIONAL USER

SITE 17 - NORTH BRANCH PETTYBONE CREEK

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Exposure Routes Total		Primary Target Organ	Ingestion	Dermal	Inhalation	Exposure Routes Total
Sediment	Sediment	Site 17	Benzo(a)anthracene	6.6E-08	8.4E-08		1.5E-07	Benzo(a)anthracene					
			Benzo(a)pyrene	6.6E-07	8.5E-07		1.5E-06	Benzo(a)pyrene					
			Benzo(b)fluoranthene	6.9E-08	8.8E-08		1.6E-07	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	3.8E-09	4.9E-09		8.6E-09	Benzo(k)fluoranthene					
			Indeno(1,2,3-cd)pyrene	3.4E-08	4.3E-08		7.7E-08	Indeno(1,2,3-cd)pyrene					
			4,4'-DDT	7.3E-09			7.3E-09	4,4'-DDT	Liver	3.0E-04			3.0E-04
			Aroclor-1254	2.5E-08	3.4E-08		5.9E-08	Aroclor-1254	Immunological	4.4E-03	6.0E-03		1.0E-02
			Arsenic	4.7E-07	1.4E-07		6.0E-07	Arsenic	Skin - Cardiovascular	7.2E-03	2.1E-03		9.4E-03
			Cadmium					Cadmium	Kidney	6.0E-04			6.0E-04
			Chromium					Chromium	Respiratory	2.2E-03			2.2E-03
			Copper					Copper	Gastrointestinal	2.0E-03			2.0E-03
			Mercury					Mercury	Immuniological - ing	6.1E-04			6.1E-04
			Thallium					Thallium	Increased levels of SGOT and LDH	4.7E-03			4.7E-03
			(Total)	1.3E-06	1.2E-06		2.6E-06	(Total)		2.2E-02	8.1E-03		3.0E-02
						Total Risk Across Sediment	2.6E-06					Total Hazard Index Across All Media and All Exposure Routes	3.0E-02

Total Risk Across All Media and All Exposure Routes: 2.6E-06

Total Liver HI =	3.0E-04
Total Immunological HI =	1.1E-02
Total Skin HI =	9.4E-03
Total Cardiovascular HI =	9.4E-03
Total Kidney HI =	6.0E-04
Total Respiratory HI =	2.2E-03
Total Gastrointestinal HI =	2.0E-03
Total SGOT and LDH HI =	4.7E-03

TABLE B.9.1A

CENTRAL TENDANCY EXPOSURE (CTE)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADOLESCENT RECTREATIONAL USER

SITE 17 - NORTH BRANCH PETTYBONE CREEK

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Exposure Routes Total		Primary Target Organ	Ingestion	Dermal	Inhalation	Exposure Routes Total
Sediment	Sediment	Site 17	Benzo(a)anthracene	1.6E-08	5.3E-09		2.2E-08	Benzo(a)anthracene					
			Benzo(a)pyrene	1.7E-07	5.3E-08		2.2E-07	Benzo(a)pyrene					
			Benzo(b)fluoranthene	1.7E-08	5.6E-09		2.3E-08	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	9.5E-10	3.1E-10		1.3E-09	Benzo(k)fluoranthene					
			Indeno(1,2,3-cd)pyrene	8.4E-09	2.7E-09		1.1E-08	Indeno(1,2,3-cd)pyrene					
			4,4'-DDT	1.8E-09			1.8E-09	4,4'-DDT	Liver	7.5E-05			7.5E-05
			Aroclor-1254	6.2E-09	2.2E-09		8.4E-09	Aroclor-1254	Immunological	1.1E-03	3.8E-04		1.5E-03
			Arsenic	1.2E-07	8.7E-09		1.2E-07	Arsenic	Skin - Cardiovascular	1.8E-03	1.3E-04		1.9E-03
			Cadmium					Cadmium	Kidney	1.5E-04			1.5E-04
			Chromium					Chromium	Respiratory	5.4E-04			5.4E-04
			Copper					Copper	Gastrointestinal	5.0E-04			5.0E-04
			Mercury					Mercury	Immunological - ing	1.5E-04			1.5E-04
			Thallium					Thallium	Increased levels of SGOT and LDH	1.2E-03			1.2E-03
			(Total)	3.3E-07	7.8E-08		4.1E-07	(Total)		5.5E-03	5.1E-04		6.0E-03
						Total Risk Across Sediment	4.1E-07					Total Hazard Index Across All Media and All Exposure Routes	6.0E-03

Total Risk Across All Media and All Exposure Routes: 4.1E-07

Total Liver HI =	7.5E-05
Total Immunological HI =	1.6E-03
Total Skin HI =	1.9E-03
Total Cardiovascular HI =	1.9E-03
Total Kidney HI =	1.5E-04
Total Respiratory HI =	5.4E-04
Total Gastrointestinal HI =	5.0E-04
Total SGOT and LDH HI =	1.2E-03

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REASONABLE MAXIMUM EXPOSURE (RME)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADOLESCENT RECTREATIONAL USER

SITE 17 - SOUTH BRANCH PETTYBONE CREEK

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Exposure Routes Total		Primary Target Organ	Ingestion	Dermal	Inhalation	Exposure Routes Total
Sediment	Sediment	Site 17	Benzo(a)anthracene	2.0E-08	2.6E-08		4.6E-08	Benzo(a)anthracene					
			Benzo(a)pyrene	1.9E-07	2.4E-07		4.3E-07	Benzo(a)pyrene					
			Benzo(b)fluoranthene	1.8E-08	2.4E-08		4.2E-08	Benzo(b)fluoranthene					
			Indeno(1,2,3-cd)pyrene	8.8E-09	1.1E-08		2.0E-08	Indeno(1,2,3-cd)pyrene					
			Thallium					Thallium	Increased levels of SGOT and LDH	4.4E-03			4.4E-03
			(Total)	2.4E-07	3.0E-07		5.4E-07	(Total)		4.4E-03			4.4E-03
							Total Risk Across Sediment	5.4E-07					Total Hazard Index Across All Media and All Exposure Routes	4.4E-03

Total Risk Across All Media and All Exposure Routes 5.4E-07

Total SGOT and LDH HI = 4.4E-03

TABLE B.9.2A

CENTRAL TENDANCY EXPOSURE (CTE)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADOLESCENT RECTREATIONAL USER

SITE 17 - SOUTH BRANCH PETTYBONE CREEK

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	*Dermal*	*Inhalation*	*Exposure Routes Total*		*Primary Target Organ*	*Ingestion*	*Dermal*	*Inhalation*	*Exposure Routes Total*
Sediment	Sediment	Site 17	Benzo(a)anthracene	5.0E-09	1.6E-09		6.7E-09	Benzo(a)anthracene					
			Benzo(a)pyrene	4.8E-08	1 5E-08		6.3E-08	Benzo(a)pyrene					
			Benzo(b)fluoranthene	4.6E-09	1.5E-09		6.1E-09	Benzo(b)fluoranthene					
			Indeno(1,2,3-cd)pyrene	2.2E-09	7.1E-10		2.9E-09	Indeno(1,2,3-cd)pyrene					
			Thallium					Thallium	Increased levels of SGOT and LDH	1.1E-03			1.1E-03
			(Total)	*5.9E-08*	*1.9E-08*		*7.9E-08*	*(Total)*		*1.1E-03*			*1.1E-03*
						Total Risk Across Sediment	7.9E-08					Total Hazard Index Across All Media and All Exposure Routes	1.1E-03

Total Risk Across All Media and All Exposure Routes 7.9E-08

Total SGOT and LDH HI = 1.1E-03

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REASONABLE MA.. ..M EXPOSURE (RME)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADOLESCENT RECTREATIONAL USER

SITE 17 - BOAT BASIN

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Exposure Routes Total		Primary Target Organ	Ingestion	Dermal	Inhalation	Exposure Routes Total
Sediment	Sediment	Site 17	Benzo(a)anthracene	9 6E-08	1 2E-07		2 2E-07	Benzo(a)anthracene					
			Benzo(a)pyrene	8 0E-07	1 0E-06		1.8E-06	Benzo(a)pyrene					
			Benzo(b)fluoranthene	8.0E-08	1.0E-07		1.8E-07	Benzo(b)fluoranthene					
			Indeno(1,2,3-cd)pyrene	2 9E-08	3 7E-08		6 6E-08	Indeno(1,2,3-cd)pyrene					
			Aroclor-1254	3 6E-08	5 0E-08		8 5E-08	Aroclor-1254	Immunological	6 3E-03	8 7E-03		1 5E-02
			Aroclor-1260	1 0E-08	1.4E-08		2 5E-08	Aroclor-1260					
			Arsenic	4.5E-07	1.3E-07		5 8E-07	Arsenic	Skin - Cardiovascular	7 0E-03	2.1E-03		9.1E-03
			Iron					Iron	Gastrointestinal	7 7E-03			7.7E-03
			(Total)	1.5E-06	1 5E-06		3 0E-06	(Total)		2.1E-02	1 1E-02		3.2E-02
Surface Water	Surface Water	Site 17	Bromodichloromethane	2.2E-09	1 4E-09		3 6E-09	Bromodichloromethane	Renal Cytomegaly	1.3E-05	8 0E-06		2 1E-05
			Chlorodibromomethane	2 4E-09	1 4E-09		3 8E-09	Chlorodibromomethane	Hepatic Lesions	1 0E-05	5 9E-06		1.6E-05
			Chloroform	3 5E-10	2.7E-10		6 3E-10	Chloroform	Liver	4 1E-05	3 1E-05		7.2E-05
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	Circulatory	3.1E-04	2.5E-04		5.6E-04
			Tetrachloroethene	3.5E-09	1.6E-08		2.0E-08	Tetrachloroethene	Body Weight - Liver	4 7E-05	2.2E-04		2.7E-04
			Trichloroethene	2 9E-09	4.0E-09		6.9E-09	Trichloroethene		3.1E-04	4 2E-04		7 4E-04
			Vinyl Chloride	5.6E-08	2.9E-08		8.5E-08	Vinyl Chloride	Liver	8.7E-05	4.5E-05		1.3E-04
			4,4'-DDD	6.3E-11	3.3E-09		3 4E-09	4,4'-DDD					
			4,4'-DDE	4 0E-10	1 8E-08		1 8E-08	4,4'-DDE					
			4,4'-DDT	4 8E-10	4.1E-08		4 1E-08	4,4'-DDT	Liver	2.0E-05	1.7E-03		1.7E-03
			Aluminum					Aluminum	Body Weight	3.2E-03	2.5E-04		3.5E-03
			Arsenic	2.8E-07	2.1E-08		3.0E-07	Arsenic	Skin - Cardiovascular	4.3E-03	3.3E-04		4.6E-03
			Chromium					Chromium	Respiratory	1.6E-03	1 0E-02		1.2E-02
			Iron					Iron	Gastrointestinal	6.2E-03	4.7E-04		6.6E-03
			Lead					Lead					
			Manganese					Manganese	Neurological	1 8E-03	3 5E-03		5 3E-03
			Mercury					Mercury	Neurological - inh Immuniological - ing	1 1E-04	1.2E-04		2.4E-04
			(Total)	3.4E-07	1.4E-07		4.8E-07	(Total)		1 8E-02	1.7E-02		3 5E-02

Total Risk Across Sediment	3.0E-06
Total Risk Across Surface Water	4.8E-07
Total Risk Across All Media and All Exposure Routes	3.5E-06

Total Hazard Index Across All Media and All Exposure Routes: 6.7E-02

Total Immunological HI =	1.5E-02
Total Skin HI =	1.4E-02
Total Cardiovascular HI =	1.4E-02
Total Gastrointestinal HI =	1.4E-02
Total Renal Cytomegaly HI =	2.1E-05
Total Hepatic Lesions HI =	1.6E-05
Total Liver HI =	2.2E-03
Total Circulatory HI =	5.6E-04
Total Body Weight HI =	3.7E-03
Total Respiratory HI =	1.2E-02
Total Neurological HI =	5.3E-03

TABLE B 9.3A

CENTRAL TENDANCY EXPOSURE (CTE)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADOLESCENT RECTREATIONAL USER

SITE 17 - BOAT BASIN

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Exposure Routes Total		Primary Target Organ	Ingestion	Dermal	Inhalation	Exposure Routes Total
Sediment	Sediment	Site 17	Benzo(a)anthracene	2 4E-08	7.8E-09		3.2E-08	Benzo(a)anthracene					
			Benzo(a)pyrene	2.0E-07	6.4E-08		2.6E-07	Benzo(a)pyrene					
			Benzo(b)fluoranthene	2.0E-08	6 4E-09		2.6E-08	Benzo(b)fluoranthene					
			Indeno(1,2,3-cd)pyrene	7.2E-09	2 3E-09		9.5E-09	Indeno(1,2,3-cd)pyrene					
			Aroclor-1254	9.0E-09	3.1E-09		1.2E-08	Aroclor-1254	Immunological	1 6E-03	5 5E-04		2.1E-03
			Aroclor-1260	2.6E-09	9.1E-10		3 5E-09	Aroclor-1260					
			Arsenic	1.1E-07	8 4E-09		1.2E-07	Arsenic	Skin - Cardiovascular	1.8E-03	1 3E-04		1.9E-03
			Iron					Iron	Gastrointestinal	1.9E-03			1.9E-03
			(Total)	3.7E-07	9.3E-08		4.7E-07	(Total)		5.3E-03	6.8E-04		5.9E-03
Surface Water	Surface Water	Site 17	Bromodichloromethane	5.6E-10	4 1E-10		9.6E-10	Bromodichloromethane	Renal Cytomegaly	3.1E-06	2 3E-06		5.4E-06
			Chlorodibromomethane	6.0E-10	4.1E-10		1.0E-09	Chlorodibromomethane	Hepatic Lesions	2 5E-06	1.7E-06		4.2E-06
			Chloroform	8.9E-11	7.2E-11		1.6E-10	Chloroform	Liver	1.0E-05	8 3E-06		1.8E-05
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	Circulatory	7 8E-05	6 4E-05		1 4E-04
			Tetrachloroethene	8.8E-10	4 7E-09		5 6E-09	Tetrachloroethene	Body Weight - Liver	1.2E-05	6.3E-05		7.5E-05
			Trichloroethene	7.3E-10	1.1E-09		1 8E-09	Trichloroethene		7.8E-05	1.2E-04		1.9E-04
			Vinyl Chloride	1.4E-08	7.1E-09		2.1E-08	Vinyl Chloride	Liver	2.2E-05	1.1E-05		3.3E-05
			4,4'-DDD	1 6E-11	9 5E-10		9.6E-10	4,4'-DDD					
			4,4'-DDE	9.9E-11	5.1E-09		5 2E-09	4,4'-DDE					
			4,4'-DDT	1.2E-10	1.2E-08		1.2E-08	4,4'-DDT	Liver	4.9E-06	4.8E-04		4 9E-04
			Aluminum					Aluminum	Body Weight	8.0E-04	5.0E-05		8.5E-04
			Arsenic	6.9E-08	4.3E-09		7.3E-08	Arsenic	Skin - Cardiovascular	1.1E-03	6.7E-05		1.1E-03
			Chromium					Chromium	Respiratory	4 1E-04	2.0E-03		2.4E-03
			Iron					Iron	Gastrointestinal	1.5E-03	9.6E-05		1.6E-03
			Lead					Lead					
			Manganese					Manganese	Neurological	4.5E-04	7.0E-04		1 2E-03
			Mercury					Mercury	Neurological - inh Immuniological - inc	2.8E-05	2.5E-05		5.3E-05
			(Total)	8.6E-08	3.6E-08		1.2E-07	(Total)		4.5E-03	3.7E-03		8.2E-03

Total Risk Across Sediment: 4.7E-07

Total Risk Across Surface Water: 1 2E-07

Total Risk Across All Media and All Exposure Routes: 5.9E-07

Total Hazard Index Across All Media and All Exposure Routes: 1.4E-02

Total Immunological HI =	2.1E-03
Total Skin HI =	3.0E-03
Total Cardiovascular HI =	3.0E-03
Total Gastrointestinal HI =	3.6E-03
Total Renal Cytomegaly HI =	5.4E-06
Total Hepatic Lesions HI =	4 2E-06
Total Liver HI =	6.2E-04
Total Circulatory HI =	1.4E-04
Total Body Weight HI =	9.3E-04
Total Respiratory HI =	2 4E-03
Total Neurological HI =	1.2E-03

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REASONABLE MAXI.. EXPOSURE (RME)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT RECTREATIONAL USER

SITE 17 - NORTH BRANCH PETTYBONE CREEK

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Exposure Routes Total		Primary Target Organ	Ingestion	Dermal	Inhalation	Exposure Routes Total
Sediment	Sediment	Site 17	Benzo(a)anthracene	9.5E-08	3.4E-07		4.3E-07	Benzo(a)anthracene					
			Benzo(a)pyrene	9.5E-07	3.4E-06		4.4E-06	Benzo(a)pyrene					
			Benzo(b)fluoranthene	9.9E-08	3.6E-07		4.5E-07	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	5.5E-09	2.0E-08		2.5E-08	Benzo(k)fluoranthene					
			Indeno(1,2,3-cd)pyrene	4.9E-08	1.7E-07		2.2E-07	Indeno(1,2,3-cd)pyrene					
			4,4'-DDT	1.0E-08			1.0E-08	4,4'-DDT	Liver	1.8E-04			1.8E-04
			Aroclor-1254	3.6E-08	1.4E-07		1.7E-07	Aroclor-1254	Immunological	2.6E-03	1.0E-02		1.3E-02
			Arsenic	6.7E-07	5.5E-07		1.2E-06	Arsenic	Skin - Cardiovascular	4.3E-03	3.6E-03		7.9E-03
			Cadmium					Cadmium	Kidney	3.6E-04			3.6E-04
			Chromium					Chromium	Respiratory	1.3E-03			1.3E-03
			Copper					Copper	Gastrointestinal	1.2E-03			1.2E-03
			Mercury					Mercury	Immunological - ing	3.6E-04			3.6E-04
			Thallium					Thallium	Increased levels of SGOT and LDH	2.8E-03			2.8E-03
			(Total)	1.9E-06	5.0E-06		6.9E-06	(Total)		1.3E-02	1.4E-02		2.7E-02
							Total Risk Across Sediment	6.9E-06					Total Hazard Index Across All Media and All Exposure Routes	2.7E-02

Total Risk Across All Media and All Exposure Routes 6.9E-06

Total Liver HI =	1.8E-04
Total Immunological HI =	1.3E-02
Total Skin HI =	7.9E-03
Total Cardiovascular HI =	7.9E-03
Total Kidney HI =	3.6E-04
Total Respiratory HI =	1.3E-03
Total Gastrointestinal HI =	1.2E-03
Total SGOT and LDH HI =	2.8E-03

TABLE B 9 4A

CENTRAL TENDANCY EXPOSURE (CTE)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT RECTREATIONAL USER

SITE 17 - NORTH BRANCH PETTYBONE CREEK

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Exposure *Routes Total*		Primary *Target Organ*	Ingestion	Dermal	Inhalation	Exposure *Routes Total*
Sediment	Sediment	Site 17	Benzo(a)anthracene	6 9E-09	5.6E-09		1.2E-08	Benzo(a)anthracene					
			Benzo(a)pyrene	6.9E-08	5.6E-08		1 3E-07	Benzo(a)pyrene					
			Benzo(b)fluoranthene	7.2E-09	5.8E-09		1.3E-08	Benzo(b)fluoranthene					
			Benzo(k)fluoranthene	4.0E-10	3.2E-10		7.2E-10	Benzo(k)fluoranthene					
			Indeno(1,2,3-cd)pyrene	3.5E-09	2.9E-09		6.4E-09	Indeno(1,2,3-cd)pyrene					
			4,4'-DDT	7.6E-10			7.6E-10	4,4'-DDT	Liver	4.5E-05			4 5E-05
			Aroclor-1254	2.6E-09	2.3E-09		4 9E-09	Aroclor-1254	Immunological	6.5E-04	5.7E-04		1.2E-03
			Arsenic	4.9E-08	9.1E-09		5.8E-08	Arsenic	Skin - Cardiovascular	1.1E-03	2 0E-04		1.3E-03
			Cadmium					Cadmium	Kidney	9.0E-05			9.0E-05
			Chromium					Chromium	Respiratory	3.3E-04			3.3E-04
			Copper					Copper	Gastrointestinal	3.0E-04			3.0E-04
			Mercury					Mercury	Immuniological • ing	9.1E-05			9.1E-05
			Thallium					Thallium	Increased levels of SGOT and LDH	7.1E-04			7 1E-04
			(Total)	1.4E-07	8.2E-08		2 2E-07	(Total)		3.3E-03	7.7E-04		4 1E-03
						Total Risk Across Sediment	2.2E-07			Total Hazard Index Across All Media and All Exposure Routes			4.1E-03

Total Risk Across All Media and All Exposure Routes	2.2E-07

Total Liver HI =	4.5E-05
Total Immunological HI =	1.3E-03
Total Skin HI =	1.3E-03
Total Cardiovascular HI =	1.3E-03
Total Kidney HI =	9.0E-05
Total Respiratory HI =	3.3E-04
Total Gastrointestinal HI =	3 0E-04
Total SGOT and LDH HI =	7.1E-04

REASONABLE MAXI... ..I EXPOSURE (RME)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT RECTREATIONAL USER

SITE 17 - SOUTH BRANCH PETTYBONE CREEK

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Exposure Routes Total		Primary Target Organ	Ingestion	Dermal	Inhalation	Exposure Routes Total
Sediment	Sediment	Site 17	Benzo(a)anthracene	2.9E-08	1.0E-07		1.3E-07	Benzo(a)anthracene					
			Benzo(a)pyrene	2.7E-07	9.8E-07		1.3E-06	Benzo(a)pyrene					
			Benzo(b)fluoranthene	2.7E-08	9.5E-08		1.2E-07	Benzo(b)fluoranthene					
			Indeno(1,2,3-cd)pyrene	1.3E-08	4.6E-08		5.8E-08	Indeno(1,2,3-cd)pyrene					
			Thallium					Thallium	Increased levels of SGOT and LDH	2.7E-03			2.7E-03
			(Total)	3.4E-07	1.2E-06		1.6E-06	(Total)		2.7E-03			2.7E-03
							Total Risk Across Sediment	1.6E-06					Total Hazard Index Across All Media and All Exposure Routes	2.7E-03

Total Risk Across All Media and All Exposure Routes 1.6E-06

Total SGOT and LDH HI = 2.7E-03

TABLE B.9.5A

CENTRAL TENDANCY EXPOSURE (CTE)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT RECTREATIONAL USER

SITE 17 - SOUTH BRANCH PETTYBONE CREEK

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Exposure Routes Total		Primary Target Organ	Ingestion	Dermal	Inhalation	Exposure Routes Total
Sediment	Sediment	Site 17	Benzo(a)anthracene	2.1E-09	1.7E-09		3.8E-09	Benzo(a)anthracene					
			Benzo(a)pyrene	2.0E-08	1.6E-08		3.6E-08	Benzo(a)pyrene					
			Benzo(b)fluoranthene	1.9E-09	1.6E-09		3.5E-09	Benzo(b)fluoranthene					
			Indeno(1,2,3-cd)pyrene	9.3E-10	7.5E-10		1.7E-09	Indeno(1,2,3-cd)pyrene					
			Thallium					Thallium	Increased levels of SGOT and LDH	6.6E-04			6.6E-04
			(Total)	2.5E-08	2.0E-08		4.5E-08	(Total)		6.6E-04			6.6E-04
							Total Risk Across Sediment	4.5E-08					Total Hazard Index Across All Media and All Exposure Routes	6.6E-04

Total Risk Across All Media and All Exposure Routes 4.5E-08

Total SGOT and LDH HI = 6.6E-04

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REASONABLE MA. EXPOSURE (RME)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT RECTREATIONAL USER

SITE 17 - BOAT BASIN

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Exposure Routes Total		Primary Target Organ	Ingestion	Dermal	Inhalation	Exposure Routes Total
Sediment	Sediment	Site 17	Benzo(a)anthracene	1.4E-07	5.0E-07		6.4E-07	Benzo(a)anthracene					
			Benzo(a)pyrene	1.1E-06	4.1E-06		5.2E-06	Benzo(a)pyrene					
			Benzo(b)fluoranthene	1.2E-07	4.1E-07		5.3E-07	Benzo(b)fluoranthene					
			Indeno(1,2,3-cd)pyrene	4.2E-08	1.5E-07		1.9E-07	Indeno(1,2,3-cd)pyrene					
			Aroclor-1254	5.2E-08	2.0E-07		2.5E-07	Aroclor-1254	Immunological	3.8E-03	1.5E-02		1.8E-02
			Aroclor-1260	1.5E-08	5.8E-08		7.3E-08	Aroclor-1260					
			Arsenic	6.5E-07	5.4E-07		1.2E-06	Arsenic	Skin - Cardiovascular	4.2E-03	3.5E-03		7.7E-03
			Iron					Iron	Gastrointestinal	4.6E-03			4.6E-03
			(Total)	2.2E-06	6.0E-06		8.1E-06	(Total)		1.3E-02	1.8E-02		3.1E-02
Surface Water	Surface Water	Site 17	Bromodichloromethane	3.2E-09	4.9E-09		8.1E-09	Bromodichloromethane	Renal Cytomegaly	7.5E-06	1.2E-05		1.9E-05
			Chlorodibromomethane	3.5E-09	4.9E-09		8.4E-09	Chlorodibromomethane	Hepatic Lesions	6.0E-06	8.6E-06		1.5E-05
			Chloroform	5.1E-10	9.4E-10		1.5E-09	Chloroform	Liver	2.4E-05	4.5E-05		6.9E-05
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	Circulatory	1.9E-04	3.6E-04		5.4E-04
			Tetrachloroethene	5.1E-09	5.6E-08		6.2E-08	Tetrachloroethene	Body Weight - Liver	2.8E-05	3.2E-04		3.5E-04
			Trichloroethene	4.2E-09	1.4E-08		1.8E-08	Trichloroethene		1.9E-04	6.1E-04		8.0E-04
			Vinyl Chloride	8.1E-08	1.0E-07		1.8E-07	Vinyl Chloride	Liver	5.2E-05	6.6E-05		1.2E-04
			4,4'-DDD	9.0E-11	1.1E-08		1.2E-08	4,4'-DDD					
			4,4'-DDE	5.7E-10	6.2E-08		6.2E-08	4,4'-DDE					
			4,4'-DDT	6.9E-10	1.4E-07		1.4E-07	4,4'-DDT	Liver	1.2E-05	2.4E-03		2.4E-03
			Aluminum					Aluminum	Body Weight	1.9E-03	3.5E-04		2.3E-03
			Arsenic	4.0E-07	7.3E-08		4.7E-07	Arsenic	Skin - Cardiovascular	2.6E-03	4.7E-04		3.1E-03
			Chromium					Chromium	Respiratory	9.8E-04	1.4E-02		1.5E-02
			Iron					Iron	Gastrointestinal	3.7E-03	6.8E-04		4.4E-03
			Lead					Lead					
			Manganese					Manganese	Neurological	1.1E-03	5.0E-03		6.1E-03
			Mercury					Mercury	Neurological - inh Immuniological - ing	6.8E-05	1.8E-04		2.5E-04
			(Total)	5.0E-07	4.7E-07		9.7E-07	(Total)		1.1E-02	2.5E-02		3.6E-02

TABLE A.9.6

REASONABLE MAXIMUM EXPOSURE (RME)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT RECTREATIONAL USER

SITE 17 - BOAT BASIN

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Exposure Routes Total		Primary Target Organ	Ingestion	Dermal	Inhalation	Exposure Routes Total
Fish Tissue	Fish Tissue	Site 17	Benzo(a)anthracene					Benzo(a)anthracene					
			Benzo(a)pyrene					Benzo(a)pyrene					
			Benzo(b)fluoranthene					Benzo(b)fluoranthene					
			Benzo(g,h,i)perylene					Benzo(g,h,i)perylene	Kidney				
			Benzo(k)fluoranthene					Benzo(k)fluoranthene					
			Bis(2-ethylhexyl)phthalate	5.8E-07			5.8E-07	Bis(2-ethylhexyl)phthalate	Liver	4.8E-03			4.8E-03
			Chrysene					Chrysene					
			Fluoranthene					Fluoranthene	Blood - Kidney - Liver				
			Indeno(1,2,3-cd)pyrene					Indeno(1,2,3-cd)pyrene					
			Phenanthrene					Phenanthrene	Kidney				
			Pyrene					Pyrene	Kidney				
			4,4'-DDD	7.0E-07			7.0E-07	4,4'-DDD					
			4,4'-DDE	2.0E-05			2.0E-05	4,4'-DDE					
			4,4'-DDT	3.4E-06			3.4E-06	4,4'-DDT	Liver	4.7E-02			4.7E-02
			Aldrin	8.5E-06			8.5E-06	Aldrin	Liver	3.9E-02			3.9E-02
			Alpha-BHC	5.0E-06			5.0E-06	Alpha-BHC					
			Alpha-Chlordane	6.4E-07			6.4E-07	Alpha-Chlordane	Hepatic Effects	8.5E-03			8.5E-03
			Aroclor-1254	9.3E-05			9.3E-05	Aroclor-1254	Immunological	5.4E+00			5.4E+00
			Aroclor-1260	2.7E-05			2.7E-05	Aroclor-1260					
			Dieldrin	1.6E-05			1.6E-05	Dieldrin	Liver	4.5E-02			4.5E-02
			Endrin Ketone					Endrin Ketone	Liver - Neurological	4.5E-03			4.5E-03
			Gamma-BHC (Lindane)	7.3E-07			7.3E-07	Gamma-BHC (Lindane)	Kidney - Liver	4.4E-03			4.4E-03
			Gamma-Chlordane	4.2E-07			4.2E-07	Gamma-Chlordane	Hepatic Effects	5.6E-03			5.6E-03
			Aluminum					Aluminum	Body Weight	9.0E-02			9.0E-02
			Antimony					Antimony	Circulatory	2.4E-02			2.4E-02
			Arsenic					Arsenic	Skin - Cardiovascular				
			Beryllium					Beryllium	Gastrointestinal	3.3E-02			3.3E-02
			Cadmium					Cadmium	Kidney - Ingestion	4.6E-03			4.6E-03
			Chromium					Chromium	Respiratory	4.3E-03			4.3E-03
			Cobalt					Cobalt	Cardiovascular, Neurological, Immuniological	3.2E-03			3.2E-03
			Copper					Copper	Gastrointestinal	5.6E-02			5.6E-02
			Iron					Iron	Gastrointestinal	6.5E-01			6.5E-01
			Mercury					Mercury	Immuniological - ing	1.1E-02			1.1E-02
			Nickel					Nickel	Body Weight	4.3E-03			4.3E-03
			Selenium					Selenium	Skin - Neurological	3.0E-03			3.0E-03
			Vanadium					Vanadium		5.0E-02			5.0E-02
			Zinc					Zinc	Blood	5.4E-02			5.4E-02
			(Total)	1.8E-04			1.8E-04	(Total)		6.6E+00			6.6E+00

Total Risk Across Sediment	8.1E-06
Total Risk Across Surface Water	9.7E-07
Total Risk Across Ingestion of Fish	1.8E-04
Total Risk Across All Media and All Exposure Routes	1.8E-04

Total Hazard Index Across All Media and All Exposure Routes: 6.6E+00

Total Immunological HI =	5.5E+00
Total Skin HI =	1.4E-02
Total Cardiovascular HI =	1.4E-02
Total Gastrointestinal HI =	7.5E-01
Total Kidney HI =	9.0E-03
Total Liver HI =	1.5E-01
Total Blood HI =	5.4E-02
Total Hepatic Effects HI =	1.4E-02
Total Body Weight HI =	9.7E-02
Total Respiratory HI =	2.0E-02
Total Renal Cytomegaly HI =	1.9E-05
Total Circulatory HI =	2.5E-02
Total Neurological HI =	1.7E-02

TA :A

CENTRAL TENDA .XPOSURE (CTE)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT RECTREATIONAL USER

SITE 17 - BOAT BASIN

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Exposure Routes Total		Primary Target Organ	Ingestion	Dermal	Inhalation	Exposure Routes Total
Sediment	Sediment	Site 17	Benzo(a)anthracene	1.0E-08	8.2E-09		1.8E-08	Benzo(a)anthracene					
			Benzo(a)pyrene	8.3E-08	6.7E-08		1.5E-07	Benzo(a)pyrene					
			Benzo(b)fluoranthene	8.4E-09	6.8E-09		1.5E-08	Benzo(b)fluoranthene					
			Indeno(1,2,3-cd)pyrene	3.0E-09	2.4E-09		5.5E-09	Indeno(1,2,3-cd)pyrene					
			Aroclor-1254	3.8E-09	3.3E-09		7.1E-09	Aroclor-1254	Immunological	9.4E-04	8.2E-04		1.8E-03
			Aroclor-1260	1.1E-09	9.5E-10		2.1E-09	Aroclor-1260					
			Arsenic	4.7E-08	8.8E-09		5.6E-08	Arsenic	Skin - Cardiovascular	1.1E-03	2.0E-04		1.2E-03
			Iron					Iron	Gastrointestinal	1.2E-03			1.2E-03
			(Total)	1.6E-07	9.8E-08		2.6E-07	(Total)		3.2E-03	1.0E-03		4.2E-03
Surface Water	Surface Water	Site 17	Bromodichloromethane	2.3E-10	4.3E-10		6.6E-10	Bromodichloromethane	Renal Cytomegaly	1.9E-06	3.5E-06		5.3E-06
			Chlorodibromomethane	2.5E-10	4.3E-10		6.8E-10	Chlorodibromomethane	Hepatic Lesions	1.5E-06	2.6E-06		4.1E-06
			Chloroform	3.7E-11	7.6E-11		1.1E-10	Chloroform	Liver	6.1E-06	1.2E-05		1.9E-05
			cis-1,2-Dichloroethene					cis-1,2-Dichloroethene	Circulatory	4.7E-05	9.6E-05		1.4E-04
			Tetrachloroethene	3.7E-10	4.9E-09		5.3E-09	Tetrachloroethene	Body Weight - Liver	7.1E-06	9.5E-05		1.0E-04
			Trichloroethene	3.1E-10	1.2E-09		1.5E-09	Trichloroethene		4.7E-05	1.7E-04		2.2E-04
			Vinyl Chloride	5.9E-09	7.5E-09		1.3E-08	Vinyl Chloride	Liver	1.3E-05	1.7E-05		3.0E-05
			4,4'-DDD	6.6E-12	1.0E-09		1.0E-09	4,4'-DDD					
			4,4'-DDE	4.2E-11	5.4E-09		5.4E-09	4,4'-DDE					
			4,4'-DDT	5.0E-11	1.2E-08		1.2E-08	4,4'-DDT	Liver	3.0E-06	7.3E-04		7.3E-04
			Aluminum					Aluminum	Body Weight	4.8E-04	7.5E-05		5.6E-04
			Arsenic	2.9E-08	4.5E-09		3.4E-08	Arsenic	Skin - Cardiovascular	6.4E-04	1.0E-04		7.4E-04
			Chromium					Chromium	Respiratory	2.4E-04	3.0E-03		3.3E-03
			Iron					Iron	Gastrointestinal	9.2E-04	1.4E-04		1.1E-03
			Lead					Lead					
			Manganese					Manganese	Neurological	2.7E-04	1.1E-03		1.3E-03
			Mercury					Mercury	Neurological - inh Immunological - ing	1.7E-05	3.8E-05		5.5E-05
			(Total)	3.6E-08	3.8E-08		7.4E-08	(Total)		2.7E-03	5.6E-03		8.3E-03

TABLE B.9.6A

CENTRAL TENDANCY EXPOSURE (CTE)

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs - ADULT RECTREATIONAL USER

SITE 17 - BOAT BASIN

NTC GREAT LAKES, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Exposure Routes Total		Primary Target Organ	Ingestion	Dermal	Inhalation	Exposure Routes Total
Fish Tissue	Fish Tissue	Site 17	Benzo(a)anthracene					Benzo(a)anthracene					
			Benzo(a)pyrene					Benzo(a)pyrene					
			Benzo(b)fluoranthene					Benzo(b)fluoranthene					
			Benzo(g,h,i)perylene					Benzo(g,h,i)perylene	Kidney				
			Benzo(k)fluoranthene					Benzo(k)fluoranthene					
			Bis(2-ethylhexyl)phthalate	7.0E-08			7.0E-08	Bis(2-ethylhexyl)phthalate	Liver	1.9E-03			1.9E-03
			Chrysene					Chrysene					
			Fluoranthene					Fluoranthene	Blood - Kidney - Liver				
			Indeno(1,2,3-cd)pyrene					Indeno(1,2,3-cd)pyrene					
			Phenanthrene					Phenanthrene	Kidney				
			Pyrene					Pyrene	Kidney				
			4,4'-DDD	8.4E-08			8.4E-08	4,4'-DDD					
			4,4'-DDE	2.4E-06			2.4E-06	4,4'-DDE					
			4,4'-DDT	4.1E-07			4.1E-07	4,4'-DDT	Liver	1.9E-02			1.9E-02
			Aldrin	1.0E-06			1.0E-06	Aldrin	Liver	1.6E-02			1.6E-02
			Alpha-BHC	6.0E-07			6.0E-07	Alpha-BHC					
			Alpha-Chlordane	7.7E-08			7.7E-08	Alpha-Chlordane	Hepatic Effects	3.4E-03			3.4E-03
			Aroclor-1254	1.1E-05			1.1E-05	Aroclor-1254	Immunological	2.2E+00			2.2E+00
			Aroclor-1260	3.2E-06			3.2E-06	Aroclor-1260					
			Dieldrin	1.9E-06			1.9E-06	Dieldrin	Liver	1.8E-02			1.8E-02
			Endrin Ketone					Endrin Ketone	Liver - Neurological	1.8E-03			1.8E-03
			Gamma-BHC (Lindane)	8.8E-08			8.8E-08	Gamma-BHC (Lindane)	Kidney - Liver	1.7E-03			1.7E-03
			Gamma-Chlordane	5.1E-08			5.1E-08	Gamma-Chlordane	Hepatic Effects	2.3E-03			2.3E-03
			Aluminum					Aluminum	Body Weight	3.6E-02			3.6E-02
			Antimony					Antimony	Circulatory	9.6E-03			9.6E-03
			Arsenic					Arsenic	Skin - Cardiovascular				
			Beryllium					*Beryllium*	*Gastrointestinal*	1.3E-02			1.3E-02
			Cadmium					Cadmium	Kidney - Ingestion	1.9E-03			1.9E-03
			Chromium					Chromium	Respiratory	1.7E-03			1.7E-03
			Cobalt					Cobalt	Cardiovascular, Neurological, Immuniological	1.3E-03			1.3E-03
			Copper					Copper	Gastrointestinal	2.2E-02			2.2E-02
			Iron					Iron	Gastrointestinal	2.6E-01			2.6E-01
			Mercury					Mercury	Immuniological - ing	4.3E-03			4.3E-03
			Nickel					Nickel	Body Weight	1.7E-03			1.7E-03
			Selenium					Selenium	Skin - Neurological	1.2E-03			1.2E-03
			Vanadium					Vanadium		2.0E-02			2.0E-02
			Zinc					Zinc	Blood	2.2E-02			2.2E-02
			(Total)	2.1E-05			2.1E-05	(Total)		2.6E+00			2.6E+00

Total Risk Across Sediment	2.6E-07
Total Risk Across Surface Water	7.4E-08
Total Risk Across Ingestion of Fish	2.1E-05
Total Risk Across All Media and All Exposure Routes	2.1E-05

Total Hazard Index Across All Media and All Exposure Routes: 2.6E+00

Total Immunological HI =	2.2E+00
Total Skin HI =	3.2E-03
Total Cardiovascular HI =	3.3E-03
Total Gastrointestinal HI =	3.0E-01
Total Kidney HI =	3.6E-03
Total Liver HI =	5.9E-02
Total Blood HI =	2.2E-02
Total Hepatic Effects HI =	5.7E-03
Total Body Weight HI =	3.8E-02
Total Respiratory HI =	5.0E-03
Total Renal Cytomegaly HI =	5.3E-06
Total Circulatory HI =	9.8E-03
Total Neurological HI =	5.6E-03

APPENDIX D.3

EXAMPLE RISK ASSESSMENT CALCULATIONS

CLIENT: NTC, GREAT LAKES, ILLINOIS - SITE 17		**JOB NUMBER:** 3939
SUBJECT: CALCULATION OF INTAKE/RISK FOR DERMAL CONTACT WITH SURFACE WATER ADOLESCENT RECREATIONAL USER		
BASED ON: USEPA, DECEMBER 1989, SEPTEMBER 2001		
BY: T.JACKMAN	**CHECKED BY:**	**DATE:** 04/18/02

PURPOSE: To estimate intake, carcinogenic and noncarcinogenic risks from dermal contact with surface water by the adolescent recreational user.

EQUATION:

$$DAD = \frac{DAevent \times EV \times ED \times EF \times A}{BW \times AT}$$

Where:

DAD	=	dermally absorbed dose (mg/kg/day)
DAevent	=	absorbed does per event (mg/cm^2/event)
EV	=	event frequency (events/day)
EF	=	exposure frequency (days/year)
ED	=	exposure duration (years)
A	=	skin surface available for contact (cm^2)
BW	=	body weight (kg)
AT	=	averaging time (days)
CSFo	=	oral carcinogenic slope factor ((mg/kg/day)$^{-1}$)
RfDo	=	oral noncarcinogenic reference dose (mg/kg/day)

RISKS:

ICLR (Carcinogens) = DAD (mg/kg/day) x CSFd (mg/kg/day)$^{-1}$
HQ (Noncarcinogens) = DAD (mg/kg/day) / RFDd (mg/kg/day)

EQUATIONS for DAevent:

For Inorganics:

$$DA_{event} = (K_p)(C_{gw})(t_{event})$$

For Organics:

$$If\ t_{event} < t^{*},\ then:\ DA_{event} = FA(2 K_p)(C_{gw})(CF)\left(\sqrt{\frac{6\tau t_{event}}{\pi}}\right)$$

$$If\ t_{event} > t^{*},\ then:\ DA_{event} = FA(K_p)(C_{gw})(CF)\left(\frac{t_{event}}{1+B} + 2\tau\left(\frac{1+3B+3B^2}{(1+B)^2}\right)\right)$$

CLIENT: NTC, GREAT LAKES, ILLINOIS - SITE 17		**JOB NUMBER:** 3939
SUBJECT: CALCULATION OF INTAKE/RISK FOR DERMAL CONTACT WITH SURFACE WATER ADOLESCENT RECREATIONAL USER		
BASED ON: USEPA, DECEMBER 1989, SEPTEMBER 2001		
BY: T.JACKMAN	**CHECKED BY:**	**DATE:** 04/18/02

Where:

FA	=	fraction absorbed (dimensionless)
Kp	=	permeability coefficient from water (cm/hr)
Cgw	=	concentration of chemical in groundwater (mg/L)
tevent	=	duration of event (hr/event)
CF	=	conversion factor (0.001 L/cm^3)
t*	=	time it takes to reach steady-state (hr/event)
τ	=	lag time (hr/event)
B	=	Bunge Model Constant (dimensionless)

EXAMPLE CALCULATION OF DAevent

ASSUMPTIONS:

Cgw	=	1.40E-03 mg/L	tetrachloroethene
Kp	=	3.28E-02 cm/hr	
tevent	=	4 hr/event	
CF	=	0.001 L/cm^3	
t*	=	2.14E+00 hr/event	
τ	=	8.91E-01 hr/event	
B	=	1.62E-01	
FA	=	1	

tevent > t*, therefore,

$$DAevent = (0.0328\ cm/hr)\ (0.0014\ mg/L)\ (0.001\ L/cm^3) \times \frac{4\ hr/event}{1 + 0.162} + 2 \times 0.891\ hr/event \times \frac{(1 + (3 \times 0.162) + (3 \times 0.162^2)}{(1 + 0.162)^2}$$

DAevent = 2.53E-07 mg/cm^2-event ✓

RISK CALCULATIONS

ASSUMPTIONS:

A	=	3,820	cm^2/day
EV	=	1	event/day
ED	=	10	years
EF	=	52	days/year
BW	=	42	kg
ATc	=	25550	days
ATnc	=	3650	days
CSFd	=	5.20E-02	$(mg/kg/day)^{-1}$
RfDd	=	1.00E-02	(mg/kg/day)

CLIENT: NTC, GREAT LAKES, ILLINOIS - SITE 17		**JOB NUMBER:** 3939
SUBJECT: CALCULATION OF INTAKE/RISK FOR DERMAL CONTACT WITH SURFACE WATER ADOLESCENT RECREATIONAL USER		
BASED ON: USEPA, DECEMBER 1989, SEPTEMBER 2001		
BY: T.JACKMAN	**CHECKED BY:**	**DATE:** 04/18/02

EXAMPLE CARCINOGENIC CALCULATION

$$DADc = \frac{\text{2.53E-07 mg/cm2-event x 1 event/day x 10 years x 52 days/year x 3820 cm2/day}}{\text{42 kg x 25550 days}}$$

DADc = 4.7E-07 mg/kg/day ✓

DADc = 4.68E-07 mg/kg/day x 0.052 (mg/kg/day)-1 = Incremental Lifetime Cancer Risk

ICLR = 2.4E-08 ✓

EXAMPLE NONCARCINOGENIC CALCULATION

$$DADnc = \frac{\text{2.53E-07 mg/cm2-event x 1 event/day x 10 years x 52 days/year x 3820 cm2/day}}{\text{42 kg x 3650 days}}$$

DADnc = 3.3E-06 mg/kg/day ✓

HQ = 3.27E-06 mg/kg/day / 0.01 (mg/kg/day) = Hazard Quotient

HQ = 3.3E-04 ✓

CLIENT: NTC, GREAT LAKES, ILLINOIS - SITE 17		**JOB NUMBER:** 3939
SUBJECT: CALCULATION OF INTAKE/RISK FROM INCIDENTAL INGESTION OF SURFACE WATER ADOLESCENT RECREATIONAL USER		
BASED ON: USEPA, DEC. 1989		
BY: T. JACKMAN	**CHECKED BY:**	**DATE:** 04/18/02

PURPOSE: To estimate intake, carcinogenic and noncarcinogenic risks from incidental ingestion of surface water by the adolescent recreational user.

EQUATION:

$$IEX = \frac{Csw \times CF \times CRsw \times ET \times EF \times ED}{BW \times AT}$$

Where:

IEX	=	estimated exposure intake (mg/kg/day)
Csw	=	exposure point concentration in surface water (ug/L)
CF	=	conversion factor (1.0E-6 kg/mg)
CRsw	=	contact rate (L/hour)
ET	=	exposure time (hours/day)
EF	=	exposure frequency (days/year)
ED	=	exposure duration (years)
BW	=	body weight (kg)
AT	=	averaging time (days)
CSFo	=	oral carcinogenic slope factor ($(mg/kg/day)^{-1}$)
RfDo	=	oral noncarcinogenic reference dose (mg/kg/day)

RISKS:

ICLR (Carcinogens) = Intake (mg/kg/day) x CSFo $(mg/kg/day)^{-1}$
HQ (Noncarcinogens) = Intake (mg/kg/day) / RFDo (mg/kg/day)

ASSUMPTIONS:

Csw	=	1.4	ug/L	tetrachloroethene
CRsw	=	0.05	L/day	
CF	=	1.0E-03	mg/ug	
ET	=	4	hours	
EF	=	52	days/year	
ED	=	10	years	
BW	=	42	kg	
ATc	=	25,550	days	
ATnc	=	3,650	days	
CSFo	=	5.20E-02	$(mg/kg/day)^{-1}$	
RfDo	=	1.00E-02	(mg/kg/day)	

CLIENT: NTC, GREAT LAKES, ILLINOIS - SITE 17		**JOB NUMBER:** 3939
SUBJECT: CALCULATION OF INTAKE/RISK FROM INCIDENTAL INGESTION OF SURFACE WATER ADOLESCENT RECREATIONAL USER		
BASED ON: USEPA, DEC. 1989		
BY: T. JACKMAN	**CHECKED BY:**	**DATE:** 04/18/02

EXAMPLE CARCINOGENIC CALCULATION

$$IEXc = \frac{1.4\ ug/L \times 0.001\ mg/ug \times 0.05\ L/day \times 4\ hours \times 52\ days/year \times 10\ years}{42\ kg \times 25550\ days}$$

IEXc = 1.36E-07 mg/kg/day ✓

ICLR = 1.36E-07 mg/kg/day x 0.052 (mg/kg/day)-1 = Incremental Lifetime Cancer Risk

ICLR = 7.06E-09 ✓

EXAMPLE CARCINOGENIC CALCULATION

$$IEXnc = \frac{1.4\ ug/L \times 0.001\ mg/ug \times 0.05\ L/day \times 4\ hours \times 52\ days/year \times 10\ years}{42\ kg \times 3650\ days}$$

IEXnc = 9.50E-07 mg/kg/day ✓

HQ = 9.50E-07 mg/kg/day / 0.01 (mg/kg/day) = Hazard Quotient

HQ = 9.50E-05 ✓

CALCULATION WORKSHEET

CLIENT: NTC, GREAT LAKES, ILLINOIS		**JOB NUMBER:** 3939	
SUBJECT: SITE 17, BOAT BASIN CALCULATION OF INTAKE/RISK FROM RECREATIONAL INGESTION OF FISH			
BASED ON: USEPA, DECEMBER 1989 AND AUGUST 1997			
BY: T. Jackman	**CHECKED BY:**		**DATE:** April, 2002

PURPOSE: To estimate intake, carcinogenic and noncarcinogenic risks from ingestion of fish for the adult recreational user for the RME.

EQUATION:

$$IEX(mg/kg\text{-}day) = \frac{Cfish \times IR \times Fi \times EF \times ED}{BW \times AT}$$

$Cfish = Csw \times BCF$

Where:

IEX	=	estimated exposure intake (mg/kg-day)
Cfish	=	exposure point concentration in fish tissue (mg/kg)
IR	=	ingestion rate (kg/meal)
Fi	=	fraction ingested (unitless)
EF	=	exposure frequency (meals/year)
ED	=	exposure duration (years)
BW	=	body weight (kg)
AT	=	averaging time (days)

RISKS:

Carcinogens = Intake (mg-kg/day) x CSFo $(mg/kg\text{-}day)^{-1}$

Noncarcinogens = Intake (mg-kg/day) / RFDo (mg/kg-day)

ASSUMPTIONS:

Cfish	=	0.0792 mg/kg - dieldrin
IR	=	0.02 kg/meal
Fi	=	0.1
EF	=	365meals/year
ED	=	30 years
BW	=	70 kg
ATc	=	25,550 days
ATnc	=	10,950 days
CSFo	=	16 $(mg/kg\text{-}day)^{-1}$
RfDo	=	5E-05 mg/kg-day

CLIENT: NTC, GREAT LAKES, ILLINOIS		**JOB NUMBER:** 3939	
SUBJECT: SITE 17, BOAT BASIN CALCULATION OF INTAKE/RISK FROM RECREATIONAL INGESTION OF FISH			
BASED ON: USEPA, DECEMBER 1989 AND AUGUST 1997			
BY: T. Jackman	**CHECKED BY:** RJJ		**DATE:** April, 2002

EXAMPLE NONCARCINOGENIC CALCULATION:

$$IEXc = \frac{0.0792 \text{ mg/kg} \times 0.02 \text{ kg/meal} \times 0.1 \times 365 \text{ meals/year} \times 30 \text{ years}}{70 \text{ kg} \times 25{,}550 \text{ days}}$$

IEXc = 9.7 E-7 mg/kg-day ✓

Riskc = 9.7 E-7 mg/kg-day x 16 $(\text{mg/kg-day})^{-1}$

Riskc = 1.6E-05 = Incremental Cancer Risk (ICR) ✓

EXAMPLE CARCINOGENIC CALCULATION:

$$IEXc = \frac{0.0792 \text{ mg/kg} \times 0.02 \text{ kg/meal} \times 0.1 \times 365 \text{ meals/year} \times 30 \text{ years}}{70 \text{ kg} \times 10{,}950 \text{ days}}$$

IEXnc = 2.26 E-6 mg/kg-day ✓

Risknc = 2.26 E-6 mg/kg-day / 5E-05 (mg/kg-day)

Risknc = 0.045 = Hazard Index (HI) ✓

APPENDIX D.4

TOXICITY PROFILES

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1.0 BROMODICHLOROMETHANE

Bromodichloromethane (BDCM) is a colorless, heavy, nonburnable liquid. BDCM does not usually exist as a liquid in the environment. Rather, it usually is found evaporated in air or dissolved in water. Bromodichloromethane is used as a chemical intermediate and solvent and may be released to the environment through various waste streams. Bromodichloromethane is one of several trihalomethanes (including chloroform, bromoform and dibromochloromethane) that are formed from the interaction of chlorine with organic materials found in water. A large number of other byproducts are present in chlorinated water as well. The predominant anthropogenic source of bromodichloromethane release to the environment is its inadvertent formation during chlorination treatment processes of water. Bromodichloromethane has been shown to occur naturally in ice macroalgae from McMurdo Sound, Antarctic and is subsequently released to sea water. Exposure to bromodichloromethane can occur through inadvertent formation during chlorination treatment of the drinking water and subsequent use of chlorinated tap water to produce food products. Exposure can also occur through inhalation of background levels in ambient air and through dermal exposure in chlorinated swimming pool water.

1.1 Noncancer Toxicity

The effects of BDCM depend on how much is taken into the body. In animals, the main effect of eating or drinking large amounts of BDCM is injury to the liver and kidneys. These effects can occur within a short time after exposure. High levels can also cause effects on the brain, leading to lack of coordination and sleepiness. There is some evidence that BDCM can be toxic to developing fetuses, but this has not been well-studied. Studies in animals show that intake of BDCM for several years in food or water can lead to cancer of the liver, kidney, and intestines. Although effects of BDCM have not been reported in humans, effects would probably occur if enough BDCM were taken into the body. Both di- and tri-halogenated methane derivatives have been found to produce increased blood levels of methemoglobin; the greatest increase caused by iodo-, followed by bromo- and chloro- compounds. CNS functional disturbances are reported, including depression of rapid eye movement sleep, as seen in carbon monoxide exposures. The USEPA (IRIS online, April 2002) has derived an oral reference dose (RfD) of 0.02 mg/kg/day for bromodichloromethane based on kidney effects.

1.2 Carcinogenicity

There is inadequate evidence for the carcinogenicity of bromodichloromethane in humans. There is limited evidence for the carcinogenicity of bromodichloromethane in experimental animals.

Bromodichloromethane is not classifiable as to its carcinogenicity in humans. The USEPA has classified bromodichloromethane as a Class B2 carcinogen, probable human carcinogen based on inadequate human data and limited evidence of carcinogenicity in animals based on inadequate human data and sufficient evidence of carcinogenicity in two animal species (mice and rats) as shown by increased incidence of kidney tumors and tumors of the large intestine in male and female rats, kidney tumors in male mice, and liver tumors in female mice. The USEPA (IRIS online, April 2002 has issued an oral cancer slope factor (CSF) of 0.062 $(mg/kg/day)^{-1}$ for bromodichloromethane based on kidney tumors in male mice.

2.0 CHLORODIBROMOMETHANE

Chlorodibromomethane is a colorless or pale yellow, heavy, liquid (Specific gravity = 2.38). Chlorodibromomethane does not usually exist as a liquid in the environment. Rather, it usually is found evaporated in air or dissolved in water. Chlorodibromomethane is used as a chemical intermediate and solvent and may be released to the environment through various waste streams. Chlorodibromomethane is one of several trihalomethanes (including chloroform, bromoform and bromodichloromethane) that are formed from the interaction of chlorine with organic materials found in water. A large number of other byproducts are present in chlorinated water as well. The predominant anthropogenic source of chlorodibromomethane release to the environment is its inadvertent formation during chlorination treatment processes of water. Chlorodibromomethane is also produced naturally via bio-synthesis and emitted to seawater (and eventually to the atmosphere) by various species of marine macroalgae which are abundant in the various locations of the world's oceans. Exposure to chlorodibromomethane can occur through inadvertent formation during chlorination treatment of the drinking water and subsequent use of chlorinated tap water to produce food products. Exposure can also occur through inhalation of background levels in ambient air and through dermal exposure in chlorinated swimming pool water.

2.1 Noncancer Toxicity

The effects of chlorodibromomethane depend on how much is taken into the body. In animals, the main effect of eating or drinking large amounts of chlorodibromomethane is injury to the liver and kidneys. These effects can occur within a short time after exposure. High levels can also cause effects on the brain, leading to lack of coordination and sleepiness. There is some evidence that chlorodibromomethane can be toxic to developing fetuses, but this has not been well-studied. Studies in animals show that intake of chlorodibromomethane for several years in food or water

can lead to cancer of the liver, kidney, and intestines. Although effects of chlorodibromomethane have not been reported in humans, effects would probably occur if enough chlorodibromomethane were taken into the body. Both di- and tri-halogenated methane derivatives have been found to produce increased blood levels of methemoglobin; the greatest increase caused by iodo-, followed by bromo- and chloro- compounds. CNS functional disturbances are reported, including depression of rapid eye movement sleep, as seen in carbon monoxide exposures. The USEPA (IRIS online, April 2002) derived an oral reference dose (RfD) of 0.02 mg/kg/day for chlorodibromomethane based on liver lesions in mice.

2.2 Carcinogenicity

CLASSIFICATION: C; possible human carcinogen. BASIS FOR CLASSIFICATION: Based on inadequate human data and limited evidence of carcinogenicity in animals; namely, positive carcinogenic evidence in B6C3F1 mice (males and females), together with positive mutagenicity data, and structural similarity to other trihalomethanes, which are known animal carcinogens.

There is inadequate evidence for the carcinogenicity of chlorodibromomethane in humans. There is limited evidence for the carcinogenicity of chlorodibromomethane in experimental animals. Chlorodibromomethane is not classifiable as to its carcinogenicity in humans. The USEPA has classified chlorodibromomethane as a Class C carcinogen, possible human carcinogen, based on inadequate human data and limited evidence of carcinogenicity in animals; namely, positive carcinogenic evidence in B6C3Fl mice (males and females), together with positive mutagenicity data, and structural similarity to other trihalomethanes, which are known animal carcinogens. The USEPA (IRIS online, April 2002) has issued an oral cancer slope factor (CSF) of 0.084 $(mg/kg/day)^{-1}$ for chlorodibromomethane based on tumors in the livers of female mice.

3.0 CHLOROFORM

3.1 Noncancer Toxicity

Oral or inhalation exposure of animals to chloroform was associated with liver and kidney damage. In humans, acute inhalation exposure to high levels induced narcosis, ventricular fibrillation, and death. Limited occupational data associated chronic exposure to chloroform with CNS depression, digestive disturbances, and enlarged livers. The EPA derived a chronic oral RfD of 0.01 mg/kg/day based on an LOAEL for fatty cyst formation in the livers of dogs treated orally for 7.5 years and an uncertainty factor of 1000. The inhalation RfD for chloroform is 8.6E-05

mg/kg/day. Target organs for the toxicity of chloroform include the liver and kidney for oral and inhalation exposure, and the heart and CNS for inhalation exposure.

3.2 Carcinogenicity

Chloroform is classified as a cancer weight-of-evidence group B2 compound (probable human carcinogen), based on increased incidence of several tumor types in rats and liver tumors in mice. Human carcinogenicity data are inadequate. An oral slope factor of 0.0061 per mg/kg/day was derived from the incidence of kidney tumors in rats treated with chloroform in drinking water for two years. An inhalation unit risk of 2.3E-05 per mg/m^3 was based on the incidence of hepatocellular carcinomas in mice treated by gavage for 78 weeks. The inhalation unit risk is equivalent to 0.081 $(mg/kg/day)^{-1}$, assuming an inhalation rate of 20 m^3/day and a body weight of 70 kg for humans.

4.0 CIS-1,2-DICHLOROETHENE (CIS-1,2-DICHLOROETHYLENE)

4.1 Noncancer Toxicity

Repeated oral exposure of rats to cis-1,2-dichloroethene was associated with signs of anemia (decreased hematocrit and hemoglobin). Inhalation exposure to isomeric mixtures of 1,2-dichloroethene induced narcosis, and mixed isomers of 1,2-dichloroethene were used as an anesthetic gas. The EPA presented a provisional chronic oral RfD of 0.01 mg/kg/day based on an NOAEL for signs of anemia in rats and an uncertainty factor of 3000. A provisional subchronic oral RfD of 0.1 mg/kg/day was derived from the same NOAEL and an uncertainty factor of 300. Target organs appear to be the erythrocyte for oral exposure and the CNS for inhalation exposure.

4.2 Carcinogenicity

The EPA classifies cis-1,2-dichloroethene as a cancer weight-of-evidence Group D compound (not classifiable as to carcinogenicity to humans), based on an absence of human or animal cancer data. Quantitative estimates of cancer risk are not derived for Group D chemicals.

5.0 TETRACHLOROETHENE (PCE)

Tetrachloroethylene (CAS No. 127-18-4) is a halogenated aliphatic hydrocarbon with a vapor pressure of 17.8 mm Hg at 25°C. The chemical is used primarily as a solvent in industry and, less frequently, in commercial dry-cleaning operations.

5.1 Noncancer Toxicity

Occupational exposure to tetrachloroethylene occurs via inhalation, resulting in systemic effects, and via dermal contact, resulting in local effects. Exposure to the general population can occur through contaminated air, food and water .The respiratory tract is the primary route of entry for tetrachloroethene. The chemical is rapidly absorbed by this route and reaches an equilibrium in the blood within 3 hours after the initiation of exposure. Tetrachloroethene is also significantly absorbed by the gastrointestinal (g.i.) tract, but not through the skin. The chemical accumulates in tissues with high lipid content, where the half-life is estimated to be 55 hours, and has been identified in perirenal fat, brain, liver, placentofetal tissue, and amniotic fluid.

The main targets of tetrachloroethylene toxicity are the liver and kidney by both oral and inhalation exposure, and the central nervous system by inhalation exposure. Acute exposure to high concentrations of the chemical (estimated to be greater than 1,500 ppm for a 30-minute exposure) may be fatal to humans. Chronic exposure causes respiratory tract irritation, headache, nausea, sleeplessness, abdominal pains, constipation, cirrhosis of the liver, hepatitis, and nephritis in humans; and microscopic changes in renal tubular cells, squamous metaplasia of the nasal epithelium, necrosis of the liver, and congestion of the lungs in animals. Some epidemiology studies have found an association between inhalation exposure to tetrachloroethylene and an increased risk for spontaneous abortion, idiopathic infertility, and sperm abnormalities among dry-cleaning workers, but others have not found similar effects. The adverse effects in humans are supported in part by the results of animal studies in which tetrachloroethylene induced fetotoxicity (but did not cause malformations) in the offspring of treated dams.

Reference doses (RfDs) for subchronic and chronic oral exposure to tetrachloroethylene are 1E-1 mg/kg/day and 1E-2 mg/kg/day, respectively. These values are based on hepatotoxicity observed in mice given 100 mg tetrachloroethylene/kg body weight for 6 weeks and a no-observed-adverse effect level (NOAEL) of 20 mg/kg. EPA-NCEA has developed an inhalation RfD of 0.14 mg/kg-day for PCE.

5.2 Carcinogenicity

Epidemiology studies of dry cleaning and laundry workers have demonstrated excesses in mortality due to various types of cancer, including liver cancer, but the data are regarded as inconclusive because of various confounding factors. The tenuous finding of an excess of liver tumors in humans is strengthened by the results of carcinogenicity bioassays in which tetrachloroethylene, administered either orally or by inhalation, induced hepatocellular tumors in mice. The chemical also induced mononuclear cell leukemia and renal tubular cell tumors in rats. Tetrachloroethylene was negative for tumor initiation in a dermal study and for tumor induction in a pulmonary tumor assay. Although U.S. EPA's Science Advisory Board recommended a weight-of-evidence classification of C-B2 continuum (C = possible human carcinogen; B2 = probable human carcinogen), the agency has not adopted a current position on the weight-of-evidence classification. In an earlier evaluation, tetrachloroethylene was assigned to weight-of-evidence Group B2, probable human carcinogen, based on sufficient evidence from oral and inhalation studies for carcinogenicity in animals and no or inadequate evidence for carcinogenicity to humans. The unit risk and slope factor values for tetrachloroethylene have been withdrawn from IRIS and HEAST. Upper bound risk estimates provided by EPA-NCEA are as follows: for oral exposure, the slope factor is 5.2E-2 $(mg/kg/day)^{-1}$; for inhalation exposure, the slope factor is 2.0E-3 $(mg/kg/day)^{-1}$.

6.0 TRICHLOROETHENE (TCE)

Trichloroethene (TCE) is an industrial solvent used primarily in metal degreasing and cleaning operations. TCE can be absorbed through the lungs, mucous membranes, gastrointestinal tract, and the skin.

6.1 Pharmacokinetics

TCE is extensively metabolized in humans to trichloroacetic acid and trichloroethanol, as well as to several minor metabolites, with most of the absorbed dose excreted in urine.

6.2 Noncancer Toxicity

Human and animal data indicate that exposure to TCE can result in toxic effects on a number of organs and systems, including the liver, kidney, blood, skin, immune system, reproductive system, nervous system, and cardiovascular system. In humans, acute inhalation exposure to TCE causes central nervous system symptoms such as headache, dizziness, nausea, and unconsciousness. Among the reported effects from occupational exposure studies are fatigue, light-headedness, sleepiness, vision distortion, abnormal reflexes, tremors, ataxia, nystagmus, increased respiration, as well as neurobehavioral or psychological changes. Cardiovascular effects include tachycardia, extrasystoles, EKG abnormalities, and precordial pain. The use of TCE as an anesthetic has been associated with cardiac arrhythmias. Cases of severe liver and kidney damage, including necrosis, have been reported in humans following acute exposure to TCE, but these effects generally are not associated with long-term occupational exposures. In animals, TCE has produced liver enlargement with hepatic biochemical and/or histological changes and kidney enlargement, renal tubular alterations and/or toxic nephropathy. Also observed in animals were hematological effects and immunosuppression. Inhalation studies with rats indicate that TCE is a developmental toxicant causing skeletal ossification anomalies and other effects consistent with delayed maturation. TCE may cause dermatitis and dermographism.

Reference Doses (RfDs) and Reference Concentrations (RfCs) for subchronic and chronic oral and inhalation exposure to TCE are presently under review by EPA. However, EPA-NCEA has published an oral RfD of 0.006 mg/kg-day for TCE.

6.3 Carcinogenicity

Epidemiologic studies have been inadequate to determine if a correlation exists between exposure to TCE and increased cancer risk. Chronic oral exposure to TCE increased the incidences of hepatocellular carcinomas in mice and renal adenocarcinomas and leukemia in rats. Chronic inhalation exposure induced lung and liver tumors in mice and testicular Leydig cell tumors in rats. Although U.S. EPA's Science Advisory Board recommended a weight-of-evidence classification of C-B2 continuum (C = possible human carcinogen; B2 = probable human carcinogen), the agency has not adopted a current position on the weight-of-evidence classification. In an earlier evaluation, TCE was assigned to weight-of-evidence Group B2, probable human carcinogen, based on tumorigenic responses in rats and mice for both oral and inhalation exposure and on inadequate data in humans. Carcinogen slope factors are 1.1E-2 $(mg/kg/day)^{-1}$ and 6.0E-3 $(mg/kg/day)^{-1}$ for oral and inhalation exposure, respectively. The corresponding unit risks are 3.2E-7 $(\mu g/L)^{-1}$ and 1.7E-6 $(\mu g/m^3)^{-1}$, respectively.

7.0 VINYL CHLORIDE

Vinyl chloride (CAS Reg. No. 75-01-4), a colorless gas, is a halogenated aliphatic hydrocarbon with the empirical formula of C_2H_3Cl. It is used primarily as an intermediate in the manufacture of polyvinyl chloride (PVC); limited quantities are used as a refrigerant and as an intermediate in the production of chlorinated compounds.

7.1 Noncancer Toxicity

Vinyl chloride is rapidly absorbed from the gastrointestinal tract and lungs. Metabolism of vinyl chloride occurs primarily in the liver via oxidation by hepatic microsomal enzymes to polar compounds which can be conjugated with glutathione and/or cysteine. These covalently bound metabolites are then excreted in the urine. In humans and animals, vinyl chloride is a CNS depressant, inducing narcosis and anesthesia at high concentrations. Nonneoplastic toxic effects observed in workers exposed by inhalation to vinyl chloride include hepatotoxicity, acroosteolysis and scleroderma, and Raynaud's syndrome, a vascular disorder of the extremities. Also reported were abnormalities of CNS function, high blood pressure, and occasional pulmonary effects. The evidence for potential developmental effects in humans (increased fetal loss and birth defects) is equivocal. Occupational exposure to vinyl chloride has been associated with reduced sexual function in both sexes and gynecological effects in women. For the oral route of exposure, the primary target organ of vinyl chloride toxicity in animals is the liver. Chronic oral administration of 1.7-14.1 mg/kg/day of vinyl chloride induced dose-related increases in nonneoplastic lesions of the liver of rats. In addition to the CNS, target organs for inhalation exposure include the liver, kidneys, lungs, spleen, and testes. Subchronic inhalation studies with rodents documented hepatic effects at concentrations as low as 50 ppm and degenerative changes of the liver and kidneys at >= 500 ppm. Exposure to higher concentrations caused proliferative changes in the lungs of mice, extensive liver and kidney damage in rats and guinea pigs, cerebral and cerebellar nephrosis in rats, and degeneration of the spleen in guinea pigs. Subchronic exposure of rats to 100 ppm vinyl chloride produced significantly decreased testes weights and testicular regeneration. Evidence of developmental toxicity was seen in rats exposed to vinyl chloride during the first trimester of gestation. The U.S. EPA has derived an oral reference dose (RfD) of 0.003 mg/kg/day and an inhalation reference concentration (RfC) of 0.1 mg/m^3 for vinyl chloride.

7.2 Carcinogenicity

The carcinogenicity of vinyl chloride in humans has been demonstrated in a number of epidemiological studies and case reports, many of which associated occupational exposure to

vinyl chloride to the development of angiosarcomas of the liver. In addition to liver cancer, exposure to vinyl chloride also has been linked to an increased risk of lung, brain, hematopoietic, and digestive tract cancers. Vinyl chloride has been shown to be carcinogenic in numerous animal studies. Inhalation exposure to vinyl chloride induced an increased incidence of liver angiosarcomas; kidney nephroblastomas; and lung, brain, and forestomach tumors in rodents. Oral administration of vinyl chloride induced liver, lung, and kidney tumors in rodents. Angiosarcomas observed in offspring of rats exposed by inhalation during gestation indicates that vinyl chloride has the potential to initiate cancer in utero. EPA has classified vinyl chloride as a Group A chemical, human carcinogen. Oral slope factors of 0.72 $(mg/kg/day)^{-1}$ and 1.5 $(mg/kg/day)^{-1}$ have been derived for continuous lifetime exposure during adulthood and exposure from birth, respectively. Inhalation unit risks corresponding to inhalation slope factors of 0.016 $(mg/kg/day)^{-1}$ and 0.031 $(mg/kg/day)^{-1}$ have been derived for adulthood and exposure from birth, respectively.

8.0 POLYAROMATIC HYDROCARBONS

PAHs are a large class of ubiquitous natural and anthropogenic chemicals, all with similar chemical structures.

8.1 Pharmacokinetics

Although quantitative absorption data for the PAHs were not located, benzo(a)pyrene was readily absorbed across the GI and respiratory epithelia. The high lipophilicity of other compounds in this class suggests the other PAHs also would be readily absorbed across GI and respiratory epithelia.

Benzo(a) pyrene was distributed widely in the tissues of treated rats and mice, but primarily to tissues high in fat, such as adipose tissue and mammary gland. Patterns of tissue distribution of other PAHs would be expected to be similar because of the high lipophilicity of the members of this class.

Studies of the metabolism of benzo(a)pyrene provide information relevant to other PAHs because of the structural similarities of all members of the class. Metabolism involves microsomal mixed function oxidase hydroxylation of one or more of the phenyl rings with the formation of phenols and dihydrodiols, probably via formation of arene oxide intermediates. The dihydrodiols may be further oxidized to diol epoxides, which, for certain members of the class, are known to be the ultimate carcinogens. Conjugation with glutathione or glucuronic acid, and reduction to

tetrahydrotetrols are important detoxification pathways. Metabolism of naphthalene resulted in the formation of 1,2-naphthoquinone, which induced cataract formation and retinal damage in rats and rabbits.

Excretion of benzo(a)pyrene or dibenzo(a,h)anthracene residues were reported to be rapid, although quantitative data were not located. Excretion occurred mainly via the feces, probably largely due to biliary secretion. The EPA concluded that accumulation in the body tissues of PAHs from chronic low level exposure would be unlikely.

8.2 Noncancer Toxicity

The oral and inhalation noncancer toxicity data for naphthlene are used as surrogates for the noncarcinogenic PAHs considered COPCs at OU2, namely, benzo(g,h,i)perylene and phenathrene. A chronic oral reference dose (RfD) of 2E-2 mg/kg/day for naphthalene has been calculated by U.S. EPA. The chronic inhalation reference dose (RfD) for naphthalene is 9E-4 mg/kg/day.

8.3 Carcinogenicity

The PAHs are ubiquitous, being released to the environment from anthropogenic as well as from natural sources. Benzo(a)pyrene is the most extensively studied member of the class, inducing tumors in multiple tissues of virtually all laboratory species tested by all routes of exposure. Although epidemiology studies suggested that complex mixtures that contain PAHs (coal tat, soots, coke oven emissions, cigarette smoke) are carcinogenic to humans, the carcinogenicity cannot be attributed to PAHs alone because of the presence of other potentially carcinogenic substances in these mixtures. In addition, recent investigations showed that the PAH fraction of roofing tar, cigarette smoke, and coke oven emissions accounted for only 0.1 to 8 percent of the total mutagenic activity of the unfractionated complex mixture in Salmonella. Aromatic amines, nitrogen heterocyclic compounds, highly oxygenated quinones, diones, and nitrooxygenated compounds, none of which would be expected to arise from in vivo metabolism of PAHs, probably accounted for the majority of the mutagenicity of coke oven emissions and cigarette smoke. Furthermore, coal tar, which contains a mixture of many PAHs, has a long history of use in the clinical treatment of a variety of skin disorders in humans.

Because of the lack of human cancer data, assignment of individual PAHs to EPA cancer weight-of-evidence groups was based largely on the results of animal studies with large doses of purified compound. Frequently, unnatural routes of exposure, including implants of the test chemical in

beeswax and trioctanoin in the lungs of female Osborne-Mendel rats, intratracheal instillation, and subcutaneous or intraperitoneal injection, were used.

The EPA verified a slope factor for oral exposure to benzo(a)pyrene of 7.3 per mg/kg/day, based on several dietary studies in mice and rats. Neither verified nor provisional quantitative risk estimates were available for the other PAHs in Group B2. In 1980, the EPA promulgated an ambient water quality criterion for "total carcinogenic PAHs," based on an oral slope factor derived from a study with benzo(a)pyrene, as being sufficiently protective for the class. Largely because of this precedent, the quantitative risk estimates for benzo(a)pyrene were adopted for the other carcinogenic PAHs when quantitative estimates were needed.

Recent reevaluations of the carcinogenity and mutagenicity of the Group B2 PAHS suggest that there are large differences between individual PAHs in cancer potency. Based on the available cancer and mutagenicity data, and assuming that there is a constant relative potency between different carcinogens across different bioassay systems and that the PAHs under consideration have similar dose-response curves, the EPA derived relative potency values for several PAHs. This relative potency (RPF) scheme for the Group B2 PAHs was based on well conducted studies using a standard, easily comparable endpoint well-known to be associated with exposure to PAHs; namely, complete carcinogenesis after repeated exposure to mouse skin.

9.0 BENZO (A) ANTHRACENE

9.1 Noncancer Toxicity

The oral and inhalation RfD and RfC are not available at this time.

9.2 Carcinogenicity

Benzo[a]anthracene has a weight of evidence classification of B2, a probable human carcinogen. The classification was based on sufficient data from animal bioassays. Benzo[a]anthracene produced tumors in mice exposed by gavage; intraperitoneal, subcutaneous or intramuscular injection; and topical application. Benzo[a]anthracene produced mutations in bacteria and in mammalian cells, and transformed mammalian cells in culture.

Although there are no human data that specifically link exposure to benzo[a]anthracene to human cancers, benzo[a]anthracene is a component of mixtures that have been associated with human cancer. These include coal tar, soot, coke oven emissions and cigarette smoke.

Benzo[a]anthracene administration caused an increase in the incidence of tumors by gavage; dermal application; and both subcutaneous injection and intraperitoneal injection assays. A group of male mice was exposed to gavage solutions containing 3% benzo[a]anthracene for 5 weeks. There was an increased incidence of pulmonary adenomas and hepatomas.

Supporting data for carcinogenicity include genetic mutations in five different strains of Salmonella typhimurium. Benzo[a]anthracene produced positive results in an assay for mutations in Drosophila melongaster.

The currently used Oral Slope Factor (CSF) for benzo[a]anthracene is 7.3E-01 $(mg/kg/day)^{-1}$ which is extrapolated from the CSF for benzo[a]pyrene (BaP), i.e., 0.1 x 7.3 (BaP) = 7.3E-01 $(mg/kg/day)^{-1}$.

10.0 BENZO (A)PYRENE (BAP)

10.1 Pharmacokinetics

Benzo (a)pyrene was readily absorbed across the GI and respiratory epithelia. Benzo(a)pyrene was distributed widely in the tissues of treated rats and mice, but primarily to tissues high in fat, such as adipose tissue and mammary gland.

Studies of the metabolism of benzo(a)pyrene provide information relevant to other PAHs because of the structural similarities of all members of the class. Metabolism involves microsomal mixed function oxidase hydroxylation of one or more of the phenyl rings with the formation of phenols and dihydrodiols, probably via formation of arene oxide intermediates. The dihydrodiols may be further oxidized to diol epoxides, which, for certain members of the class, are known to be the ultimate carcinogens. Conjugation with glutathione or glucuronic acid, and reduction to tetrahydrotetrols are important detoxification pathways.

Excretion of benzo(a)pyrene residue was reported to be rapid, although quantitative data were not located. Excretion occurred mainly via the feces, probably largely due to biliary secretion.

The EPA concluded that accumulation in the body tissues of PAHs from chronic low level exposure would be unlikely.

10.2 Noncancer Toxicity

The oral RfD and inhalation RfC are not available at this time.

10.3 Carcinogenicity

The PAHs are ubiquitous, being released to the environment from anthropogenic as well as from natural sources. Benzo (a)pyrene is the most extensively studied member of the class, inducing tumors in multiple tissues of virtually all laboratory species tested by all routes of exposure. Although epidemiology studies suggested that complex mixtures that contain PAHs (coal tar, soots, coke oven emissions, cigarette smoke) are carcinogenic to humans, the carcinogenicity cannot be attributed to PAHs alone because of the presence of other potentially carcinogenic substances in these mixtures. In addition, recent investigations showed that the PAH fraction of roofing tar, cigarette smoke, and coke oven emissions accounted for only 0.1 to 8 percent of the total mutagenic activity of the unfractionated complex mixture in Salmonella. Aromatic amines, nitrogen heterocyclic compounds, highly oxygenated quinones, diones, and nitrooxygenated compounds, none of which would be expected to arise from in vivo metabolism of PAHs, probably accounted for the majority of the mutagenicity of coke oven emissions and cigarette smoke. Coal tar, which contains a mixture of many PAHs, has a long history of use in the clinical treatment of a variety of skin disorders in humans.

Because of the lack of human cancer data, assignment of individual PAHs to EPA cancer weight-of-evidence groups was based largely on the results of animal studies with large doses of purified compound. Frequently, unnatural routes of exposure, including implants of the test chemical in beeswax and trioctanoin in the lungs of female Osborne-Mendel rats, intratracheal instillation, and subcutaneous or intraperitoneal injection, were used. Benzo (a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene were classified in Group B2 (probable human carcinogens).

The EPA verified a slope factor for oral exposure to benzo(a)pyrene of 7.3 $(mg/kg/day)^{-1}$, based on several dietary studies in mice and rats. Neither verified nor provisional quantitative risk estimates were available for the other PAHs in Group B2. The EPA promulgated an ambient water quality criterion for "total carcinogenic PAHs," based on an oral slope factor derived from a study with benzo(a)pyrene, as being sufficiently protective for the class. Largely because of this

precedent, the quantitative risk estimates for benzo(a)pyrene were adopted for the other carcinogenic PAHs when quantitative estimates were needed. The EPA has calculated an inhalation slope factor for benzo(a)pyrene of 3.1 $(mg/kg/day)^{-1}$.

Human data specifically linking benzo(a)pyrene to a carcinogenic effect are lacking. There are, however, multiple animal studies in many species demonstrating benzo(a)pyrene to be carcinogenic following administration by numerous routes. In addition, benzo(a)pyrene has produced positive results in numerous genotoxicity assays.

The data for animal carcinogenicity was sufficient. The animal data consist of dietary; gavage, inhalation, intratracheal instillation, dermal and subcutaneous studies in numerous strains of at least four species of rodents and several primates. Repeated benzo(a)pyrene administration has been associated with increased incidences of total tumors and of tumors at the site of exposure. The tumor types in mice from oral diet studies include forestomach, squamous cell papillomas and carcinomas.

Benzo(a)pyrene has been shown to cause genotoxic effects in a broad range of prokaryotic and mammalian cell assay systems.

11.0 BENZO (B)FLUORANTHENE

11.1 Noncancer Toxicity

Little information is available on benzo (b)fluoranthene. However, based on the similarities of chemical structures, most properties should be similar to benzo (a)pyrene.

11.2 Carcinogenicity

The EPA has classified benzo (b)fluoranthene in cancer weight-of-evidence Group B2 (Probable Human Carcinogen, sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans) based on lung tumors in mice. The currently used Oral Slope Factor (CSF) for benzo(b)fluoranthene is 7.3E-01 $(mg/kg/day)^{-1}$ which is extrapolated from the CSF for Benzo[a]pyrene (BaP), i.e., 0.1 x 7.3 (BaP) = 7.3E-01 $(mg/kg/day)^{-1}$.

12.0 BENZO[K]FLUORANTHENE

Benzo[k]fluoranthene, a crystalline solid with a chemical formula of C20H12 and a molecular weight of 252.32, is a polycyclic aromatic hydrocarbon (PAH) with one five-membered and four six-membered rings. There is no commercial production or known use of this compound . Benzo[k]fluoranthene is found in fossil fuels and occurs ubiquitously in products of incomplete combustion and in soils, groundwater, and surface waters at hazardous waste sites.

No absorption or excretion data were available for benzo[k]fluoranthene; however, by analogy to structurally-related PAHs, primarily benzo[a]pyrene, it would be expected to be absorbed from the gastrointestinal tract, lungs, and skin. Rat liver microsomes have been shown to metabolize benzo[k]fluoranthene to the dihydrodiol, 8,9-dihydro-8,9-dihydroxy benzo[k]fluoranthene.

12.1 Noncancer Toxicity

No data were found concerning the acute, subchronic, chronic, developmental, or reproductive toxicity of benzo[k]fluoranthene. Because of a lack of toxicity data, an oral reference dose (RfD) or inhalation reference concentration (RfC) have not been derived.

12.2 Carcinogenicity

No long-term oral or inhalation bioassays were available to assess the carcinogenicity of benzo[k]fluoranthene. Benzo[k]fluoranthene was tested for carcinogenicity in dermal application, subcutaneous (s.c.) injection, lung implantation, and intraperitoneal (i.p.) injection studies. Dermal applications of 0.5% solutions of benzo[k]fluoranthene for life produced only a few skin papillomas in mice, but in initiation-promotion assays, benzo[k]fluoranthene was active as an initiator of skin carcinogenesis. Injection site sarcomas developed in mice given three s.c. injections of 0.6 mg benzo[k]fluoranthene and dose-related increases of epidermoid carcinomas of the lungs were reported in rats receiving single lung implants of 0.16–4.15 mg benzo[k]fluoranthene. In a short-term assay, hepatic and lung tumors occurred in newborn mice receiving 2.1 μmol benzo[k]fluoranthene via i.p. injection.

Based on no human data and sufficient evidence for carcinogenicity in animals, EPA has assigned a weight-of-evidence classification of B2, probable human carcinogen, to benzo[k]fluoranthene. The currently used Oral Slope Factor (CSF) for benzo[k]fluoranthene is 7.3E-2 $(mg/kg/day)^{-1}$ which is extrapolated from the CSF for Benzo[a]pyrene (BaP), i.e., 0.01 x 7.3 (BaP) = 7.3E-2 $(mg/kg/day)^{-1}$.

13.0 BENZO[G,H,I]PERYLENE

Benzo[g,h,i]perylene, also known as 1,12-benzoperylene, is a polycyclic aromatic hydrocarbon (PAH) with six aromatic rings. There is no known commercial production or use of benzo[g,h,i]perylene. It occurs naturally in crude oils and is present ubiquitously in products of incomplete combustion and in coal tar.

13.1 Noncancer Toxicity

No absorption data were available for benzo[g,h,i]perylene; however, by analogy to other PAHs, primarily benzo[a]pyrene, it would be expected to be absorbed from the gastrointestinal tract, lungs, and skin. No human or animal data were available to evaluate the toxicity of benzo[g,h,i]perylene. Because of the lack of data, EPA has not derived an oral reference dose (RfD) or inhalation reference concentration (RfC).

13.2 Carcinogenicity

No oral or inhalation bioassays were available to assess the carcinogenicity of benzo[g,h,i]perylene. Negative results were reported in dermal application studies and in initiation-promotion assays for skin tumorigenesis in mice. However, when benzo[g,h,i]perylene was administered simultaneously with benzo[a]pyrene to the skin of mice, an increased incidence of skin tumors was observed compared to the tumor incidence in mice treated with benzo[a]pyrene alone, indicating possible cocarcinogenic activity of benzo[g,h,i]perylene. Although a few pulmonary tumors were observed in rats when benzo[g,h,i]perylene was administered as single lung implants of >=83 mg, the tumors may have been caused by impurities in the test compound. In subcutaneous injection studies, benzo[g,h,i]perylene did not produce injection site tumors in mice. Based on no human data and inadequate data with experimental animals, the United States Environmental Protection Agency (EPA) has classified benzo[g,h,i]perylene in weight-of-evidence Group D, not classifiable as to human carcinogenicity.

14.0 CHRYSENE

Chrysene, a polycyclic aromatic hydrocarbon, is a ubiquitous environmental contaminant formed primarily by the incomplete combustion of organic compounds. Although present in coal and oil,

the presence of chrysene in the environment is the result of anthropogenic activities such as coal combustion and gasification; gasoline exhaust; diesel and aircraft exhaust; and emissions from coke ovens, wood burning stoves, and waste incineration. Chrysene is not produced or used commercially, and its use is limited strictly to research applications.

Little information on the absorption, distribution, metabolism and excretion of chrysene in humans is available. Animal studies have shown that approximately 75% of the administered chrysene may be absorbed by oral, dermal, or inhalation routes. Following its absorption, chrysene is preferentially distributed to highly lipophilic regions of the body, most notably adipose and mammary tissue. Hepatobiliary secretion with elimination in the feces is the predominant route of excretion.

14.1 Noncancer Toxicity

Human or animal systemic, developmental, and reproductive health effects following exposure to chrysene were not identified. Because of the lack of systemic toxicity data, the reference dose (RfD) and the reference concentration (RfC) for chrysene have not been derived. Target organs have not been described, although chrysene may induce immunosuppression similar to certain other PAHs.

14.2 Carcinogenicity

Oral and inhalation carcinogenic bioassays were not identified. In mouse skin painting studies, chrysene was an initiator of papillomas and carcinomas. In addition, intraperitoneal injections of chrysene have induced liver adenomas and carcinomas in mice. Although oral and inhalation slope factors have not been derived, EPA has classified chrysene in weight-of-evidence Group B2, probable human carcinogen, based on the induction of liver tumors and skin papillomas and carcinomas following treatment and the mutagenicity and chromosomal abnormalities induced in in vitro tests. The currently used Oral Slope Factor (CSF) for chrysene is 7.3E-3 $(mg/kg/day)^{-1}$ which is extrapolated from the CSF for Benzo[a]pyrene (BaP), i.e., 0.001 x 7.3 (BaP) = 7.3E-3 $(mg/kg/day)^{-1}$.

15.0 FLUORANTHENE

Fluoranthene is a polycyclic aromatic hydrocarbon (PAH) that can be derived from coal tar. Occurring ubiquitously in products of incomplete combustion of fossil fuels, fluoranthene has been identified in ambient air, surface, drinking, and waste water, and in char-broiled foods. Currently, there is no commercial production or use of this compound.

Fluoranthene can be absorbed through the skin following dermal exposure and, by analogy to structurally-related PAHs, would be expected to be absorbed from the gastrointestinal tract and lungs. An in vitro study identified 2-methylfluoranthene and 3-methylfluoranthene and their dihydrodiols as metabolites of fluoranthene.

15.1 Noncancer Toxicity

Although a large body of literature exists on the toxicity and carcinogenicity of PAHs, primarily benzo[a]pyrene, toxicity data for phenanthrene are very limited. No human data were available that addressed the toxicity of fluoranthene. Acute toxicity data for animals include an oral LD50 of 2000 mg/kg for rats; a dermal LD50 of 3180 mg/kg for rabbits; and an intravenous LD50 of 100 mg/kg for mice. Subchronic oral exposure to fluoranthene at doses of greater than or equal to 250 mg/kg produced nephropathy, increased liver weights, and increased liver enzyme levels in rats. Fluoranthene has been found to be photosensitizing, enhancing erythema elicited by ultraviolet radiation in guinea pig skin and irritating to the eyes of rabbits.

A Reference Dose (RfD) of 4.0E-1 mg/kg/day for subchronic oral exposure and 4.0E-2 mg/kg/day for chronic oral exposure to fluoranthene was calculated from a no-observed-adverse-effect level (NOAEL) of 125 mg/kg/day and a lowest-observed-adverse-effect level (LOAEL) of 250 mg/kg/day derived from a 13-week gavage study with mice. The critical effects were nephropathy, increased liver weights, and changes in clinical and hematological parameters. Data were insufficient to derive an inhalation Reference concentration (RfC) for fluoranthene.

15.2 Carcinogenicity

No oral or inhalation bioassays were available to assess the carcinogenicity of fluoranthene. Bioassays by other exposure routes generally gave negative results. Studies involving topical application to the skin of mice and subcutaneous injection in mice provided no evidence of carcinogenicity. Fluoranthene was also inactive in mouse skin initiation and promotion assays. However, fluoranthene has been shown to be active as a cocarcinogen when applied with

benzo[a]pyrene to mice by skin application and was active as a complete carcinogen in a short-term lung tumor assay with newborn mice.

Based on no human data and inadequate data from animal bioassays, USEPA has placed fluoranthene in weight-of-evidence group D, not classifiable as to human carcinogenicity.

16.0 INDENO[1,2,3-CD]PYRENE

16.1 Noncancer Toxicity

The chronic oral RfD and chronic inhalation RfC are not available.

16.2 Carcinogenicity

EPA classifies indeno(1,2,3-cd)pyrene as cancer weight-of-evidence B2, probable human carcinogen, based on sufficient data from animal bioassays. Indeno[1,2,3-cd]pyrene produced tumors in mice following lung implants, subcutaneous injection and dermal exposure. Indeno[1,2,3-cd]pyrene tested positive in bacterial gene mutation assays.

Although there are no human data that specifically link exposure to indeno[1,2,3-cd]pyrene to human cancers, indeno[1,2,3-cd]pyrene is a component of mixtures that have been associated with human cancer. These include coal tar, soot, coke oven emissions and cigarette smoke.

In animal carcinogen bioassays indeno[1,2,3-cd]pyrene exposure resulted in increased incidences of epidermoid carcinomas in a lung implantation study, injection site sarcomas in a subcutaneous injection assay and skin tumors in dermal application studies.

Supporting data for carcinogenicity includes genotoxicity studies. Indeno[1,2,3-cd]pyrene produced positive results in mutation assays in Salmonella typhimurium strains.

The currently used Oral Slope Factor (CSF) for Indeno[1,2,3-cd]pyrene is 7.3E-01 $(mg/kg/day)^{-1}$ which is extrapolated from the CSF for benzo(a)pyrene, i.e., 0.1 x 7.3 (BaP) = 7.3E-01 $(mg/kg/day)^{-1}$.

17.0 PHENANTHRENE

Phenanthrene is a polycyclic aromatic hydrocarbon (PAH) that can be derived from coal tar. Currently, there is no commercial production or use of this compound. Phenanthrene is ubiquitous in the environment as a product of incomplete combustion of fossil fuels and wood and has been identified in ambient air, surface and drinking water, and in foods.

17.1. Noncancer Toxicity

Phenanthrene is absorbed following oral and dermal exposure. Data from structurally related PAHs suggest that phenanthrene would be absorbed from the lungs. Metabolites of phenanthrene identified in in vivo and in vitro studies indicate that metabolism proceeds by epoxidation at the 1-2, 3-4, and 9-10 carbons, with dihydrodiols as the primary metabolites. Although a large body of literature exists on the toxicity and carcinogenicity of PAHs, primarily benzo[a]pyrene, toxicity data for phenanthrene are very limited. No human data were available that addressed the toxicity of phenanthrene. Single intraperitoneal injections of phenanthrene produced slight hepatotoxicity in rats. Data regarding the subchronic, chronic, developmental, or reproductive toxicity in experimental animals by any route of exposure could not be located in the available literature. Data were insufficient to derive an oral reference dose (RfD) or inhalation reference concentration (RfC) for phenanthrene. The chemical is not currently listed in IRIS or HEAST.

17.2 Carcinogenicity

No inhalation bioassays were available to assess the carcinogenicity of phenanthrene. A single oral dose of phenanthrene did not induce mammary tumors in rats and a single subcutaneous injection did not result in treatment-related increases in tumor incidence in mice. Neonate mice administered intraperitoneal orsubcutaneous injections of phenanthrene also did not develop tumors. No skin tumors were reported in two skin painting assays with mice. Phenanthrene was also tested in several mouse skin initiation-promotion assays. It was active as an initiator in one study, inactive as an initiator in four others, and inactive as a promoter in one study. Based on no human data and inadequate data from animal bioassays, USEPA has placed phenanthrene in weight-of-evidence group D, not classifiable as to human carcinogenicity.

18.0 PYRENE

Pyrene, also referred to as benzo(def)phenanthrene and -pyrene, is a polycyclic aromatic hydrocarbon (PAH) that can be derived from coal tar. Currently, there is no commercial production or use of this compound. Pyrene is ubiquitous in the environment as a product of incomplete combustion of fossil fuels and has been identified in surface and drinking water, numerous foods, and in ambient air. Although a large body of literature exists on the toxicity and carcinogenicity of PAHs, toxicity data for pyrene are limited.

18.2 Noncancer Toxicity

No human data were available that addressed the toxicity of pyrene. Subchronic oral exposure to pyrene produced nephropathy, decreased kidney weights, increased liver weights, and slight hematological changes in mice and produced fatty livers in rats. A single intraperitoneal injection of pyrene produced swelling and congestion of the liver and increased serum aspartate amino transferase (AST) and bilirubin levels in rats. No data were available concerning the toxic effects of inhalation exposure to pyrene or data regarding teratogenicity or other reproductive effects by any route of exposure. A Reference Dose (RfD) of 3E-1 mg/kg/day for subchronic and 3E-2 mg/kg/day for chronic oral exposure to pyrene was calculated from a no-observed-adverse-effect level (NOAEL) of 75 mg/kg/day in a 13-week gavage study with mice. Data were insufficient to derive an inhalation Reference Concentration (RfC) for pyrene.

18.3 Carcinogenicity

No oral or inhalation bioassays were available to assess the carcinogenicity of pyrene. Studies involving other routes of exposure (intratracheal, dermal, and subcutaneous) generally gave negative results. Intratracheal administration of pyrene in combination with Fe_2O_3 particles did not induce tumors in hamsters. Skin painting assays evaluating complete carcinogenesis in mice; or initiating; or promoting capacity have been negative or inconclusive. Mice injected subcutaneously with pyrene did not develop tumors, but there is evidence that pyrene enhances the tumorigenicity of topically applied benzo[a]pyrene.

Based on no human data and inadequate data from animal bioassays, U.S. EPA placed pyrene in weight-of-evidence group D, not classifiable as to human carcinogenicity.

19.0 BIS(2-ETHYLHEXYL)PHTHALATE (DI[2-ETHYLHEXYL]PHTHALATE)

19.1 Noncancer Toxicity

The acute oral toxicity of bis(2-ethylhexyl)phthalate is very low; oral LD50/30 (lethal dose to 50 percent of population within 30 days without medical testament) values in rats and mice were 33,800 and 26,300 mg/kg, respectively. Repeated high-dose oral exposures were associated with decreased growth, altered organ weights, testicular degeneration, and developmental effects. The EPA presented a verified chronic oral RfD of 0.02 mg/kg/day based on an LOAEL for increased relative liver weight in guinea pings and an uncertainty factor of 1000. The principal target organs for the toxicity of bis(2-ethylhexyl)phthalate are the liver and testis.

19.2 Carcinogenicity

The EPA classifies bis(2-ethylhexyl)phthalate in cancer weight-of evidence Group B2 (probable human carcinogen), based on inadequate human cancer date (one limited occupational study) and sufficient cancer data in laboratory animals. An oral slope factor of 0.014 $(mg/kg/day)^{-1}$ was based on the increased incidence of liver tumors in a dietary study in male mice. An inhalation slope factor of 0.014 $(mg/kg/day)^{-1}$ was presented by EPA.

20.0 ALDRIN

20.1 Noncancer Toxicity

Aldrin mainly affects the central nervous system. Accidental or intentional ingestion of high levels of aldrin can result in convulsions and death. Ingesting moderate levels of aldrin over a longer period may also cause convulsions. This occurs because aldrin builds up in our bodies.

We don't know the effects of exposure to low levels of aldrin over a long time. Some workers who made or applied the insecticides had nervous system effects with excitation leading to convulsions. Lesser effects in some workers included headaches, dizziness, vomiting, irritability, and uncontrolled muscle movements. Workers removed from the source of exposure rapidly recovered from most of these effects. Studies in animals indicate that aldrin may reduce the body's ability to resist infection.

The EPA has developed an oral RfD of 3.0E-5 mg/kg/day for aldrin based liver toxicity in a chronic rat feeding study. The RfD contains an uncertainty factor (UF) of 1,000 to account for the uncertainty of extrapolation from animals to humans, the uncertainty in the range of human sensitivities, and an additional uncertainty because the RfD is based on a LOAEL rather than a NOAEL.

20.2 *Carcinogenicity*

Aldrin is classified as Class B2 carcinogen by the EPA because orally administered aldrin produced significant increases in tumor responses in three different strains of mice in both males and females. Tumor induction has been observed for structurally related chemicals, including dieldrin, a metabolite.

The EPA has developed an oral slope factor of 17 $(mg/kg/day)^{-1}$ for aldrin based liver cancer in mice (from dietary exposure). The inhalation slope factor for aldrin, 17 $(mg/kg/day)^{-1}$, was calculated from the oral slope factor.

21.0 CHLORDANE

Technical grade chlordane is a mixture of structurally related compounds including trans-chlordane, cis-chlordane, -chlordene, heptachlor, and trans-nonachlor. Chlordane was used extensively as a pesticide in the United States from 1948 to 1988. Because the chemical is persistent in the environment, exposure can still occur from breathing the air of treated homes, consuming shellfish caught in contaminated waters, or eating food produced on contaminated farmlands. Chlordane is readily absorbed after oral, inhalation, or dermal exposure and is stored in adipose tissue.

21.1 Noncancer Toxicity

Nonlethal, accidental poisoning of children by chlordane has resulted in convulsions, excitability, loss of coordination, dyspnea, and tachycardia; however, recovery was complete. When a municipal water supply was contaminated with chlordane in concentrations of up to 1.2 g/L, 13 persons had symptoms of gastrointestinal and neurological disorders. Signs of toxicity from chronic inhalation exposure in chlordane treated homes include sinusitis, bronchitis, dermatitis, neuritis, migraine, gastrointestinal distress, fatigue, memory deficits, personality changes, decreased attention span, numbness or paresthesias, disorientation, loss of coordination, dry

eyes, and seizures. Blood dyscrasias, including production defects and thrombocytopenic purpura, have been described for both professional applicators and for home owners and their families following home termite treatment. Liver enlargement occurred in mice exposed to 10 mg/m^3 8 hours/day, 5 days/week for 90 days. Increased liver and kidney weights occurred in rats, serum chemistry changes indicative of liver damage and hypersensitivity occurred in males and female rats exposed to chlordane by inhalation. An inhalation reference concentration (RfC) for chlordane is under review by EPA.

Long-term feeding studies with chlordane in laboratory animals resulted in significantly reduced weight gains in male and female rats, a dose-related trend in mortality of rats and mice, and liver hypertrophy of rats. A chronic oral reference dose (RfD) of 5E-04 mg/kg/day for chlordane was calculated from a no-observed-adverse-effect level (NOAEL) from a chronic feeding study with mice.

21.2 Carcinogenicity

Exposure of humans from chlordane treated homes has been associated with leukemia, skin neoplasms, and neuroblastoma in children. An increased risk of non-Hodgkin's lymphoma has been found among farmers exposed to chlordane 20 or more days per year. Hepatic carcinomas and hepatocellular adenomas have been described for several strains of male and female mice and male rats given chlordane in the diet. EPA has classified chlordane as group B2, probable human carcinogen. The carcinogenicity slope factor for oral exposure is 0.35 $(mg/kg/day)^{-1}$ based on an increase of hepatocellular carcinomas in mice and hepatocellular adenomas in rats.

22.0 4,4'-DDT, 4,4'-DDD, and 4,4'-DDE

DDT (1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane) was a manufactured chemical widely used to control insects on agricultural crops and insects that carry diseases like malaria and typhus. It does not occur naturally in the environment. DDT is a white, crystalline solid with no odor or taste. Because of damage to wildlife and the potential harm to human health, the use of DDT was banned in the United States, except for public health emergencies. DDT is still used in some other countries. Exposure to DDT, DDE, and DDD happens mostly from eating contaminated foods, such as root and leafy vegetables, meat, fish, and poultry. At high levels, it can damage the nervous system, causing excitability, tremors, and seizures in people. These chemicals have been found in at least 337 of 1,416 National Priorities List sites identified by the Environmental Protection Agency.

Two similar chemicals that sometimes contaminate DDT products are DDE (1,1-dichloro-2,2-bis(chlorophenyl) ethylene) and DDD (1,1-dichloro-2,2-bis(p-chlorophenyl) ethane). DDD was also used to kill pests, but its use has also been banned. One form of it has been used medically to treat cancer of the adrenal gland. DDE has no commercial use.

DDT entered the environment when it was used as an insecticide. DDT in air lasts for only a short time. Half the DDT in air is gone within 2 days. It does not dissolve easily in water. DDT sticks strongly to soil particles and does not move quickly to underground water. DDT lasts a very long time in soil; half the DDT in soil will break down in 2-15 years. Some DDT will evaporate from soil and surface water into the air and some is broken down by sunlight or by microorganisms in soil or surface water. DDT in soil usually breaks down to form DDE or DDD. Levels of DDT build up in plants and in the fatty tissues of fish, birds,and animals.

22.1 Noncancer Toxicity

DDT affects the nervous system. People who accidentally swallowed large amounts of DDT became excitable and had tremors and seizures. These effects went away after the exposure stopped. No effects were seen in people who took small daily doses of DDT by capsule for 18 months. People who worked with DDT for a long time had some reversible changes in the levels of liver enzymes. In animals, short-term exposure to large amounts of DDT in food affected the nervous system. In animals, long-term exposure to DDT affected the liver. Animal studies suggest that short-term exposure to DDT in food may have a harmful effect on reproduction. The EPA has developed an oral RfD of 5.0E-4 mg/kg/day for DDT based liver toxicity .

22.2 Carcinogenicity

The Department of Health and Human Services (DHHS) has determined that DDT may reasonably be anticipated to be a human carcinogen. DHHS has not classified DDE and DDD, but the Environmental Protection Agency (EPA) has determined that they are probable human carcinogens. Liver cancer has been seen in animals that were fed DDT. The EPA has developed an oral slope factor of 0.34 $(mg/kg/day)^{-1}$ for DDE and DDT and a slope factor of 0.24 $(mg/kg/day)^{-1}$ for DDD based liver cancer. Studies in DDT-exposed workers did not show increases in cancer.

23.0 DIELDRIN

23.1 Noncancer Toxicity

Dieldrin is an insecticide which from 1950-1970 was a popular pesticide for crops like corn and cotton. Because of concerns about damage to the environment and the potential harm to human health, EPA banned all uses of dieldrin in 1974 except to control termites. In 1987, EPA banned all uses.

Exposure to dieldrin mainly affect the central nervous system. Ingestion of high levels of dieldrin result in convulsions and death. These levels are many thousands of times higher than the average exposure. Ingesting moderate levels of dieldrin over a longer period may also cause convulsions. We don't know the effects of exposure to low levels of dieldrin over a long time. Some workers who made or applied dieldrin had nervous system effects with excitation leading to convulsions. Lesser effects in some workers included headaches, dizziness, vomiting, irritability, and uncontrolled muscle movements. Workers removed from the source of exposure rapidly recovered from most of these effects. The EPA had established an oral RfD of 5E-5 mg/kg-day for dieldrin based on liver lesions in rats from a 2-year rat feeding study with an uncertainty factor of 100. The LOAEL was identified as 0.05 mg/kg/day. At the end of two years the rats had increased liver weights and histopathological examinations revealed liver parenchymal cell changes. These hepatic lesions were considered to be characteristic of exposure to an organochlorine insecticide. The chronic inhalation RfC is not available at this time.

23.2 Carcinogenicity

There is no direct evidence that dieldrin causes cancer in humans. Studies on workers generally show no increase in cancer or deaths due to cancer. Dieldrin is carcinogenic in seven strains of mice when administered orally. Dieldrin is structurally related to compounds (aldrin, chlordane, heptachlor, heptachlor epoxide, and chlorendic acid) which produce tumors in rodents. Mice given high amounts of dieldrin, however, did develop liver cancers. The U.S. EPA classifies dieldrin in cancer weight-of-evidence B2 because it caused tumors in rodents when administered orally.

Human carcinogenicity data is considered inadequate. Two studies of workers exposed to aldrin and to dieldrin reported no increased incidence of cancer. Both studies were limited in their ability to detect an excess of cancer deaths. Animal carcinogenicity data was sufficient. Dieldrin has been shown to be carcinogenic in various strains of mice of both sexes. At different dose

levels the effects range from benign liver tumors, to hepatocarcinomas with transplantation confirmation, to pulmonary metastases. Supporting data for carcinogenicty include genotoxicity tests. Dieldrin causes chromosomal aberrations in mouse cells and in human lymphoblastoid cells, mutations in Chinese hamster cells, and unscheduled DNA synthesis in rat and human cells.

EPA has established an Oral Slope Factor of 1.6E+1 per (mg/kg)/day based on a diet study in mice which produced liver carcinomas. The inhalation cancer slope factor of 16 per mg/kg/day is derived from the oral slope factor.

24.0 ENDRIN

Endrin is a solid, white, almost odorless substance that was used as a pesticide to control insects, rodents, and birds. Endrin has not been produced or sold for general use in the United States since 1986. Little is known about the properties of endrin aldehyde (an impurity and breakdown product of endrin) or endrin ketone (a product of endrin when it is exposed to light).

Endrin does not dissolve very well in water. It has been found in groundwater and surface water, but only at very low levels. It is more likely to cling to the bottom sediments of rivers, lakes, and other bodies of water. The persistence of endrin in the environment depends highly on local conditions. Some estimates indicate that endrin can stay in soil for over 10 years.

24.1 Noncancer Toxicity

Exposure to endrin can cause various harmful effects including death and severe central nervous system (brain and spinal cord) injury. Swallowing large amounts of endrin may cause convulsions and kill you in a few minutes or hours. Symptoms that may result from endrin poisoning are headaches, dizziness, nervousness, confusion, nausea, vomiting, and convulsions. No long-term health effects have been noted in workers who have been exposed to endrin by breathing or touching it. Studies in animals confirm that endrin's main target is the nervous system. Birth defects, especially abnormal bone formation, have been seen in some animal studies. The USEPA has calculated an RfD of 0.0004 mg/kg/day for chronic oral exposure to endrin based on liver lesions and occasional convulsions in dogs.

24.2 Carcinogenicity

In studies using rats, mice, and dogs, endrin did not produce cancer. However, most of these studies did not accurately evaluate the ability of endrin to cause cancer. No significant excess of cancer has been found in exposed factory workers. The EPA has determined that endrin is not classifiable as to its human carcinogenicity because there is not enough information to allow classification.

25.0 ALPHA-HEXACHLOROCYCLOHEXANE (ALPHA-HCH) AND DELTA-HCH

Alpha-HCH has been classified as a B2, probable human carcinogen, by the EPA based on an increased incidence of liver tumors in mice and rats. There is inadequate evidence of alpha-HCH causing cancer in humans.

In animals, dietary alpha-HCH has been shown to cause increased incidences of liver tumors in five mouse strains and in Wistar rats. No data on the genetic toxicology of alpha-HCH are available. The oral slope factor (CSF for alpha-HCH is 6.3E+0 $(mg/kg\text{-}day)^{-1}$ and the inhalation unit risk is 1.8E-3 $(ug/m^3)^{-1}$.

26.0 BETA-HEXACHLOROCYCLOHEXANE

Hexachlorocyclohexane (HCH) is a manufactured chemical that does not occur naturally in the environment. It exists in eight chemical forms (called isomers). beta-Hexachlorocyclohexane's former production and use as a component of the insecticide BHC resulted in its release to the environment through various waste streams. Occupational exposure to beta-hexachlorocyclohexane may occur through inhalation and dermal contact with this compound at workplaces where technical grade hexachlorocyclohexane is still produced or used. The general population may be exposed to beta-hexachlorocyclohexane through the ingestion of food and drinking water that contains this compound.

26.1 Noncancer Toxicity

Little information is available in the literature concerning the noncarcinogenic health effects of beta-HCH.

26.2 Carcinogenicity

Beta-HCH is classified as a Class C carcinogen, possible human carcinogen, on the basis of increases in benign liver tumors in CF1 mice fed beta-HCH. There is inadequate evidence of carcinogenicity in humans. The USEPA (IRIS online, January 2001) has issued an oral cancer slope factor (CSF) of 1.8 $(mg/kg/day)^{-1}$ for beta-HCH based on the incidence of liver tumors in male mice.

27.0 GAMMA-HCH (LINDANE)

Lindane is an organochlorine insecticide and fumigant which has been used on a wide range of soil-dwelling and plant-eating insects. Lindane is presently used primarily for seed treatment and in lotions, creams, and shampoos for the control of lice, and mites (scabies) in humans.

Benzene Hexachloride (BHC) is the 100% pure form of the product while lindane is slightly less pure (>99% pure). There are eight separate three dimensional forms (isomers) of BHC; the gamma configuration being one of those forms. As used in this profile lindane and BHC refer only to the gamma isomer of BHC. Some formulations of lindane are classified as Restricted Use Pesticides (RUP). Restricted Use Pesticides may be purchased and used only by certified applicators. Most uses of lindane in agriculture and in the dairy industry have been cancelled by the EPA. Lindane is no longer manufactured in the United States.

27.1 Noncancer Toxicity

Acute Toxicity

Lindane is highly toxic and carries the signal word WARNING. It is a central nervous system stimulant with symptoms usually developing within one hour. Symptoms of acute exposure in humans can include mental and motor retardation, central nervous system excitation, clonic (intermittent) and tonic (continuous) convulsions, respiratory failure, pulmonary edema and dermatitis. Other symptoms in humans are more behavioral in nature such as loss of balance and somersaulting (7), grinding of the teeth, and hyperirritability. Lindane can be absorbed through the skin, through inhalation or through direct ingestion. Most acute effects have been due to accidental or intentional ingestion, although inhalation occurred (especially among children) when it was used in vaporizers. Workers may be exposed to the product through absorption through the skin and through inhalation if handled incorrectly.

Chronic Toxicity

Sixty male workers in a lindane producing factory had no signs of neurological impairment or perturbation after one to thirty years exposure. However another study of chronically exposed workers showed some mild differences in heart beat. Small amounts of lindane fed to rabbits (1.5-12.0 mg/kg) for five to six weeks, and to rats (6.25-25 mg/kg) for 35 weeks suppressed their immune systems. This adversely affected the organisms' ability to fight off disease. In a two-year rat study, significant liver changes were attributed to the intake of moderately small amounts of lindane in the diets of the test animals (approximately 5 mg/kg/day).

Reproductive Effects

Female rats experienced a disturbance of their reproductive cycle and inhibited fertility with doses of 0.5 mg/kg for four months. Treatments of 0.05 mg/kg did not produce these effects. Lindane was found to be slightly estrogenic to female rats and also caused the seminiferous tubules in male rats to become atrophied at doses of 8 mg/kg/day over a ten day period. These tests suggest that the compound may have reproductive effects in human populations.

Teratogenic Effects

Beagles given 7.5 or 15 mg/kg from day five throughout gestation did not produce pups with any noticeable birth defects. Pregnant rats given small amounts of lindane in their food had offspring unaffected by the pesticide (3). Lindane, however, can be passed from the mother to the developing fetus. It appears that lindane will not cause developmental effects at low levels of exposure and causes reproductive effects at levels approaching the acute toxicity doses. These effects have not been observed in human populations.

Mutagenic Effects

A variety of tests on mice and on microbes have shown no mutagenicity in the cells tested. It has been shown to induce some changes in the chromosomes of cultured human lymphocytes during cell division at fairly low doses. It is unlikely that lindane would pose a mutagenic risk in humans at very low exposure
levels.

A chronic oral reference dose (RfD) of 3E-4 mg/kg/day for gamma-HCH was calculated from a no-observed-adverse-effect level (NOAEL) of 0.33 mg/kg/day on the basis of liver and kidney toxicity and an uncertainty factor of 1,000.

27.2 Carcinogenicity

The carcinogenicity of lindane in experimental animals is low (or limited) as judged by the International Agency for Research on Cancer (1). Mice fed 100-500 mg/kg diets for 24 weeks showed no signs of tumors. Rats fed for a lifespan at 5-1,600 mg/kg diet with a mean age at death of 58 weeks, had no increase in tumor incidence.

One of the confounding factors in establishing a link between the insecticide and carcinogenicity is the presence of three different dimensional forms (isomers) of the compound BHC. Each form has a slightly different toxicity. The International Agency for Research on Cancer has concluded that there is sufficient evidence to show that one of the lindane isomers is carcinogenic and limited evidence to establish the carcinogenicity of the beta and gamma isomers. The USEPA has established an Oral Slope Factor (CSF) of 1.3 $(mg/kg/day)^{-1}$ for gamma-HCH.

28.0 AROCLOR-1254

Aroclor -1254 is a polychlorinated biphenyl (PCB) mixture containing approximately 21% C12H6Cl4, 48% C12H5Cl5, 23% C12H4Cl6, and 6% C12H3Cl7 with an average chlorine content of 54%. PCBs are inert, thermally and physically stable, and have dielectric properties. In the environment, the behavior of PCB mixtures is directly correlated to the degree of chlorination. PCBs are strongly sorbed to soil and remains immobile when leached with water; however, the mixture is highly mobile in the presence of organic solvents . PCBs are resistant to chemical degradation by oxidation or hydrolysis. However, biodegradation, especially of lower chlorinated PCBs, can occur. PCBs have high bioconcentration factors, and due to lipophilicity, especially of highly chlorinated congeners, tend to accumulate in the fat of fish, birds, mammals, and humans. The use of PCBs in the United States was limited to closed systems in 1974, and in February, 1977, the EPA issued final regulations prohibiting PCB discharge into waterways.

28.1 Pharmacokinetics

PCBs have high bioconcentration factors, and due to lipophilicity, especially of highly chlorinated congeners, tend to accumulate in the fat of fish, birds, mammals, and humans. PCBs are

absorbed after oral, inhalation, or dermal exposure and are stored in adipose tissue. The location of the chlorine atoms on the phenyl rings is an important factor in PCB metabolism and excretion. The major route of PCB excretion is in the urine and feces; however, more important is the elimination in human milk. Metabolites are predominately found in urine and bile, while small amounts of the parent compound are found in the feces. Biliary excretion appears to be the source of fecal excretion.

28.2 Noncancer Toxicity

Accidental human poisonings and data from occupational exposure to PCBs suggest initial dermal and mucosal disturbances followed by systemic effects that may manifest themselves several years post-exposure. Initial effects are enlargement and hypersecretion of the Meibomian gland of the eye, swelling of the eyelids, pigmentation of the fingernails and mucous membranes, fatigue, and nausea. These effects were followed by hyperkeratosis, darkening of the skin, acneform eruptions, edema of the arms and legs, neurological symptoms, such as headache and limb numbness, and liver disturbance. Hepatotoxicity is a prominent effect of Aroclor-1254 that has been well characterized . Effects included hepatic microsomal enzyme induction, increased serum levels of liver-related enzymes indicative of hepatocellular damage, liver enlargement, lipid deposition, fibrosis, and necrosis. Groups of 16 adults (11.1 +/-4.1 years at study initiation) female rhesus monkeys ingested gelatin capsules containing 0, 0.005, 0.02, 0.04, or 0.08 mg/kg/day Aroclor-1254 daily for more than 5 years. Increases in the incidence of inflamed and/or prominent Meibomian glands; increased incidences of ocular exudate; changes in finger and/or toe nails; decreases in antibody levels; decreases in the percent of helper T-lymphocytes; increases in suppressor T-lymphocyte count; a decrease in helper/suppressor ratio; and decreases in reticulocyte count, serum cholesterol, total bilirubin, and alpha-1+ alpha-2-globulins were observed in treated monkeys.

A chronic oral reference dose (RfD) of 2E-05 mg/kg/day for Aroclor-1254 was calculated from a lowest-observed-adverse-effect level (LOAEL) of 0.0005 mg/kg/day derived from the above study.

28.3 Carcinogenicity

Data are suggestive but not conclusive concerning the carcinogenicity of PCBs in humans. The EPA has not determined a weight-of-evidence classification or slope factor for Aroclor-1254 specifically. However, hepatocellular carcinomas in three strains of rats and two strains of mice

have led the EPA to classify PCBs as group B2, probable human carcinogen. The carcinogenicity slope factor (q1*) for oral exposure to Aroclor-1254 is 2.0 $(mg/kg/day)^{-1}$.

29.0 AROCLOR –1260 (POLYCHLORINATED BIPHENYLS)

Aroclor-1260 is a polychlorinated biphenyl (PCB) mixture containing approximately 38% C12H4Cl6, 41% C12H3Cl7, 8% C12H2Cl8, and 12% C12H5Cl5 with an average chlorine content of 60%. PCBs are inert, thermally and physically stable, and have dielectric properties. In the environment, the behavior of PCB mixtures is directly correlated to the degree of chlorination. PCBs are strongly sorbed to soil and remains immobile when leached with water; however, the mixture is highly mobile in the presence of organic solvents. PCBs are resistant to chemical degradation by oxidation or hydrolysis. However, biodegradation, especially of lower chlorinated PCBs, can occur. PCBs have high bioconcentration factors, and due to lipophilicity, especially of highly chlorinated congeners, tend to accumulate in the fat of fish, birds, mammals, and humans. The use of PCBs in the United States was limited to closed systems in 1974, and in February, 1977, the EPA issued final regulations prohibiting PCB discharge into waterways.

29.1 Pharmacokinetics

PCBs are absorbed after oral, inhalation, or dermal exposure and are stored in adipose tissue. The location of the chlorine atoms on the phenyl rings is an important factor in PCB metabolism and excretion. The major route of PCB excretion is in the urine and feces; however, of more importance is elimination in human milk. Metabolites are predominately found in urine and bile, while small amounts of parent compound are found in the feces. Biliary excretion appears to be the source of fecal excretion.

29.2 Noncancer Toxicity

Accidental human poisonings and data from occupational exposure to PCBs suggest initial dermal and mucosal disturbances followed by systemic effects that may manifest themselves several years post-exposure. Initial effects are enlargement and hypersecretion of the Meibomian gland of the eye, swelling of the eyelids, pigmentation of the fingernails and mucous membranes, fatigue, and nausea. These effects were followed by hyperkeratosis, darkening of the skin, acneform eruptions, edema of the arms and legs, neurological symptoms, such as headache and limb numbness, and liver disturbance

Hepatotoxicity is a prominent effect of PCBs, including Aroclor-1260, that has been well characterized. Effects include hepatic microsomal enzyme induction, increased serum levels of liver-related enzymes (indicative of hepatocellular damage), liver enlargement, lipid deposition, fibrosis, and necrosis. Chloracne and Immune function disorders have been observed in humans and several animal species after PCB exposure. Reproductive and developmental effects, including low-birth weight, and decreased gestational time, and decreased reproductive capacity, have been observed in human and animal species. No reference dose (RfD) or reference concentrations (RfC) have been verified for Aroclor-1260.

Target organs for PCBs include the skin, liver, fetus, and neonate.

29.3 Carcinogenicity

Data are suggestive but not conclusive concerning the carcinogenicity of PCBs in humans. The EPA has not determined a weight-of-evidence classification or slope factor for Aroclor-1260 specifically. However, hepatocellular carcinomas in three strains of rats and two strains of mice have led the EPA to classify PCBs as group B2, probable human carcinogen. The EPA has published an oral slope factor of 2.0 $(mg/kg/day)^{-1}$ for upper bound estimates for all PCBs (except Aroclor-1016) based on the linear extrapolation from LED10s (95% lower bounds on ED10, the estimated dose associated with 10% increased incidence of cancer). The EPA has also published a central-estimate slope factor of 1.0 $(mg/kg/day)^{-1}$ for PCBs, also derived from ED10s.

30.0 ALUMINUM

Aluminum is a silver-white flexible metal with a vast number of uses. It is poorly absorbed and efficiently eliminated; however, when absorption does occur, aluminum is distributed mainly in bone, liver, testes, kidneys, and brain.

30.1 Noncancer Toxicity

Aluminum may be involved in Alzheimer's disease (dialysis dementia) and in Amyotrophic Lateral Sclerosis and Parkinsonism-Dementia Syndromes of Guam (Guam ALS-PD complex). Aluminum content of brain, muscle, and bone increases in Alzheimer's patients. Neurofibrillary tangles (NFTs) are found in patients suffering from aluminum encephalopathy and Alzheimer's disease. Symptoms of "dialysis dementia" include speech disorders, dementia, convulsions, and myoclonus. People of Guam and Rota have an unusually high incidence of neurodegenerative

diseases. The volcanic soil in the region of Guam where the high incidence of ALS-PD occurs contains high levels of aluminum and manganese. Neurological effects have also been observed in rats orally exposed to aluminum compounds.

The respiratory system appears to be the primary target following inhalation exposure to aluminum. Alveolar proteinosis has been observed in guinea pigs, rats, and hamsters exposed to aluminum powders. No decrease in reproductive capacity, hormonal abnormalities, or testicular histopathology was observed in male rats exposed to aluminum in drinking water for 90 days. However, male rats exposed to aluminum (as aluminum chloride) via gavage for 6 months exhibited decreased spermatozoa counts and sperm motility, and testicular histological and histochemical changes.

Subchronic and chronic reference doses and reference concentrations have not been derived for aluminum. However, the EPA's National Center for Environmental Assessment (NCEA) has developed a provisional oral RfD of 1.00 mg/kg/day and an inhalation reference dose of 0.001 mg/kg/day.

30.2 Carcinogenicity

The U.S. EPA has not evaluated aluminum or aluminum compounds for carcinogenicity, and a weight-of-evidence classification is currently not assigned.

31.0 ANTIMONY

31.1 Pharmacokinetics

Ingested antimony is absorbed slowly and incompletely from the gastrointestinal (GI) tract. Within a few days of acute exposure, highest tissue concentrations are found in the liver, kidney, and thyroid. Organs of storage include skin, bones, and teeth. Highest concentrations in deceased smelter workers (inhalation exposure) occurred in the lungs and skeleton. Excretion is largely via the urine or feces, although some is incorporated into the hair.

31.2 Noncancer Toxicity

Acute intoxication from ingestion of large doses of antimony induces GI disturbances, dehydration, and cardiac effects in humans. Chronic effects from occupational exposure include

irritation of the respiratory tract, pneumoconiosis, pustular eruptions of the skin called "antimony spots," allergic contact dermatitis, and cardiac effects, including abnormalities of the electrocardiograph (ECG) and myocardial changes. Cardiac effects were also observed in rats and rabbits exposed by inhalation for six weeks and in animals (dogs, and possibly other species) treated by intravenous injection.

Chronic oral exposure studies in laboratory animals include two briefly reported lifetime drinking water studies in rates and mice. The only dose tested, 5 ppm potassium antimony tartrate, resulted in reduced longevity in both species and in reduced mean heart weight in rats. The EPA verified an RfD of 0.0004 mg/kg/day for chronic oral exposure to antimony from the LOAEL of 5 ppm potassium antimony tartrate (0.35 mg/antimony/kg body weight-day) in the lifetime study in rats. An uncertainty factor of 1000 was applied; factors of 10 each for inter- and intraspecies variation were used to estimate an NOAEL from an LOAEL. The heart is considered a likely target organ for chronic oral exposure of humans.

31.3 Carcinogenicity

Data were not located regarding the carcinogenicity of antimony to humans. Antimony fed to rats did not produce an excess of tumors, but a high frequency of lung tumors was observed in rats exposed by inhalation to antimony trioxide for one year. Antimony is classified as EPA cancer weight-of-evidence Group D (not classifiable as a carcinogenicity to humans).

32.0 ARSENIC

32.1 Pharmacokinetics

Several studies confirm that soluble inorganic arsenic compounds and organic arsenic compounds are almost completely (>90 percent) absorbed from the GI tract in both animals and humans. The absorption efficiency of insoluble inorganic arsenic compounds depends on particle size an stomach pH. Initial distribution of absorbed arsenic is to the liver, kidneys, and lungs, flowed by redistribution to hair, nails, teeth, bone, and skin, which are considered tissues of accumulation. Arsenic has a long half-life in the blood of rats, compared with other animals and humans, because of firm binding to the hemoglobin in erythrocytes.

Metabolism of inorganic arsenic includes reversible oxidation-reduction so that both arsenite (valence of 3) and arsenate (valence of 5) are present in the urine of animals treated with arsenic

of either valence. Arsenite is subsequently oxidized and methylated by a saturable mechanism to form mono- or dimethylarsenate; the latter is the predominant metabolite in the urine of animals or humans. Organic arsenic compounds (arsenilic acid, cacodylic acid) are not readily converted to inorganic arsenic. Excretion of organic or inorganic arsenic is largely via the urine, but considerable species variation exists. Continuously exposed humans appear to excrete 60 to 70 percent of their daily intake of arsenate or arsenite via the urine.

32.2 Noncancer Toxicity

A lethal dose of arsenic trioxide in humans is 70 to 180 milligrams (approximately 50 to 140 mg arsenic. Acute oral exposure of humans to high doses of arsenic produce liver swelling, skin lesions, disturbed heart function, and neurological effects. The only noncancer effects in humans clearly attributable to chronic oral exposure to arsenic are dermal hyperpigmentation and keratosis, as revealed by studies of several hundred Chinese exposed to naturally occurring arsenic in well water. Similar effects were observed in persons exposed to high levels of arsenic in water in Utah and the northern part of Mexico. Occupational (predominantly inhalation) exposure is also associated with neurological deficits, anemia, and cardiovascular effects, but concomitant exposure to other chemicals cannot be ruled out. The EPA derived an RfD of 0.0003 mg/kg/day for chronic oral exposure, based on an NOAEL of 0.0008 mg/kg/day for skin lesions from Chinese data. The principal target organ for arsenic appears to be the skin. The nervous system and cardiovascular systems appear to be less significant target organs. Inorganic arsenic may be an essential nutrient, exerting beneficial effects on growth, health, and feed conversion efficiency.

32.3 Carcinogenicity

Inorganic arsenic is clearly a carcinogen in humans. Inhalation exposure is associated with increased risk of lung cancer in persons employed as smelter workers, in arsenical pesticide applicators, and in a population residing near a pesticide manufacturing plant. Oral exposure to high levels in well water is associated with increased risk of skin cancer. Extensive animal testing with various forms of arsenic given by many routes of exposure to several species, however, has not demonstrated the carcinogenicity of arsenic. The EPA classifies inorganic arsenic in cancer weight-of-evidence Group A (human carcinogen), and recommends an oral unit risk of 0.00005 ug/L in drinking water, based on the incidence of skin cancer in the Chinese study. The EPA presents a chronic oral slope factor of 1.5 $(mg/kg/day)^{-1}$ based on the same information. The EPA notes that the uncertainties associated with the oral unit risk are considerably less than those for most carcinogens, so that the unit risk might be reduced in order of magnitude. An

inhalation unit risk of 0.0043 per mg/m^3 was derived for inorganic arsenic from the incidence of lung cancer in occupationally exposed men, equivalent to 15.1 $(mg/kg/day)^{-1}$, was derived from the same data assuming an inhalation rate of 20 m^3/day and a body weight of 70 kg for humans.

33.0 BARIUM

33.1 Noncancer Toxicity

The soluble salts of barium, an alkaline earth metal, are toxic in mammalian systems. They are absorbed rapidly from the gastrointestinal tract and are deposited in the muscles, lungs, and bone. Barium is excreted primarily in the feces. At low doses, barium acts as a muscle stimulant and at higher doses affects the nervous system eventually leading to paralysis. Acute and subchronic oral doses of barium cause vomiting and diarrhea, followed by decreased heart rate and elevated blood pressure. Higher doses result in cardiac irregularities, weakness, tremors, anxiety, and dyspnea. Subchronic and chronic oral or inhalation exposure primarily affects the cardiovascular system resulting in elevated blood pressure. Human data were used by the EPA to calculate a chronic and subchronic oral reference dose (RfD) of 0.07 mg/kg/day. Subchronic and chronic inhalation exposure of human populations to barium-containing dust can result in a benign pneumoconiosis called "baritosis." This condition is often accompanied by an elevated blood pressure but does not result in a change in pulmonary function. However, Reproductive and developmental effects and increased fetal mortality in rats were also observed after inhalation exposures. An inhalation reference concentration (RfC) of 0.005 mg/m^3 for subchronic and 0.0005 mg/m^3 for chronic exposure was calculated by the EPA based on the NOAEL for developmental effects which have not been substantiated in humans.

33.2 Carcinogenicity

Barium has not been evaluated by the EPA for evidence of human carcinogenic potential.

34.0 BERYLLIUM

Beryllium is present in the earth's crust, in emissions from coal combustion, in surface water and soil, and in house dust, food, drinking water, and cigarette smoke. However, the highest risk for exposure occurs among workers employed in beryllium manufacturing, fabricating, or reclamation industries.

34.1 Noncancer Toxicity

Inhaled beryllium is absorbed slowly and localizes mainly in the lungs, bone, liver and kidneys. Ingested beryllium undergoes limited absorption and localizes in liver, kidneys, lungs, stomach, spleen and the large and small intestines. Significant absorption of beryllium or its compounds through intact skin is unlikely because of its chemical properties. Beryllium per se is not biotransformed, but soluble salts may be converted to less soluble compounds in the lung. Most orally administered beryllium passes through the gastrointestinal tract unabsorbed and is excreted in the feces, whereas inhaled water-soluble beryllium salts are excreted mainly by the kidneys. Limited data indicate that the oral toxicity of beryllium is low. The chronic oral RfD for beryllium (0.002 mg/kg/day) is based on small intestinal lesions in a dietary study of dogs.

In contrast, the toxicity of inhaled beryllium is well-documented. Humans inhaling "massive" doses of beryllium compounds (such as the water soluble sulfate, fluoride, chloride, and oxide) may develop acute berylliosis. The severity of acute beryllium toxicity correlates with exposure levels, and the disease is now rarely observed in the United States because of improved industrial hygiene. Humans inhaling beryllium may also develop chronic berylliosis which, in contrast to acute berylliosis, is highly variable in onset, is more likely to be fatal, and can develop a few months to >=20 years after exposure. Chronic beryllium disease is a systemic disease that primarily affects the lungs and is characterized by the development of non-caseating granulomas. The disease most likely results from a hypersensitivity response to beryllium as evidenced by positive patch tests and positive lymphocyte transformation tests in exposed individuals. Granulomas may also appear in the skin, liver, spleen, lymph nodes, myocardium, skeletal muscles, kidney, bone, and salivary glands.

34.2 Carcinogenicity

Epidemiologic studies have suggested that beryllium and its compounds could be human carcinogens. In a study that covered 15 regions of the U.S., a significant correlation was found between cancers of the breast, bone and uterus and the concentration and detection frequency of beryllium in drinking water. However, imperfect analytical and sampling methods used in the study prompted the U.S. EPA to conclude that these results are not proof of cause and effect relationships between cancer and beryllium in drinking water. Studies in workers exposed to beryllium, mostly via inhalation, have shown significant increases in observed over expected lung cancer incidences. The U.S. EPA, in evaluating the total database for the association of lung

cancer with occupational exposure to beryllium, noted several limitations, but concluded that the results must be considered to be at least suggestive of a carcinogenic risk to humans.

Based on sufficient evidence for animals and inadequate evidence for humans, beryllium has been placed in the EPA weight-of-evidence classification B2, probable human carcinogen. For inhalation exposure, the unit the cancer slope factor is 8.4 $(mg/kg/day)^{-1}$. The U.S. EPA does not currently publish an oral cancer slope factor for beryllium.

35.0 CADMIUM

35.1 Pharmacokinetics

Estimates of cadmium uptake by the respiratory tract range from 10 to 50 percent; uptake is greatest for fumes and small particles and least for large dust particles. GI absorption of ingested cadmium is ordinarily 5 to 8 percent, but may reach 20 percent in cases of serious dietary ion deficiency. Highest tissue levels are normally found in the kidneys followed by the liver, although levels in the liver may exceed those in the kidneys of persons suffering from cadmium-induced renal dysfunction. The half-life of cadmium in the kidneys and liver may be as long as 10-30 years. Fecal and urinary excretion of cadmium are approximately equivalent to normal humans exposed to small amounts. Urinary excretion increases markedly in humans with cadmium-induced renal disease.

35.2 Noncancer Toxicity

Acute inhaltion exposure to fumes or particles of cadmium induces respiratory symptoms, general weakness, and, in severe cases, respiratory insufficiency, shock, and death. Acute oral exposure induces GI disturbances. Chronic inhalation exposure induces pulmonary emphysema, and chronic exposure by either route consistently produces renal tubular disease in humans and laboratory animals. Proteinuria is a reliable early indicator of cadmium-induced kidney disease. The combination of pulmonary emphysema and renal tubular disease, if severe, may result in early mortality. Painful osteomalacia and osteoporosis may arise from altered metabolism of bone minerals secondary to renal damage. The combination of renal and skeletal damage is called itai-itai disease in Japan. Cadmium exposure has been associated with liver damage, but the liver appears to be less sensitive than the kidney. The kidney is the primary target organ of cadmium toxicity. The EPA derived chronic oral RfD values of 0.0005 mg/kg/day for cadmium ingested in water and 0.001 mg/kg/day for cadmium ingested in food, based on a toxicokinetic

model that predicted NOAELs from renal cortical concentration of cadmium. The different RfD values reflect assumed differences in GI absorption of cadmium from water (5 percent) and food (2.5 percent). The EPA currently employs an inhalation reference dose of 5.7E-5 mg/kg/day for cadmium.

35.3 *Carcinogenicity*

Carcinogenicity data in humans consist of several occupational studies that associate cadmium exposure with lung cancer, but concomitant exposure to other carcinogenic chemicals and smoking were not adequately controlled. Other occupational studies reported significantly increased risk of prostatic cancer, but this effect was not observed in the largest occupational study of workers exposed to high levels. The animal data consist of an inhalation study in rats that showed a significant increase in lung tumors, and several parenteral injection studies that produced injection site tumors. No evidence of carcinogenicity, however, was observed in seven oral studies in rats and mice. The EPA classifies cadmium a cancer weight-of-evidence Group B1 substance for inhalation exposure on the basis of limited evidence of carcinogenicity in humans and sufficient evidence in animals. The data were insufficient to classify cadmium as carcinogenic to humans exposed by the oral route. An inhalation unit risk of 0.0018 mg/m^3, equivalent to 6.3 (mg/kg/day)$^{-1}$, was derived from an occupational exposure study assuming an inhalation rate of 20 m^3/day and a body weight of 70 kg for humans.

36.0 CHROMIUM

36.1 Noncancer Toxicity

In nature, chromium (III) predominates over chromium (VI). Little chromium (VI) exists in biological materials, except shortly after exposure, because reduction to chromium (III) occurs rapidly. Chromium (III) is considered a nutritionally essential trace element and is considerably less toxic than chromium (VI). No effects were observed in rats consuming 5% chromium (III)/kg/day in the diet for over two years. The No-Observed-Effect-Level (NOEL) of 5% Cr_2O_3 was the basis for a verified chronic oral RfD of 1.5 mg/kg/day. The same NOEL and an uncertainty factor of 1000 were the basis for a provisional subchronic oral RfD of 1 mg/kg/day.

Acute oral exposure of humans to high doses of chromium (VI) induced neurological effects, GI hemorrhage and fluid loss, and kidney and liver effects. Parenteral dosing of animals with chromium (VI) is selectively toxic to the kidney tubules. An NOAEL of 2.4 mg chromium (VI)

/kg/day in a one-year drinking water study in rats and an uncertainty factor of 500 was the basis of a verified RfD of 0.003 mg/kg/day for chronic oral exposure.

Occupational (inhalation and dermal) exposure to chromium (III) compounds induced dermatitis. Similar exposure to chromium (VI) induced ulcerative and allergic contact dermatitis, irritation of the upper respiratory tract including ulceration of the mucosa and perforation of the nasal septum, and possibly kidney effects. An inhalation RfC values has not been determined for chromium (III), however, EPA has established an inhalation RfD of 3.0E-5 mg/kg/day for chromium (VI).

A target organ was not identified for chromium (III). The kidney appears to be the principal target organ for repeated oral dosing with chromium (VI). Additional target organs for dermal and inhalation exposure include the skin and respiratory tract.

36.2 Carcinogenicity

Data were not located regarding the carcinogenicity of chromium (III). The EPA classifies chromium (VI) in cancer weight-of-evidence Group A (human carcinogen), based on the consistent observation of increased risk of lung cancer in occupational studies of workers in chromate produc-tion or the chrome pigment industry. Parenteral dosing of animals with chromium (VI) compounds consistently induced injection-site tumors. There is no evidence that oral exposure to chromium (VI) induces cancer. An inhala-tion unit risk of 0.012 $(mg/m^3)^{-1}$, equivalent to 41 $(mg/kg/day)^{-1}$, assuming humans inhale 20 m3/day and weigh 70 kg, was based on increased risk of lung cancer deaths in chromate production workers.

37.0 COBALT

Everyone is exposed to low levels of cobalt in air, water, and food. Exposure to higher levels of cobalt occurs in the workplace. Cobalt has both beneficial and harmful effects on health. At low levels, it is part of Vitamin B12, which is essential for good health; at high levels, it may harm the lungs. This chemical has been found in at least 336 of 1,416 National Priorities List sites identified by the Environmental Protection Agency.

37.1 Noncarcinogenic Toxicity

Cobalt has both beneficial and harmful effects on human health. Cobalt is beneficial because it is part of Vitamin B12. Cobalt has also been used as a treatment for anemia, because it causes red

blood cells to be produced. Exposure to high levels of cobalt can harm your health. Effects on the lungs, including asthma, pneumonia, and wheezing, have been found in workers who breathed high levels of cobalt in the air. In the 1960s, some breweries added cobalt to beer to stabilize the foam. Some people who drank large quantities of the beer experienced nausea, vomiting, and serious effects on the heart. However, effects on the heart were not seen in people with anemia or pregnant women treated with cobalt. Animal studies have found problems with the development of the fetus in animals exposed to high concentrations of cobalt during pregnancy. However, cobalt is also essential for the growth and development of certain animals. The reference dose (RfD) for chronic oral exposures to cobalt is 0.006 mg/kg/day.

37.2 Carcinogenicity

The International Agency for Research on Cancer has determined that cobalt is a possible carcinogen to humans. Studies in animals have shown that cobalt causes cancer when placed directly into the muscle or under the skin. Cobalt did not cause cancer in animals that were exposed to it in the air, in food, or in drinking water. Studies on people are inconclusive regarding cobalt and cancer

38.0 COPPER

Copper occurs naturally in elemental form and as a component of many minerals. Because of its high electrical and thermal conductivity, it is widely used in the manufacture of electrical equipment. Common copper salts, such as the sulfate, carbonate, cyanide, oxide, and sulfide are used as fungicides, as components of ceramics and pyrotechnics, for electroplating, and for numerous other industrial applications. Copper can be absorbed by the oral, inhalation, and dermal routes of exposure. It is an essential nutrient that is normally present in a wide variety of tissues.

38.1 Noncancer Toxicity

In humans, ingestion of gram quantities of copper salts may cause gastrointestinal, hepatic, and renal effects with symptoms such as severe abdominal pain, vomiting, diarrhea, hemolysis, hepatic necrosis, hematuria, proteinuria, hypotension, tachycardia, convulsions, coma, and death. Gastrointestinal disturbances and liver toxicity have also resulted from long-term exposure to drinking water containing 2.2-7.8 mg Cu/L. The chronic toxicity of copper has been characterized in patients with Wilson's disease, a genetic disorder causing copper accumulation in tissues. The

clinical manifestations of Wilson's disease include cirrhosis of the liver, hemolytic anemia, neurologic abnormalities, and corneal opacities. In animal studies, oral exposure to copper caused hepatic and renal accumulation of copper, liver and kidney necrosis at doses of >=100 mg/kg/day; and hematological effects at doses of 40 mg/kg/day.

Acute inhalation exposure to copper dust or fumes at concentrations of 0.075-0.12 mg Cu/m^3 may cause metal fume fever with symptoms such as cough, chills and muscle ache. Among the reported effects in workers exposed to copper dust are gastrointestinal disturbances, headache, vertigo, drowsiness. Vineyard workers chronically exposed to Bordeaux mixture (copper sulfate and lime) exhibit degenerative changes of the lungs and liver. Dermal exposure to copper may cause contact dermatitis in some individuals.

The oral reference dose (RfD) for elemental copper of 0.04 has been developed by USEPA National Center for Environmental Assessment (NCEA). The EPA established an action level of 1300 ug/L for drinking water. Data were insufficient to derive a Reference concentration (RfC) for copper.

38.2 Carcinogenicity

No suitable bioassays or epidemiological studies are available to assess the carcinogenicity of copper. Therefore, U.S. EPA has placed copper in weight-of-evidence group D, not classifiable as to human carcinogenicity.

39.0 IRON

39.1 Noncancer Toxicity

Iron is potentially toxic in all forms and by all routes of exposure. Inorganic iron is a poison by the intraperitoneal route. The inhalation of large amounts of iron dust may result in iron pneumoconiosis or arc welders lung. Chronic exposure to excess levels of iron (>50-100 mg Iron/day) can result in pathological deposition of iron in tissues. The target organs are the pancreas and liver.

Iron compounds are of varying toxicity. Iron oxides are a potential risk in all industrial settings. In general, ferrous compounds are more toxic than ferric compounds. Acute exposure to excessive levels of ferrous compounds can cause liver and kidney damage, altered respiratory rates and

convulsions. An oral RfD of 0.3 mg/kg/day has been published for iron by the EPA based on based on allowable intakes rather than adverse effect levels. No inhalation RfD has been established for iron.

39.2 Carcinogenicity

Some iron compounds are suspected human carcinogens. Iron dust is an experimental neoplastigen and an increased incidence of lung cancer has been associated with exposure to iron dust. Iron oxide is an experimental tumorigen and a suspected human carcinogen. EPA has not published oral or inhalation slope factors for iron.

40.0 MANGANESE

40.1 Noncancer Toxicity

Manganese is nutritionally required in humans for normal growth and health. Humans exposed to approximately 0.8 mg manganese/kg/day in drinking water exhibited lethargy, mental disturbances (1/16 committed suicide), and other neurologic effects. The elderly appeared to be more sensitive than children. Oral treatment of laboratory rodents induced biochemical changes in the brain, but rodents did not exhibit the neurological signs exhibited by humans. Occupational exposure to high concentrations in air induced a generally typical spectrum of neurological effects and an increased incidence of pneumonia.

EPA has established an oral RfD of 0.02 mg/kg/day for manganese based on drinking water and an oral RfD of 0.14 mg/kg/day based on food. The EPA presented a verified chronic inhalation RfC based on a LOAEL for impairment of neurobehaviorial function in occupationally exposed humans. The inhalation RfC is equivalent to 1.43E-5 mg/kg/day, assuming humans inhale 20 m^3 of air/day and weigh 70 kg. The CNS and respiratory tract are target organs of inhalation exposure to manganese.

40.2 Carcinogenicity

The EPA classifies manganese in cancer weight-of-evidence Group D (not classifiable as to carcinogenicity to humans). Quantitative cancer risk estimates are not derived from Group D chemicals.

41.0 MERCURY

Mercury is a naturally occurring element existing in multiple forms and in various oxidation states. It is used in a wide variety of products and processes. In the environment, mercury may undergo transformations among its various forms and among its oxidation states. Exposure to mercury may occur in both occupational and environmental settings, the latter primarily involving dietary exposure.

41.1 Noncancer Toxicity

Absorption, distribution, metabolism, and excretion of mercury is dependent upon its form and oxidation state. Organic forms of mercury are more readily absorbed than are inorganic forms. Ingestion of mercury metal is usually without effect. Ingestion of inorganic salts may cause severe gastrointestinal irritation, renal failure, and death with acute lethal doses in humans ranging from 1 to 4 g. Mercuric (divalent) salts are usually more toxic than are mercurous (monovalent) salts. Mercury is also known to induce hypersensitivity reactions such as contact dermatitis and acrodynia (pink disease). Inhalation of mercury vapor may cause irritation of the respiratory tract, renal disorders, central nervous system effects characterized by neurobehavioral changes, peripheral nervous system toxicity, renal toxicity (immunologic glomerular disease), and death. Toxicity resulting from subchronic and chronic exposure to mercury and mercury compounds usually involves the kidneys and/or nervous system, the specific target and effect being dependent on the form of mercury. Organic mercury, especially methyl mercury, rapidly enters the central nervous system resulting in behavioral and neuromotor disorders. The developing central nervous system is especially sensitive to this effect, as documented by the epidemiologic studies in Japan and Iraq where ingestion of methyl mercury-contaminated food resulted in severe toxicity and death in adults and severe central nervous system effects in infants. Blood mercury levels of <10 µg/dL and 300 µg/dL corresponded to mild effects and death, respectively. Teratogenic effects due to organic or inorganic mercury exposure do not appear to be well documented for humans or animals, although some evidence exists for mercury-induced menstrual cycle disturbances and spontaneous abortions. A subchronic and chronic oral RfD of 0.0001 mg/kg/day for methyl mercury is based on a benchmark dose of 1.1 µg/kg/day relative to neurologic developmental abnormalities in human infants. A subchronic and chronic oral RfD of 0.0003 mg/kg/day for mercuric chloride is based on immunologic glomerulonephritis. A subchronic and chronic inhalation RfC of 0.0003 mg Hg/m^3 for inorganic mercury is based on neurological disorders (increased frequency of intention tremors) following long-term occupational exposure to mercury vapor. An inhalation RfC for methyl mercury has not been determined.

41.2 Carcinogenicity

No data were available regarding the carcinogenicity of mercury in humans or animals. EPA has placed inorganic mercury in weight-of-evidence classification D, not classifiable as to human carcinogenicity. Weight-of-evidence classifications of C (possible human carcinogen) have been assigned to mercuric chloride and methyl mercury by EPA based upon limited evidence of carcinogenicity in rodents. No slope factors have been calculated.

42.0 NICKEL AND NICKEL COMPOUNDS

42.1 Noncancer Toxicity

Nickel is a naturally occurring element that may exist in various mineral forms. It is used in a wide variety of applications including metallurgical processes and electrical components, such as batteries. Some evidence suggests that nickel may be an essential trace element for mammals. The absorption of nickel is dependent on its physicochemical form, with watersoluble forms being more readily absorbed. The metabolism of nickel involves conversion to various Chemical forms and binding to various ligands. Nickel is excreted in the urine and feces with relative amounts for each route being dependent on the route of exposure and chemical form. Most nickel enters the body via food and water consumption, although inhalation exposure in occupational settings is a primary route for nickel-induced toxicity. In large doses (>0.5 g), some forms of nickel may be acutely toxic to humans when taken orally. Oral LD50 values for rats range from 67 mg nickel/kg (nickel sulfate hexahydrate) to >9000 mg nickel/kg (nickel powder). Toxic effects of oral exposure to nickel usually involve the kidneys with some evidence from animal studies showing a possible developmental/reproductive toxicity effect.

Inhalation exposure to some nickel compounds will cause toxic effects in the respiratory tract and immune system. Inhalation LC50 values for animals range from 0.97 mg nickel/m^3 for rats (6-hour exposure) to 15 mg nickel/m^3 for guinea pigs (time not specified). Acute inhalation exposure of humans to nickel may produce headache, nausea,respiratory disorders, and death. Asthmatic conditions have also been documented for inhalation exposure to nickel. Soluble nickel compounds tend to be more toxic than insoluble compounds. In addition, nickel carbonyl is known to be extremely toxic to humans upon acute inhalation exposure. Data on nickel-induced reproductive/developmental effects in humans following inhalation exposure are equivocal. No clinical evidence of developmental or reproductive toxicity were reported for women working in a

nickel refinery, possible reproductive and developmental effects in humans of occupational exposure to nickel (0.13-0.2 mg nickel/m^3)have been reported. Furthermore, sensitivity reactions to nickel are well documented and usually involve contact dermatitis reactions resulting from contact with nickel-containing items such as cooking utensils, jewelry, coins, etc.

A chronic and subchronic oral reference dose (RfD) of 0.02 mg/kg/day for soluble nickel salts is based on changes in organ and body weights of rats receiving dietary nickel sulfate hexahydrate (5 mg/kg/day) for 2 years. A no-observed-adverse-effect level (NOAEL) and lowest-observed-adverse-effects level (LOAEL) of 5 mg/kg/day and 50 mg/kg/day, respectively, were reported in the key study. An uncertainty factor of 300 reflects interspecies extrapolation uncertainty, protection of sensitive populations, and a modifying factor of 3 for a database deficient in reproductive/developmental studies. An inhalation reference concentration (RfC) for soluble nickel salts is under review by the RfD/RfC Work Group and currently is not available.

42.2 Carcinogenicity

The primary target organs for nickel-induced systemic toxicity are the lungs and upper respiratory tract for inhalation exposure and the kidneys for oral exposure. Other target organs include the cardiovascular system, immune system, and the blood.

Epidemiologic studies have shown that occupational inhalation exposure to nickel dust (primarily nickel subsulfate) at refineries has resulted in increased incidences of pulmonary and nasal cancer. Inhalation studies using rats have also shown nickel subsulfate or nickel carbonyl to be carcinogenic. Based on these data, the EPA has classified nickel subsulfate and nickel refinery dust in weight-of-evidence group A, human carcinogen. Carcinogenicity slope factors of 1.7E+0 and 8.4E-01(mg/kg/day)-1 have been calculated for nickel subsulfide and nickel refinery dust, respectively

43.0 SELENIUM

Selenium is an essential trace element important in many biochemical and physiological processes. Recommended human dietary allowances (average daily intake) for selenium are as follows: infants up to 1 year, 10-15 g; children 1-10 years, 20-30 g; adult males 11-51+ years, 40-70 g; adult females 11-51+ years, 45-55 g; pregnant or lactating women, 65-75 g. There appears

to be a relatively narrow range between levels of selenium intake resulting in deficiency and those causing toxicity.

43.1 Noncancer Toxicity

Toxicity of selenium varies with valence state and water solubility of the compound in which it occurs. The latter can affect gastrointestinal absorption rates. Gastrointestinal absorption in animals and humans for various selenium compounds ranges from about 44% to 95% of the ingested dose. Selenium is found in all tissues of the body; highest concentrations occur in the kidney, liver, spleen, and pancreas. In humans, acute oral exposures can result in excessive salivation, garlic odor to the breath, shallow breathing, diarrhea, pulmonary edema, and death. Other reported signs and symptoms of acute selenosis include tachycardia, nausea, vomiting, abdominal pain, abnormal liver function, muscle aches and pains, irritability, chills, and tremors. General signs and symptoms of chronic selenosis in humans include loss of hair and nails, acropachia (clubbing of the fingers), skin lesions (redness, swelling, blistering, and ulcerations), tooth decay (mottling, erosion and pitting), and nervous system abnormalities attributed to polyneuritis (peripheral anesthesia, acroparaethesia, pain in the extremities, hyperreflexia of the tendon, numbness, convulsions, paralysis, motor disturbances, and hemiplegia). Selenium is teratogenic in birds and possibly also in domesticated animals (pigs, sheep, and cattle), but evidence of teratogenicity in humans and laboratory animals is lacking. However, adverse reproductive and developmental effects (decreased rates of conception, increased rates of fetal resorption, and reduced fetal body weights) have been reported for domesticated and laboratory animals. The Reference Dose (RfD) for chronic oral exposures is 0.005 mg/kg/day for both selenium and selenious acid.

43.2 Carcinogenicity

EPA has placed selenium and selenious acid in Group D, not classifiable as to carcinogenicity in humans while selenium sulfide is placed in Group B2, probable human carcinogen. Quantitative data are, however, insufficient to derive a slope factor for selenium sulfide.

44.0 THALLIUM

44.1 Noncancer Toxicity

Thallium is highly toxic; acute ingestion by humans or laboratory animals induced gastroenteritis, neurological dysfunction, and renal and liver damage. Chronic ingestion of more moderate doses characteristically caused alopecia. Thallium was used medicinally to induce alopecia in cases of ringworm of the scalp, sometimes with disastrous results. In industrial (inhalation, oral, dermal) exposure, neurologic signs preceded alopecia, suggesting that the nervous system is more sensitive than the hair follicle. The EPA presented verified chronic oral RfD values for several thallium compounds (thallium acetate, thallium acetate, thallium carbonate, thallium chloride, thallium nitrate, thallium sulfate, and thallic oxide) based on increased incidence of alopecia and increased serum levels of liver enzymes indicative of hepatocellular damage in rats treated with thallium sulfate for 90 days. Risks from exposure to thallium in the OU2 risk assessment are evaluated using the chronic oral RfD for thallium, 7.0E-5 mg/kg/day, listed in the EPA Region III RBC tables published in April 2002.

44.2 Carcinogenicity

No information was located regarding the carcinogenicity of thallium.

45.0 ZINC

45.1 Pharmacokinetics

Zinc is a nutritionally required trace element. Estimates of the efficiency of GI absorption of zinc in animals range from <10 to 90 percent. Estimates in normal humans range from approximately 20 to 77 percent. The net absorption of zinc appears to be homeostatically controlled, but it is unclear whether GI absorption, intestinal secretion, or both are regulated. Distribution of absorbed zinc is primarily to the liver, with subsequent redistribution to bone, muscle, and kidney. Highest tissue concentrations are found in the prostate. Excretion appears to be principally through the feces, in part from biliary secretion, but the relative importance of fecal and urinary excretion is species-dependent. The half-life of zinc absorbed from the GI tracts of humans in normal zinc homeostasis is approximately 162 to 500 days.

45.2 Noncancer Toxicity

Humans exposed to high concentrations of aerosols of zinc compounds may experience severe pulmonary damage and death. The usual occupational exposure is to freshly formed fumes of zinc, which can induce a reversible syndrome known as metal fume fever. Orally, zinc exhibits a

low order of acute toxicity. Animals dosed with 100 times dietary requirement showed no evidence of toxicity. In humans, acute poisoning from foods or beverages prepared in galvanized containers is characterized by GI upset. Chronic oral toxicity in animals is associated with poor growth, GI inflammation, arthritis, lameness, and a microcytic, hypochromic anemia, possibly secondary to copper deficiency. The EPA calculated an RfD of 0.3 mg/kg/day for chronic oral exposure to zinc, based on anemia in humans.

45.3 Carcinogenicity

The EPA classifies zinc in cancer weight-of-evidence Group D (not classifiable as to carcinogenicity to humans) based on inadequate evidence for carcinogenicity in humans and animals. The human data consist largely of occupational exposure studies not designed to detect a carcinogenic response, and of reports that prostatic zinc concentrations were lower in cancerous than in noncancerous tissue. The animal data consist of several dietary, drinking water, and zinc injection studies, none of which provided convincing data for a carcinogenic response.

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APPENDIX E

ECOLOGICAL RISK ASSESSMENT SUPPORT

APPENDIX E.1

CHEMICAL CLASS INFORMAITION

SEDIMENT UPTAKE FACTORS
NTC GREAT LAKES, ILLINOIS

Chemicals	Fish Uptake Factors[1]		SD Invertebrate Bioaccumulation Factors	SD Invertebrate Bioaccumulation Factors
	Conservative[2]	Average[2]	Conservative[3]	Average[3]
Semivolatile Organics				
1,2-Dichlorobenzene	1.00E+00	1.00E+00	1.00E+00	1.00E+00
1,4-Dichlorobenzene	1.00E+00	1.00E+00	1.00E+00	1.00E+00
2,2'-Oxybis(1-Chloropropane)	1.00E+00	1.00E+00	1.00E+00	1.00E+00
2,4-D	1.00E+00	1.00E+00	1.00E+00	1.00E+00
2-Methylnaphthalene	1.00E+00	1.00E+00	1.00E+00	1.00E+00
2-Methylphenol	1.00E+00	1.00E+00	1.00E+00	1.00E+00
4-Chloro-3-Methylphenol	1.00E+00	1.00E+00	1.00E+00	1.00E+00
4-Nitroaniline	1.00E+00	1.00E+00	1.00E+00	1.00E+00
4-Nitrophenol	1.00E+00	1.00E+00	1.00E+00	1.00E+00
2,4,5-Trichlorophenol	1.00E+00	1.00E+00	1.00E+00	1.00E+00
2,4,6-Trichlorophenol	1.00E+00	1.00E+00	1.00E+00	1.00E+00
2,4,5-T	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Acenaphthene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Acenaphthylene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Anthracene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Benzo(a)anthracene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Benzo(a)pyrene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Benzo(b)fluoranthene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Benzo(g,h,i)perylene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Benzo(k)Fluoranthene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Bis(2-ethylhexyl)phthalate	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Butylbenzyl Phthalate	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Carbazole	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Chrysene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Dibenzo(a,h)Anthracene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Dibenzofuran	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Diethylphthalate	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Di-n-butyl Phthalate	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Di-n-octyl Phthalate	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Dinoseb	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Fluoranthene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Fluorene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Hexachloroethane	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Indeno(1,2,3-cd)pyrene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Naphthalene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Pentachlorophenol			1.00E+00	1.00E+00
Phenanthrene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Phenol	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Pyrene	2.90E-01	2.90E-01	1.00E+00	1.00E+00
Pesticides/ PCBs				
4,4'-DDD	2.80E-01	2.80E-01	1.00E+00	1.00E+00
4,4'-DDE	7.70E+00	7.70E+00	1.00E+00	1.00E+00
4,4'-DDT	1.67E+00	1.67E+00	1.00E+00	1.00E+00
Aldrin	1.80E+00	1.80E+00	1.00E+00	1.00E+00
Alpha-Chlordane	4.77E+00	4.77E+00	1.00E+00	1.00E+00
Aroclor-1232	1.85E+00	1.85E+00	1.86E+01	1.05E+01
Aroclor-1242	1.85E+00	1.85E+00	1.86E+01	1.05E+01
Aroclor-1248	1.85E+00	1.85E+00	1.86E+01	1.05E+01
Aroclor-1254	1.85E+00	1.85E+00	1.86E+01	1.05E+01
Aroclor-1260	1.85E+00	1.85E+00	1.86E+01	1.05E+01
Dieldrin	1.80E+00	1.80E+00	1.00E+00	1.00E+00
Gamma-Chlordane	2.22E+00	2.22E+00	1.00E+00	1.00E+00
Heptachlor	1.80E+00	1.80E+00	1.00E+00	1.00E+00
Endosulfan I	1.80E+00	1.80E+00	1.00E+00	1.00E+00
Endosulfan II	1.80E+00	1.80E+00	1.00E+00	1.00E+00
Endosulfan Sulfate	1.80E+00	1.80E+00	1.00E+00	1.00E+00
Endrin	1.80E+00	1.80E+00	1.00E+00	1.00E+00
Endrin Aldehyde	1.80E+00	1.80E+00	1.00E+00	1.00E+00
Endrin Ketone	1.80E+00	1.80E+00	1.00E+00	1.00E+00
Heptachlor Epoxide	1.80E+00	1.80E+00	1.00E+00	1.00E+00
Methoxychlor	1.80E+00	1.80E+00	1.00E+00	1.00E+00

SEDIMENT UPTAKE FACTORS
NTC GREAT LAKES, ILLINOIS

Chemicals	Fish Uptake Factors[1]		SD Invertebrate Bioaccumulation Factors	SD Invertebrate Bioaccumulation Factors
	Conservative[2]	Average[2]	Conservative[3]	Average[3]
alpha-BHC	1.80E+00	1.80E+00	1.00E+00	1.00E+00
beta-BHC	1.80E+00	1.80E+00	1.00E+00	1.00E+00
delta-BHC	1.80E+00	1.80E+00	1.00E+00	1.00E+00
gamma-BHC (Lindane)	1.80E+00	1.80E+00	1.00E+00	1.00E+00
Toxaphene	1.80E+00	1.80E+00	1.00E+00	1.00E+00
Inorganics				
Aluminum	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Arsenic	1.00E+00	1.00E+00	2.00E-01	4.15E-02
Barium	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Cadmium	1.00E+00	1.00E+00	2.32E+00	1.74E-01
Calcium	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Chromium	1.00E+00	1.00E+00	1.36E-01	2.90E-02
Cobalt	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Copper	1.00E+00	1.00E+00	1.52E+00	4.51E-01
Hexavalent Chromium	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Cyanide	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Iron	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Lead	1.00E+00	1.00E+00	1.76E-01	2.06E-02
Magnesium	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Manganese	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Mercury	1.00E+00	1.00E+00	8.32E-01	3.29E-01
Nickel	1.00E+00	1.00E+00	6.73E-01	1.41E-01
Potassium	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Selenium	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Silver	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Sodium	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Thallium	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Tin	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Vanadium	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Zinc	1.00E+00	1.00E+00	2.18E+00	5.61E-01

Notes:

1 - US EPA, (1997) for all chemicals; conservative value is 90th percentile; average value is median value
2 - Conservative and average refers to the exposure scenarios for which the uptake factors are used.
The invertebrate uptake factors were multiplied by 0.29 to convert the uptake factors for earthworms from dry weight to wet weight
3 - For all chemicals; conservative value is 90th percentile; average value is median value

Default value of 1 is assigned to parameters without uptake factors

APPENDIX E.2

RECEPTOR PROFILES

TABLE E.2-1

CALCULATION OF EXPOSURE PARAMETERS FOR WILDLIFE RECEPTORS
NTC GREAT LAKES, ILLINOIS

Exposure Parameters	Raccoon		Belted Kingfisher
Body Weights (g)	7090	6160	150
	7140	6440	136
	7600	5340	158
	6000	5620	147
	6400	8860	148
	7740	7560	170
	6560	7600	
Minimum	***5340***		***136***
Maximum	***8860***		***170***
Average	***6865***		***152***
Food Ingestion Rate (g/g-day) [1]			0.5
			0.41
Minimum			***0.41***
Maximum			***0.5***
Average			***0.455***
Food Ingestion Rate (kg/day)			
Conservative	***1.6512***		***0.0758***
Average	***1.3388***		***0.0689***
Incidental Sediment Ingestion Rate (kg/day) [2]			
Conservative	***0.1552***		***0.001516***
Average	***0.1258***		***0.001378***
Water Ingestion Rate (g/g-day)	0.082	0.083	0.11
Minimum	***0.082***		***0.11***
Maximum	***0.083***		***0.11***
Average	***0.083***		***0.110***
Water Ingestion Rate (L/day)			
Conservative	***0.5698***		***0.0187***
Average	***0.5664***		***0.0167***
Home Range (Ha) [3]	204	108	2.185
			1.028
			1.03
			0.39
Minimum (acres)	***266.9***		***0.39***
Maximum (acres)	***504.1***		***2.19***
Average (acres)	***385.5***		***1.16***

Notes:

Source of data is USEPA, 1993, except for the incidental sediment ingestion rates which is Beyer, 1993.

1 - Food Ingestion Rate (kg/day) for the raccoon was calculated using the following equation:

$FI = (0.0687)(BW^{0.822})$, where FI = Food Ingestion Rate (kg/day) and BW = Body Weight (kg).

This value was then divided by 0.25 to convert the ingestion rate to a wet weight value.

2 - Incidental Sediment (IS) Ingestion Rate (kg/day) was calculated using the following equations:

$IS = (FI_{cons})(0.094)$, *raccoon conservative*

$IS = (FI_{avg})(0.094)$, raccoon average

$IS = (FI_{cons})(0.02)$, belted kingfisher conservative

$IS = (FI_{avg})(0.02)$, belted kingfisher average

3 - Home range for the kingfisher is presented in km of shoreline.

Ingestion Rates (kg/day or L/day) (if more than 1 ingestion rate is available)
- Conservative value = Max Ingestion Rate (g/g-day)* Avg. Body Weight
- Average value = Avg. Ingestion Rate (g/g-day)*Avg. Body Weight

Ingestion Rates (L/day) (if only 1 ingestion rate is available)
- Conservative value = Ingestion Rate (g/g-day)* Max. Body Weight
- Average value = Ingestion Rate (g/g-day)*Avg. Body Weight

APPENDIX E.3

FOOD CHAIN MODELS

SOURCES AND ENDPOINTS FOR NOAELS AND LOAELS FOR TERRESTRIAL WILDLIFE

Parameters	Concentration (mg/kg-day)	Endpoint	Effect	Chronic/ Subchronic	Species	Primary Reference	Source of Reference
Semivolatiles Organics							
Acenaphthene	175	NOAEL	systemic	subchronic	mouse	USEPA, 1989a	IRIS, 2001
Acenaphthene	350	LOAEL	systemic	subchronic	mouse	USEPA, 1989a	IRIS, 2001
Anthracene	1000	NOAEL	systemic	subchronic	mouse	USEPA, 1989b	IRIS, 2001
Benzo(a)pyrene	10	LOAEL	reproductive	chronic	mouse	Mackenzie and Angevine, 1981	Sample et.al., 1996
Bis(2-ethylhexyl)phthalate	18.33	NOAEL	reproductive	chronic	mouse	Lamb et al., 1987	Sample et.al., 1996
Bis(2-ethylhexyl)phthalate	183.3	LOAEL	reproductive	chronic	mouse	Lamb et al., 1987	Sample et.al., 1996
Bis(2-ethylhexyl)phthalate	1.11	NOAEL	reproductive	chronic	ringed dove	Peakall, 1974	Sample et.al., 1996
Butylbenzylphthalate	159	NOAEL	systemic	subchronic	rat	NTP, 1985a	IRIS, 2001
Butylbenzylphthalate	470	LOAEL	systemic	subchronic	rat	NTP, 1985a	IRIS, 2001
1,2-Dichlorobenzene	120	NOAEL	systemic	chronic	rat	NTP, 1985b	IRIS, 1998
1,4-Dichlorobenzene	300	LOAEL	mortality	chronic	rat	*NTP, 1987*	*ASTDR, 1991*
2,4-D	1	NOAEL	systemic	chronic	rat	Dow Chemical, 1983	IRIS, 2001
2,4-D	5	LOAEL	systemic	chronic	rat	Dow Chemical, 1983	IRIS, 2001
Diethyl phthalate	4583	NOAEL	reproductive	chronic	mouse	Lamb et al., 1987	Sample et.al., 1996
Di-n-butylphthalate	550	NOAEL	reproductive	chronic	mouse	Lamb et al., 1987	Sample et.al., 1996
Di-n-butylphthalate	1833	LOAEL	reproductive	chronic	mouse	Lamb et al., 1987	Sample et.al., 1996
Di-n-butylphthalate	1.11	LOAEL	reproductive	chronic	ringed dove	Peakall, 1974	Sample et.al., 1996
Dinoseb	1	LOAEL	reproductive	chronic	rat	Dow Chemical, 1981a	IRIS, 2001
Fluoranthene	125	NOAEL	systemic	subchronic	mouse	USEPA, 1988	IRIS, 2001
Fluoranthene	250	LOAEL	systemic	subchronic	mouse	USEPA, 1988	IRIS, 2001
Fluorene	125	NOAEL	systemic	subchronic	mouse	USEPA, 1988	IRIS, 2001
Fluorene	250	LOAEL	systemic	subchronic	mouse	USEPA, 1988	IRIS, 2001
Hexachloroethane	1	NOAEL	systemic	subchronic	rat	Gorzinski, et al., 1985	IRIS, 2001
Hexachloroethane	15	LOAEL	systemic	subchronic	rat	Gorzinski, et al., 1985	IRIS, 2001
Isophorone	150	NOAEL	systemic	subchronic	dog	Nor Am Agric. Products, 1972	IRIS, 2001
Isophorone	179	LOAEL	systemic	chronic	rat	NTP, 1984	IRIS, 2001
2-Methylnaphthalene	41	NOAEL	mortality	chronic	rat	Schmahl, 1955	Used naphthalene value
Naphthalene	71	NOAEL	systemic	subchronic	rat	BCL, 1980	IRIS, 2001
Naphthalene	142	LOAEL	systemic	subchronic	rat	BCL, 1980	IRIS, 2001
Phenol	60	NOAEL	body weight	subchronic	rat	NTP, 1983	IRIS, 2001
Phenol	120	LOAEL	body weight	subchronic	rat	NTP, 1983	IRIS, 2001
Pyrene	75	NOAEL	systemic	subchronic	mouse	USEPA, 1989c	IRIS, 2001
Pyrene	125	LOAEL	systemic	subchronic	mouse	USEPA, 1989c	IRIS, 2001
2,4,5-T	3	NOAEL	reproductive	chronic	rat	Kociba et al, 1979	IRIS, 2001
2,4,5-T	10	LOAEL	reproductive	chronic	rat	Kociba et al, 1979	IRIS, 2001
2,4,5-Trichlorophenol	100	NOAEL	systemic	subchronic	rat	McCollister, et al., 1961	IRIS, 2001
2,4,5-Trichlorophenol	300	LOAEL	systemic	subchronic	rat	McCollister, et al., 1961	IRIS, 2001
2,4,6-Trichlorophenol	4.2	NOAEL	reproductive	subchronic	rat	Exon and Koller, 1985	ASTDR, 1989
2,4,6-Trichlorophenol	42	LOAEL	reproductive	subchronic	rat	Exon and Koller, 1985	ASTDR, 1989
Pesticides/PCBs							
Aldrin	0.2	NOAEL	reproductive	chronic	rat	Treon and Cleveland, 1955	Sample et.al., 1996
Aldrin	1	LOAEL	reproductive	chronic	rat	Treon and Cleveland, 1955	Sample et.al., 1996
Aldrin	0.025	LOAEL	systemic	chronic	rat	Fitzhugh et.al., 1964	IRIS, 1999
BHC (*mixed isomers*)	0.137	LOAEL	*reproductive*	*chronic*	*mink*	*Bleavins et al., 1984*	*Sample et.al., 1996*
BHC (mixed isomers)	0.563	NOAEL	reproductive	chronic	Japanese quail	Vos et al., 1971	Sample et.al., 1996
BHC (mixed isomers)	2.25	LOAEL	reproductive	chronic	Japanese quail	Vos et al., 1971	Sample et.al., 1996

Parameters	Concentration (mg/kg-day)	Endpoint	Effect	Chronic/ Subchronic	Species	Primary Reference	Source of Reference
beta-BHC	4	NOAEL	systemic	subchronic	rat	Van Velsen et al., 1986	Sample et.al., 1996
beta-BHC	20	LOAEL	systemic	subchronic	rat	Van Velsen et al., 1986	Sample et.al., 1996
gamma-BHC (lindane)	8	NOAEL	*reproductive*	*chronic*	*rat*	*Palmer et al., 1978*	*Sample et al., 1996*
gamma-BHC (lindane)	20	LOAEL	reproductive	chronic	mallard duck	Chakravarty and Lahiri, 1986	Sample et.al., 1996
Chlordane	2.14	NOAEL	mortality	chronic	red-winged blackbird	Stickel et al., 1983	Sample et.al., 1996
Chlordane	10.7	LOAEL	mortality	chronic	red-winged blackbird	Stickel et al., 1983	Sample et.al., 1996
Chlordane	4.58	NOAEL	reproduction	chronic	mouse	WHO, 1984	Sample et.al., 1996
Chlordane	9.16	LOAEL	reproduction	chronic	mouse	WHO, 1984	Sample et.al., 1996
4,4'-DDT	0.8	NOAEL	reproductive	chronic	rat	Fitzhugh, 1948	Sample et.al., 1996
4,4'-DDT	4	LOAEL	reproductive	chronic	rat	Fitzhugh, 1948	Sample et.al., 1996
4-4'-DDT	0.028	LOAEL	reproduction	chronic	brown pelican	Anderson et al., 1975	Sample et.al., 1996
Dieldrin	0.077	NOAEL	reproduction	chronic	barn owl	Mendenhall et al., 1983	Sample et.al., 1996
Dieldrin	0.2	LOAEL	reproduction	chronic	rat	Treon and Cleveland, 1995	Sample et.al., 1996
Endosulfan	1.5	NOAEL	reproduction	subchronic	rat	Dikshith et al., 1984	Sample et.al., 1996
Endosulfan	10	NOAEL	reproduction	chronic	gray partridge	Abiola, 1992	Sample et.al., 1996
Endrin	0.92	LOAEL	reproduction	chronic	mouse	Good and Ware, 1969	Sample et.al., 1996
Endrin	0.1035	LOAEL	reproduction	chronic	screech owl	Fleming et al., 1982	Sample et.al., 1996
Heptachlor	1	LOAEL	reproduction	chronic	mink	Crum et al., 1993	Sample et al., 1996
Methoxychlor	4	NOAEL	reproduction	chronic	rat	Gray et al., 1988	Sample et.al., 1996
Methoxychlor	8	LOAEL	reproduction	chronic	rat	Gray et al., 1988	Sample et.al., 1996
Toxaphene	8	NOAEL	reproduction	chronic	rat	Kennedy et al., 1973	Sample et.al., 1996
Aroclor-1242	0.685	LOAEL	reproduction	chronic	mink	Bleavins et al., 1980	Sample et.al., 1996
Aroclor-1242	0.41	NOAEL	reproduction	chronic	screech owl	McLane and Hughes, 1980	Sample et.al., 1996
Aroclor-1248	0.1	LOAEL	reproduction	chronic	rhesus monkey	Barsotti et al., 1976	Sample et.al., 1996
Aroclor-1254	1.8	LOAEL	reproductive	chronic	pheasant	Dahlgren et al., 1972	Sample et.al., 1996
Aroclor-1254	0.68	LOAEL	reproduction	chronic	mouse	McCoy et al., 1995	Sample et.al., 1996
Inorganics							
Aluminum	109.7	NOAEL	reproduction	chronic	ringed dove	Carriere et al., 1986	Sample et.al., 1996
Aluminum	19.3	LOAEL	reproductive	chronic	mouse	Ondreicka et al., 1966	Sample et.al., 1996
Antimony	1.25	LOAEL	lifespan	chronic	mouse	Schroeder et al., 1968b	Sample et.al., 1996
Arsenic	1.261	LOAEL	reproductive	chronic	mouse	Schroeder and Mitchner, 1971	Sample et.al., 1996
Arsenic	2.46	NOAEL	mortality	chronic	brown-headed cowbird	USFWS, 1969	Sample et.al., 1996
Arsenic	7.38	LOAEL	mortality	chronic	brown-headed cowbird	USFWS, 1969	Sample et.al., 1996
Barium	5.1	NOAEL	growth	chronic	rat	Perry et al., 1983	Sample et.al., 1996
Barium	198	LOAEL	*mortality*	*subchronic*	*rat*	*Borzelleca et al., 1988*	*Sample et.al., 1996*
Barium	208.26	NOAEL	mortality	subchronic	chicks	Johnson et al., 1960	Sample et.al., 1996
Barium	416.53	LOAEL	mortality	subchronic	chicks	Johnson et al., 1960	Sample et.al., 1996
Beryllium	0.66	NOAEL	systemic	chronic	rat	Schroeder and Mitchner, 1975	Sample et.al., 1996
Cadmium	1	NOAEL	reproduction	chronic	rat	Sutou et al., 1980b	Sample et.al., 1996
Cadmium	10	LOAEL	reproduction	chronic	rat	Sutou et al., 1980b	Sample et.al., 1996
Cadmium	1.45	NOAEL	reproductive	chronic	mallard duck	White and Finely, 1978	Sample et.al., 1996
Cadmium	20	LOAEL	reproductive	chronic	mallard duck	White and Finely, 1978	Sample et.al., 1996
Chromium(III)	1	NOAEL	reproduction	chronic	black duck	Haseltine et al., unpubl.	Sample et.al., 1996
Chromium(III)	5	LOAEL	reproduction	chronic	black duck	Haseltine et al., unpubl.	Sample et.al., 1996
Chromium(VI)	3.28	NOAEL	BW/food cons.	chronic	rat	Mackenzie, 1958	Sample et.al., 1996
Chromium(VI)	131.4	LOAEL	mortality	subchronic	rat	Steven et al., 1976	Sample et.al., 1996

SOURCES AND ENDPOINTS FOR NOAELS AND LOAELS FOR TERRESTRIAL WILDLIFE
PAGE 3 OF 3

Parameters	Concentration (mg/kg-day)	Endpoint	Effect	Chronic/ Subchronic	Species	Primary Reference	Source of Reference
Cobalt	12	LOAEL	growth	chronic	rat	Domingo et al., 1985	Eng. Field Activity,1998
Copper	11.71	NOAEL	reproduction	chronic	mink	Aulerich et al., 1982	Sample et.al., 1996
Copper	15.14	LOAEL	reproduction	chronic	mink	Aulerich et al., 1982	Sample et.al., 1996
Copper	46.97	NOAEL	mortality	chronic	chicks	Mehring et al., 1960	Sample et al., 1996
Copper	61.72	LOAEL	mortality	chronic	chicks	Mehring et al., 1960	Sample et.al., 1996
Cyanide	68.7	NOAEL	reproduction	chronic	rat	Tewe and Maner, 1981	Sample et.al , 1996
Iron	500	LOAEL	unknown	chronic	rabbit	NAS, 1980	
Iron	1000	LOAEL	unknown	chronic	poultry	NAS, 1980	
Lead	8	NOAEL	reproductive	chronic	rat	Azar et al., 1973	Sample et al., 1996
Lead	80	LOAEL	reproductive	chronic	rat	Azar et al., 1973	Sample et.al., 1996
Lead	1.13	NOAEL	reproductive	chronic	Japanese quail	Edens et al., 1982	Sample et.al., 1996
Lead	11.3	LOAEL	reproductive	chronic	Japanese quail	Edens et al., 1982	Sample et.al., 1996
Manganese	997	NOAEL	growth	chronic	Japanese quail	Laskey and Edens, 1985	Sample et.al., 1996
Manganese	88	NOAEL	reproductive	chronic	rat	Laskey et al., 1982	Sample et.al., 1996
Manganese	284	LOAEL	reproductive	chronic	rat	Laskey et al., 1982	Sample et.al., 1996
Mercury	0.064	LOAEL	reproductive	chronic	mallard duck	Heinze, 1979	Sample et.al., 1996
Mercury	0.032	NOAEL	reproductive	chronic	rat	Verschuuren et al., 1976	Sample et.al., 1996
Mercury	0.16	LOAEL	reproductive	chronic	rat	Verschuuren et al., 1976	Sample et.al., 1996
Nickel	40	NOAEL	reproductive	chronic	rat	Ambrose et al., 1976	Sample et.al., 1996
Nickel	80	LOAEL	reproductive	chronic	rat	Ambrose et al., 1976	Sample et.al., 1996
Nickel	77.4	NOAEL	mortality	chronic	mallard duck	Cain and Pafford, 1981	Sample et.al., 1996
Nickel	107	LOAEL	mortality	chronic	mallard duck	Cain and Pafford, 1981	Sample et.al., 1996
Selenium	0.5	NOAEL	reproductive	chronic	mallard duck	Heinz, et al., 1987	Sample et.al., 1996
Selenium	1	LOAEL	reproductive	chronic	mallard duck	Heinz, et al., 1987	Sample et.al., 1996
Selenium	0.2	NOAEL	reproductive	chronic	rat	Rosenfeld and Beath, 1954	Sample et.al., 1996
Selenium	0.33	LOAEL	reproductive	chronic	rat	Rosenfeld and Beath, 1954	Sample et.al., 1996
Silver	18.1	NOAEL	systemic	subchronic	mouse	Rungby, 1984	ATSDR, 1989
Thallium	0.74	LOAEL	reproductive	subchronic	rat	Formigli et al., 1986	Sample et.al., 1996
Tin	23.4	NOAEL	reproductive	chronic	mouse	Davis et al., 1987	Sample et.al., 1996
Tin	35	LOAEL	reproductive	chronic	mouse	Davis et al., 1987	Sample et.al., 1996
Tin	6.76	NOAEL	reproductive	chronic	Japanese quail	Schlatterer et al., 1993	Sample et.al., 1996
Tin	16.9	LOAEL	reproductive	chronic	Japanese quail	Schlatterer et al., 1993	Sample et.al., 1996
Vanadium	2.1	LOAEL	reproductive	chronic	rat	Domingo et al., 1986	Sample et.al., 1996
Vanadium	11.38	NOAEL	mortality,BW	chronic	mallard duck	White and Dieter, 1978	Sample et.al., 1996
Zinc	160	NOAEL	reproductive	chronic	rat	Schlicker and Cox, 1986	Sample et.al., 1996
Zinc	320	LOAEL	reproductive	chronic	rat	Schlicker and Cox, 1986	Sample et.al., 1996
Zinc	14.49	NOAEL	reproductive	chronic	white leghorn hen	Stahl et al., 1990	Sample et.al., 1996
Zinc	130.9	LOAEL	reproductive	chronic	white leghorn hen	Stahl et al., 1990	Sample et.al., 1996

Notes: The NOAELS and LOAELS for the PAHs that do not have values are based on the benzo(a)pyrene values

The NOAELS and LOAELS for the PAHs for birds were based on a study by Trust et.al., 1994 that was referenced in an ecological risk assessment prepared by USEPA Environmental Response Team for the AVTEX Fibers Site in Front Royal, Virginia

Dose=[(If*Cf+Is*Cs+Iw*Cw)H]/BW **Belted Kingfisher**

Body Weight = BW	0.136	kg
Food Ingestion Rate = If	0.07580	kg/day
Water Ingestion Rate = Iw	0.01870	L/day
Soil Ingestion Rate - Is	0.00152	kg/day
Home Range = (HR)	Assume 100% on site	
Contaminated Area = (CA)	Assume equal to home range	

Cs = Contaminant concentration in sediment
Cw = Contaminant concentration in water
Cf = Contaminant conc. in fish (=sed conc.* Biotransfer Factor*% lipid)/average % TOC
Average % TOC and % lipids are not in the Cv equation for inorganics
%TOC used for South Branch = 0.00529, North Branch = 0.0039, Boat Basin = 0.00642
% lipid =0.0356
H=HR/CA (Assume = to 1 for maximum exposure)

SOUTH BRANCH PETTIBONE CREEK
TERRESTRIAL WILDLIFE MODEL HAZARD QUOTIENT CALCULATION
BELTED KINGFISHER - CONSERVATIVE INPUTS
NTC GREAT LAKES, ILLINOIS

Parameter	Max Sed Concentration (mg/kg)	Avg SW Concentration (mg/L)	Biotransfer Factor (sed to fish)	Fish Concentration (mg/kg)	Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL HQ_n	LOAEL HQ_l
SEMIVOLATILE ORGANICS									
BIS(2-ETHYLHEXYL)PHTHALATE	1.30E-01	0.00E+00	1.00E+00	8.75E-01	4.89E-01	1.11E+00	1.11E+01	4.41E-01	4.41E-02
DI-N-BUTYL PHTHALATE	0.00E+00	2.70E-03	1.00E+00	0.00E+00	3.71E-04	1.10E-01	1.10E+00	3.38E-03	3.38E-04
PESITICDES/PCBS									
4,4'-DDD	3.20E-02	5.40E-06	2.80E-01	6.03E-02	3.40E-02	2.80E-03	2.80E-02	1.21E+01	1.21E+00
4,4'-DDE	3.10E-02	1.81E-05	7.70E+00	1.61E+00	8.96E-01	2.80E-03	2.80E-02	3.20E+02	3.20E+01
4,4'-DDT	2.90E-01	2.57E-05	1.67E+00	3.26E+00	1.82E+00	2.80E-03	2.80E-02	6.50E+02	6.50E+01
ALPHA-CHLORDANE	2.40E-03	0.00E+00	4.77E+00	7.70E-02	4.30E-02	2.14E+00	1.07E+01	2.01E-02	4.02E-03
AROCLOR-1248	5.00E-02	0.00E+00	1.85E+00	6.22E-01	3.48E-01	NV	NV	#VALUE!	#VALUE!
AROCLOR-1254	1.40E-01	0.00E+00	1.85E+00	1.74E+00	9.73E-01	1.80E-01	1.80E+00	5.41E+00	5.41E-01
AROCLOR-1260	5.50E-02	0.00E+00	1.85E+00	6.85E-01	3.82E-01	1.80E-01	1.80E+00	2.12E+00	2.12E-01
DIELDRIN	2.90E-03	0.00E+00	1.80E+00	3.51E-02	1.96E-02	7.70E-02	7.70E-01	2.55E-01	2.55E-02
ENDOSULFAN I	0.00E+00	1.00E-05	1.80E+00	0.00E+00	1.38E-06	1.00E+01	1.00E+02	1.38E-07	1.38E-08
ENDOSULFAN II	1.90E-03	0.00E+00	1.80E+00	2.30E-02	1.28E-02	1.00E+01	1.00E+02	1.28E-03	1.28E-04
ENDRIN	1.30E-03	0.00E+00	1.80E+00	1.57E-02	8.79E-03	1.00E-02	1.00E-01	8.79E-01	8.79E-02
ENDRIN ALDEHYDE	4.00E-03	0.00E+00	1.80E+00	4.85E-02	2.71E-02	1.00E-02	1.00E-01	2.71E+00	2.71E-01
GAMMA-CHLORDANE	1.60E-03	0.00E+00	2.22E+00	2.39E-02	1.33E-02	2.14E+00	1.07E+01	6.23E-03	1.25E-03
HEPTACHLOR EPOXIDE	4.60E-04	0.00E+00	1.80E+00	5.57E-03	3.11E-03	NV	NV	#VALUE!	#VALUE!
INORGANICS									
ARSENIC	5.40E+00	2.67E-03	1.00E+00	5.40E+00	3.07E+00	2.46E+00	7.38E+00	1.25E+00	4.16E-01
CADMIUM	1.90E-01	0.00E+00	1.00E+00	1.90E-01	1.08E-01	1.45E+00	2.00E+01	7.45E-02	5.40E-03
CHROMIUM	1.47E+01	3.89E-03	1.00E+00	1.47E+01	8.36E+00	1.00E+00	5.00E+00	8.36E+00	1.67E+00
COPPER	4.62E+01	1.23E-02	1.00E+00	4.62E+01	2.63E+01	4.70E+01	6.17E+01	5.59E-01	4.26E-01
LEAD	5.79E+01	6.67E-03	1.00E+00	5.79E+01	3.29E+01	1.13E+00	1.13E+01	2.91E+01	2.91E+00
MERCURY	2.30E-01	5.45E-05	1.00E+00	2.30E-01	1.31E-01	6.40E-03	6.40E-02	2.04E+01	2.04E+00
NICKEL	1.54E+01	6.42E-03	1.00E+00	1.54E+01	8.76E+00	7.74E+01	1.07E+02	1.13E-01	8.18E-02
ZINC	2.53E+02	5.62E-02	1.00E+00	2.53E+02	1.44E+02	1.45E+01	1.31E+02	9.93E+00	1.10E+00

NV - No Value Established
#VALUE! - Value could not be calculated
Cells are shaded if the EEQ is greater than 1.0.
Surface water inorganics data from unfiltered samples

Definitions:
EEQ - Ecological Effects Quotient
NOAEL - No Observed Adverse Effects Level
LOAEL - Lowest Observed Adverse Effects Level

NORTH BRANCH PETTIBONE CREEK
TERRESTRIAL WILDLIFE MODEL HAZARD QUOTIENT CALCULATION
BELTED KINGFISHER - CONSERVATIVE INPUTS
NTC GREAT LAKES, ILLINOIS

Parameter	Max Sed Concentration (mg/kg)	Avg SW Concentration (mg/L)	Biotransfer Factor (sed to fish)	Fish Concentration (mg/kg)	Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL HQ_n	LOAEL HQ_l
SEMIVOLATILE ORGANICS									
BIS(2-ETHYLHEXYL)PHTHALATE	6.80E-01	0.00E+00	1.00E+00	6.21E+00	3.47E+00	1.11E+00	1.11E+01	3.12E+00	3.12E-01
BUTYLBENZYL PHTHALATE	3.70E-02	0.00E+00	1.00E+00	3.38E-01	1.89E-01	NV	NV	#VALUE!	#VALUE!
CAPROLACTAM	5.70E-02	0.00E+00	1.00E+00	5.20E-01	2.91E-01	NV	NV	#VALUE!	#VALUE!
DIBENZOFURAN	2.50E-01	0.00E+00	1.00E+00	2.28E+00	1.27E+00	NV	NV	#VALUE!	#VALUE!
DI-N-BUTYL PHTHALATE	0.00E+00	2.70E-03	1.00E+00	0.00E+00	3.71E-04	1.10E-01	1.10E+00	3.38E-03	3.38E-04
PHENOL	9.40E-02	0.00E+00	1.00E+00	8.58E-01	4.79E-01	NV	NV	#VALUE!	#VALUE!
PESTICIDES/PCBS									
4,4'-DDD	1.70E-01	5.40E-06	2.80E-01	4.35E-01	2.44E-01	2.80E-03	2.80E-02	8.72E+01	8.72E+00
4,4'-DDE	2.10E-01	1.81E-05	7.70E+00	1.48E+01	8.23E+00	2.80E-03	2.80E-02	2.94E+03	2.94E+02
4,4'-DDT	1.80E+00	2.57E-05	1.67E+00	2.74E+01	1.53E+01	2.80E-03	2.80E-02	5.47E+03	5.47E+02
ALDRIN	6.40E-03	0.00E+00	1.80E+00	1.05E-01	5.87E-02	NV	NV	#VALUE!	#VALUE!
ALPHA-CHLORDANE	6.90E-03	0.00E+00	4.77E+00	3.00E-01	1.68E-01	2.14E+00	1.07E+01	7.83E-02	1.57E-02
AROCLOR-1254	4.40E-01	0.00E+00	1.85E+00	7.43E+00	4.15E+00	1.80E-01	1.80E+00	2.30E+01	2.30E+00
AROCLOR-1260	1.50E-01	0.00E+00	1.85E+00	2.53E+00	1.41E+00	1.80E-01	1.80E+00	7.85E+00	7.85E-01
DIELDRIN	1.70E-03	0.00E+00	1.80E+00	2.79E-02	1.56E-02	7.70E-02	7.70E-01	2.02E-01	2.02E-02
ENDOSULFAN I	1.10E-03	1.00E-05	1.80E+00	1.81E-02	1.01E-02	1.00E+01	1.00E+02	1.01E-03	1.01E-04
ENDOSULFAN II	1.20E-02	0.00E+00	1.80E+00	1.97E-01	1.10E-01	1.00E+01	1.00E+02	1.10E-02	1.10E-03
ENDRIN	2.60E-03	0.00E+00	1.80E+00	4.27E-02	2.38E-02	1.00E-02	1.00E-01	2.38E+00	2.38E-01
ENDRIN ALDEHYDE	3.30E-03	0.00E+00	1.80E+00	5.42E-02	3.03E-02	1.00E-02	1.00E-01	3.03E+00	3.03E-01
GAMMA-CHLORDANE	2.90E-03	0.00E+00	2.22E+00	5.88E-02	3.28E-02	2.14E+00	1.07E+01	1.53E-02	3.06E-03
HEPTACHLOR EPOXIDE	2.00E-04	0.00E+00	1.80E+00	3.29E-03	1.83E-03	NV	NV	#VALUE!	#VALUE!
INORGANICS									
ARSENIC	1.04E+01	2.67E-03	1.00E+00	1.04E+01	5.91E+00	2.46E+00	7.38E+00	2.40E+00	8.01E-01
CADMIUM	4.20E+00	0.00E+00	1.00E+00	4.20E+00	2.39E+00	1.45E+00	2.00E+01	1.65E+00	1.19E-01
CHROMIUM	5.58E+01	3.89E-03	1.00E+00	5.58E+01	3.17E+01	1.00E+00	5.00E+00	3.17E+01	6.34E+00
COPPER	4.77E+02	1.23E-02	1.00E+00	4.77E+02	2.71E+02	4.70E+01	6.17E+01	5.77E+00	4.39E+00
LEAD	3.22E+02	6.67E-03	1.00E+00	3.22E+02	1.83E+02	1.13E+00	1.13E+01	1.62E+02	1.62E+01
MERCURY	4.70E+00	5.45E-05	1.00E+00	4.70E+00	2.67E+00	6.40E-03	6.40E-02	4.17E+02	4.17E+01
NICKEL	2.30E+01	6.42E-03	1.00E+00	2.30E+01	1.31E+01	7.74E+01	1.07E+02	1.69E-01	1.22E-01
SELENIUM	6.60E+00	0.00E+00	1.00E+00	6.60E+00	3.75E+00	4.00E-01	8.00E-01	9.38E+00	4.69E+00
SILVER	3.20E+00	0.00E+00	1.00E+00	3.20E+00	1.82E+00	NV	NV	#VALUE!	#VALUE!
ZINC	2.12E+03	5.62E-02	1.00E+00	2.12E+03	1.21E+03	1.45E+01	1.31E+02	8.32E+01	9.21E+00

NV - No Value Established
#VALUE! - Value could not be calculated
Cells are shaded if the EEQ is greater than 1.0.
Surface water inorganics data from unfiltered samples

Definitions:
EEQ - Ecological Effects Quotient
NOAEL - No Observed Adverse Effects Level
LOAEL - Lowest Observed Adverse Effects Level

BOAT BASIN
TERRESTRIAL WILDLIFE MODEL HAZARD QUOTIENT CALCULATION
BELTED KINGFISHER - CONSERVATIVE INPUTS
NTC GREAT LAKES, ILLINOIS

Parameter	Max Sed Concentration (mg/kg)	Avg SW Concentration (mg/L)	Biotransfer Factor (sed to fish)[1]	Fish Concentration (mg/kg)	Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL HQ_n	LOAEL HQ_l
SEMIVOLATILE ORGANICS									
BIS(2-ETHYLHEXYL)PHTHALATE	6.10E-01	0.00E+00	1.00E+00	3.38E+00	1.89E+00	1.11E+00	1.11E+01	1.70E+00	1.70E-01
DI-N-BUTYL PHTHALATE	0.00E+00	2.70E-03	1.00E+00	0.00E+00	3.71E-04	1.10E-01	1.10E+00	3.38E-03	3.38E-04
PESTICIDES/PCBS									
4,4'-DDD	3.10E-01	5.40E-06	2.80E-01	4.81E-01	2.72E-01	2.80E-03	2.80E-02	9.70E+01	9.70E+00
4,4'-DDE	2.30E-01	1.81E-05	7.70E+00	9.82E+00	5.48E+00	2.80E-03	2.80E-02	1.96E+03	1.96E+02
4,4'-DDT	1.20E-01	2.57E-05	1.67E+00	1.11E+00	6.21E-01	2.80E-03	2.80E-02	2.22E+02	2.22E+01
ALDRIN	4.10E-03	0.00E+00	1.80E+00	4.09E-02	2.29E-02	NV	NV	#VALUE!	#VALUE!
ALPHA-BHC	6.50E-03	0.00E+00	1.80E+00	6.49E-02	3.62E-02	5.60E-01	2.25E+00	6.47E-02	1.61E-02
ALPHA-CHLORDANE	1.10E-02	0.00E+00	4.77E+00	2.91E-01	1.62E-01	2.14E+00	1.07E+01	7.58E-02	1.52E-02
AROCLOR-1254	6.60E-01	0.00E+00	1.85E+00	6.77E+00	3.78E+00	1.80E-01	1.80E+00	2.10E+01	2.10E+00
AROCLOR-1260	2.70E-01	0.00E+00	1.85E+00	2.77E+00	1.55E+00	1.80E-01	1.80E+00	8.59E+00	8.59E-01
BETA-BHC	7.60E-03	0.00E+00	1.80E+00	7.59E-02	4.24E-02	5.60E-01	2.25E+00	7.57E-02	1.88E-02
DELTA-BHC	8.50E-03	0.00E+00	1.80E+00	8.48E-02	4.74E-02	5.60E-01	2.25E+00	8.46E-02	2.11E-02
DIELDRIN	1.30E-02	0.00E+00	1.80E+00	1.30E-01	7.25E-02	7.70E-02	7.70E-01	9.41E-01	9.41E-02
ENDOSULFAN I	8.70E-03	1.00E-05	1.80E+00	8.68E-02	4.85E-02	1.00E+01	1.00E+02	4.85E-03	4.85E-04
ENDOSULFAN II	1.20E-02	0.00E+00	1.80E+00	1.20E-01	6.69E-02	1.00E+01	1.00E+02	6.69E-03	6.69E-04
ENDOSULFAN SULFATE	7.30E-03	0.00E+00	1.80E+00	7.29E-02	4.07E-02	1.00E+01	1.00E+02	4.07E-03	4.07E-04
ENDRIN	1.30E-03	0.00E+00	1.80E+00	1.30E-02	7.25E-03	1.00E-02	1.00E-01	7.25E-01	7.25E-02
ENDRIN KETONE	4.70E-03	0.00E+00	1.80E+00	4.69E-02	2.62E-02	1.00E-02	1.00E-01	2.62E+00	2.62E-01
GAMMA-BHC (LINDANE)	4.60E-03	0.00E+00	1.80E+00	4.59E-02	2.56E-02	2.00E+00	2.00E+01	1.28E-02	1.28E-03
GAMMA-CHLORDANE	8.00E-03	0.00E+00	2.22E+00	9.85E-02	5.50E-02	2.14E+00	1.07E+01	2.57E-02	5.14E-03
METHOXYCHLOR	3.20E-02	0.00E+00	1.80E+00	3.19E-01	1.78E-01	NV	NV	#VALUE!	#VALUE!
INORGANICS									
ARSENIC	9.90E+00	2.67E-03	1.00E+00	9.90E+00	5.63E+00	2.46E+00	7.38E+00	2.29E+00	7.63E-01
CADMIUM	2.20E+00	0.00E+00	1.00E+00	2.20E+00	1.25E+00	1.45E+00	2.00E+01	8.63E-01	6.25E-02
CHROMIUM	2.89E+01	3.89E-03	1.00E+00	2.89E+01	1.64E+01	1.00E+00	5.00E+00	1.64E+01	3.29E+00
COPPER	2.83E+02	1.23E-02	1.00E+00	2.83E+02	1.61E+02	4.70E+01	6.17E+01	3.43E+00	2.61E+00
LEAD	2.89E+02	6.67E-03	1.00E+00	2.89E+02	1.64E+02	1.13E+00	1.13E+01	1.45E+02	1.45E+01
MERCURY	9.50E-01	5.45E-05	1.00E+00	9.50E-01	5.40E-01	6.40E-03	6.40E-02	8.44E+01	8.44E+00
NICKEL	3.15E+01	6.42E-03	1.00E+00	3.15E+01	1.79E+01	7.74E+01	1.07E+02	2.31E-01	1.67E-01
SELENIUM	1.20E+00	0.00E+00	1.00E+00	1.20E+00	6.82E-01	4.00E-01	8.00E-01	1.71E+00	8.53E-01
SILVER	4.20E+00	0.00E+00	1.00E+00	4.20E+00	2.39E+00	NV	NV	#VALUE!	#VALUE!
ZINC	2.07E+03	5.62E-02	1.00E+00	2.07E+03	1.18E+03	1.45E+01	1.31E+02	8.12E+01	8.99E+00

NV - No Value Established
#VALUE! - Value could not be calculated
Cells are shaded if the EEQ is greater than 1.0.
Surface water inorganics data from unfiltered samples

Definitions:
EEQ - Ecological Effects Quotient
NOAEL - No Observed Adverse Effects Level
LOAEL - Lowest Observed Adverse Effects Level

Dose=[(If*Cf+Is*Cs+Iw*Cw)H]/BW **Belted Kingfisher**

Body Weight = (BW)	0.152	kg
Food Ingestion Rate = (If)	0.069	kg/day
Water Ingestion Rate = (Iw)	0.017	L/day
Sediment Ingestion Rate = (Is)	0.001378	kg/day
Home Range = (HR)	Assume 100% on site	
Contaminated Area = (CA)	Assume equal to home range	

Cs = Contaminant concentration in sediment
Cw = Contaminant concentration in water
Cf = Contaminant conc. in fish (=sed conc.* Biotransfer Factor*% lipid)/average % TOC
Average % TOC and % lipids are not in the Cv equation for inorganics
%TOC used for South Branch = 0.00529, North Branch = 0.0039, Boat Basin = 0.00642
% lipid =0.0356
H=HR/CA (Assume = to 1 for maximum exposure)

SOUTH BRANCH PETTIBONE CREEK
TERRESTRIAL WILDLIFE MODEL HAZARD QUOTIENT CALCULATION
BELTED KINGFISHER - AVERAGE INPUTS
NTC GREAT LAKES, ILLINOIS

Parameter	Avg Sed Concentration(1) (mg/kg)	Avg SW Concentration (mg/L)	Biotransfer Factor (sed to fish)	Fish Concentration (mg/kg)	Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL HQ_n	LOAEL HQ_l
SEMIVOLATILE ORGANICS									
BIS(2-ETHYLHEXYL)PHTHALATE	1.05E-01	0.00E+00	1.00E+00	7.07E-01	3.21E-01	1.11E+00	1.11E+01	2.89E-01	2.89E-02
DI-N-BUTYL PHTHALATE	0.00E+00	2.70E-03	1.00E+00	0.00E+00	2.97E-04	1.10E-01	1.10E+00	2.70E-03	2.70E-04
PESITICDES/PCBS									
4,4'-DDD	1.74E-02	5.40E-06	2.80E-01	3.27E-02	1.50E-02	2.80E-03	2.80E-02	5.35E+00	5.35E-01
4,4'-DDE	1.99E-02	1.81E-05	7.70E+00	1.03E+00	4.67E-01	2.80E-03	2.80E-02	1.67E+02	1.67E+01
4,4'-DDT	4.18E-02	2.57E-05	1.67E+00	4.69E-01	2.13E-01	2.80E-03	2.80E-02	7.61E+01	7.61E+00
ALPHA-CHLORDANE	1.72E-03	0.00E+00	4.77E+00	5.54E-02	2.51E-02	2.14E+00	1.07E+01	1.17E-02	2.35E-03
AROCLOR-1248	2.31E-02	0.00E+00	1.85E+00	2.88E-01	1.31E-01	NV	NV	#VALUE!	#VALUE!
AROCLOR-1254	4.05E-02	0.00E+00	1.85E+00	5.05E-01	2.29E-01	1.80E-01	1.80E+00	1.27E+00	1.27E-01
AROCLOR-1260	2.33E-02	0.00E+00	1.85E+00	2.89E-01	1.31E-01	1.80E-01	1.80E+00	7.30E-01	7.30E-02
DIELDRIN	1.64E-03	0.00E+00	1.80E+00	1.99E-02	9.05E-03	7.70E-02	7.70E-01	1.17E-01	1.17E-02
ENDOSULFAN I	0.00E+00	1.00E-05	1.80E+00	0.00E+00	1.10E-06	1.00E+01	1.00E+02	1.10E-07	1.10E-08
ENDOSULFAN II	8.97E-04	0.00E+00	1.80E+00	1.09E-02	4.93E-03	1.00E+01	1.00E+02	4.93E-04	4.93E-05
ENDRIN	2.46E-03	0.00E+00	1.80E+00	2.98E-02	1.35E-02	1.00E-02	1.00E-01	1.35E+00	1.35E-01
ENDRIN ALDEHYDE	2.75E-03	0.00E+00	1.80E+00	3.34E-02	1.51E-02	1.00E-02	1.00E-01	1.51E+00	1.51E-01
GAMMA-CHLORDANE	1.00E-03	0.00E+00	2.22E+00	1.49E-02	6.78E-03	2.14E+00	1.07E+01	3.17E-03	6.34E-04
HEPTACHLOR EPOXIDE	2.30E-04	0.00E+00	1.80E+00	2.79E-03	1.26E-03	NV	NV	#VALUE!	#VALUE!
INORGANICS									
ARSENIC	3.95E+00	2.67E-03	1.00E+00	3.95E+00	1.83E+00	2.46E+00	7.38E+00	7.43E-01	2.48E-01
CADMIUM	7.75E-02	0.00E+00	1.00E+00	7.75E-02	3.58E-02	1.45E+00	2.00E+01	2.47E-02	1.79E-03
CHROMIUM	9.34E+00	3.89E-03	1.00E+00	9.34E+00	4.32E+00	1.00E+00	5.00E+00	4.32E+00	8.63E-01
COPPER	1.78E+01	1.23E-02	1.00E+00	1.78E+01	8.25E+00	4.70E+01	6.17E+01	1.76E-01	1.34E-01
LEAD	3.24E+01	6.67E-03	1.00E+00	3.24E+01	1.50E+01	1.13E+00	1.13E+01	1.32E+01	1.32E+00
MERCURY	1.11E-01	5.45E-05	1.00E+00	1.11E-01	5.15E-02	6.40E-03	6.40E-02	8.05E+00	8.05E-01
NICKEL	8.89E+00	6.42E-03	1.00E+00	8.89E+00	4.11E+00	7.74E+01	1.07E+02	5.31E-02	3.84E-02
ZINC	1.14E+02	5.62E-02	1.00E+00	1.14E+02	5.26E+01	1.45E+01	1.31E+02	3.63E+00	4.02E-01

NV - No Value Established
#VALUE! - Value could not be calculated
Cells are shaded if the EEQ is greater than 1.0.
Surface water inorganics data from unfiltered samples
1 - The lower of the average of all or positive results from Table 7-4 was used

Definitions:
EEQ - Ecological Effects Quotient
NOAEL - No Observed Adverse Effects Level
LOAEL - Lowest Observed Adverse Effects Level

NORTH BRANCH PETTIBONE CREEK
TERRESTRIAL WILDLIFE MODEL HAZARD QUOTIENT CALCULATION
BELTED KINGFISHER - AVERAGE INPUTS
NTC GREAT LAKES, ILLINOIS

Parameter	Avg Sed Concentration(1) (mg/kg)	Avg SW Concentration (mg/L)	Biotransfer Factor (sed to fish)	Fish Concentration (mg/kg)	Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL HQ_n	LO HQ_l
SEMIVOLATILE ORGANICS									
BIS(2-ETHYLHEXYL)PHTHALATE	5.62E-01	0.00E+00	1.00E+00	5.13E+00	2.33E+00	1.11E+00	1.11E+01	2.10E+00	2.10E-01
BUTYLBENZYL PHTHALATE	3.70E-02	0.00E+00	1.00E+00	3.38E-01	1.53E-01	NV	NV	#VALUE!	#VALUE!
CAPROLACTAM	5.70E-02	0.00E+00	1.00E+00	5.20E-01	2.36E-01	NV	NV	#VALUE!	#VALUE!
DIBENZOFURAN	1.18E-01	0.00E+00	1.00E+00	1.08E+00	4.91E-01	NV	NV	#VALUE!	#VALUE!
DI-N-BUTYL PHTHALATE	0.00E+00	2.70E-03	1.00E+00	0.00E+00	2.97E-04	1.10E-01	1.10E+00	2.70E-03	2.70E-04
PHENOL	9.40E-02	0.00E+00	1.00E+00	8.58E-01	3.90E-01	NV	NV	#VALUE!	#VALUE!
PESTICIDES/PCBS									
4,4'-DDD	6.40E-02	5.40E-06	2.80E-01	1.64E-01	7.47E-02	2.80E-03	2.80E-02	2.67E+01	2.67E+00
4,4'-DDE	8.29E-02	1.81E-05	7.70E+00	5.83E+00	2.64E+00	2.80E-03	2.80E-02	9.43E+02	9.43E+01
4,4'-DDT	1.74E-01	2.57E-05	1.67E+00	2.65E+00	1.20E+00	2.80E-03	2.80E-02	4.29E+02	4.29E+01
ALDRIN	6.40E-03	0.00E+00	1.80E+00	1.05E-01	4.77E-02	NV	NV	#VALUE!	#VALUE!
ALPHA-CHLORDANE	2.46E-03	0.00E+00	4.77E+00	1.07E-01	4.85E-02	2.14E+00	1.07E+01	2.27E-02	4.54E-03
AROCLOR-1254	1.20E-01	0.00E+00	1.85E+00	2.03E+00	9.21E-01	1.80E-01	1.80E+00	5.12E+00	5.12E-01
AROCLOR-1260	4.79E-02	0.00E+00	1.85E+00	8.09E-01	3.67E-01	1.80E-01	1.80E+00	2.04E+00	2.04E-01
DIELDRIN	6.93E-04	0.00E+00	1.80E+00	1.14E-02	5.17E-03	7.70E-02	7.70E-01	6.71E-02	6.71E-03
ENDOSULFAN I	1.10E-03	1.00E-05	1.80E+00	1.81E-02	8.20E-03	1.00E+01	1.00E+02	8.20E-04	8.20E-05
ENDOSULFAN II	3.21E-03	0.00E+00	1.80E+00	5.27E-02	2.39E-02	1.00E+01	1.00E+02	2.39E-03	2.39E-04
ENDRIN	2.60E-03	0.00E+00	1.80E+00	4.27E-02	1.94E-02	1.00E-02	1.00E-01	1.94E+00	1.94E-01
ENDRIN ALDEHYDE	3.30E-03	0.00E+00	1.80E+00	5.42E-02	2.46E-02	1.00E-02	1.00E-01	2.46E+00	2.46E-01
GAMMA-CHLORDANE	1.73E-03	0.00E+00	2.22E+00	3.51E-02	1.59E-02	2.14E+00	1.07E+01	7.43E-03	1.49E-03
HEPTACHLOR EPOXIDE	1.67E-04	0.00E+00	1.80E+00	2.74E-03	1.24E-03	NV	NV	#VALUE!	#VALUE!
INORGANICS									
ARSENIC	5.84E+00	2.67E-03	1.00E+00	5.84E+00	2.70E+00	2.46E+00	7.38E+00	1.10E+00	3.66E-01
CADMIUM	7.32E-01	0.00E+00	1.00E+00	7.32E-01	3.38E-01	1.45E+00	2.00E+01	2.33E-01	1.69E-02
CHROMIUM	1.65E+01	3.89E-03	1.00E+00	1.65E+01	7.62E+00	1.00E+00	5.00E+00	7.62E+00	1.52E+00
COPPER	1.56E+02	1.23E-02	1.00E+00	1.56E+02	7.19E+01	4.70E+01	6.17E+01	1.53E+00	1.17E+00
LEAD	1.18E+02	6.67E-03	1.00E+00	1.18E+02	5.45E+01	1.13E+00	1.13E+01	4.82E+01	4.82E+00
MERCURY	3.90E-01	5.45E-05	1.00E+00	3.90E-01	1.81E-01	6.40E-03	6.40E-02	2.82E+01	2.82E+00
NICKEL	1.48E+01	6.42E-03	1.00E+00	1.48E+01	6.83E+00	7.74E+01	1.07E+02	8.83E-02	6.39E-02
SELENIUM	5.00E-01	0.00E+00	1.00E+00	5.00E-01	2.31E-01	4.00E-01	8.00E-01	5.77E-01	2.89E-01
SILVER	6.23E-01	0.00E+00	1.00E+00	6.23E-01	2.88E-01	NV	NV	#VALUE!	#VALUE!
ZINC	7.54E+02	5.62E-02	1.00E+00	7.54E+02	3.49E+02	1.45E+01	1.31E+02	2.41E+01	2.66E+00

NV - No Value Established
#VALUE! - Value could not be calculated
Cells are shaded if the EEQ is greater than 1.0.
Surface water inorganics data from unfiltered samples
1 - The lower of average of all or positive results from Table 7-5 was used

Definitions:
EEQ - Ecological Effects Quotient
NOAEL - No Observed Adverse Effects Level
LOAEL - Lowest Observed Adverse Effects Level

BOAT BASIN
TERRESTRIAL WILDLIFE MODEL HAZARD QUOTIENT CALCULATION
BELTED KINGFISHER - AVERAGE INPUTS
NTC GREAT LAKES, ILLINOIS

Parameter	Avg Sed Concentration(1) (mg/kg)	Avg SW Concentration (mg/L)	Biotransfer Factor (sed to fish)	Fish Concentration (mg/kg)	Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL HQ_n	LOAEL HQ_l
SEMIVOLATILE ORGANICS									
BIS(2-ETHYLHEXYL)PHTHALATE	6.10E-01	0.00E+00	1.00E+00	3.38E+00	1.54E+00	1.11E+00	1.11E+01	1.39E+00	1.39E-01
DI-N-BUTYL PHTHALATE	0.00E+00	2.70E-03	1.00E+00	0.00E+00	2.97E-04	1.10E-01	1.10E+00	2.70E-03	2.70E-04
PESTICIDES/PCBS									
4,4'-DDD	1.17E-01	5.40E-06	2.80E-01	1.82E-01	8.33E-02	2.80E-03	2.80E-02	2.98E+01	2.98E+00
4,4'-DDE	8.65E-02	1.81E-05	7.70E+00	3.69E+00	1.67E+00	2.80E-03	2.80E-02	5.98E+02	5.98E+01
4,4'-DDT	6.38E-02	2.57E-05	1.67E+00	5.91E-01	2.69E-01	2.80E-03	2.80E-02	9.59E+01	9.59E+00
ALDRIN	4.10E-03	0.00E+00	1.80E+00	4.09E-02	1.86E-02	NV	NV	#VALUE!	#VALUE!
ALPHA-BHC	6.50E-03	0.00E+00	1.80E+00	6.49E-02	2.95E-02	5.60E-01	2.25E+00	5.26E-02	1.31E-02
ALPHA-CHLORDANE	3.56E-03	0.00E+00	4.77E+00	9.41E-02	4.27E-02	2.14E+00	1.07E+01	2.00E-02	3.99E-03
AROCLOR-1254	1.16E-01	0.00E+00	1.85E+00	1.19E+00	5.39E-01	1.80E-01	1.80E+00	3.00E+00	3.00E-01
AROCLOR-1260	5.62E-02	0.00E+00	1.85E+00	5.77E-01	2.62E-01	1.80E-01	1.80E+00	1.45E+00	1.45E-01
BETA-BHC	7.89E-03	0.00E+00	1.80E+00	7.88E-02	3.58E-02	5.60E-01	2.25E+00	6.39E-02	1.59E-02
DELTA-BHC	6.07E-03	0.00E+00	1.80E+00	6.06E-02	2.75E-02	5.60E-01	2.25E+00	4.91E-02	1.22E-02
DIELDRIN	4.68E-03	0.00E+00	1.80E+00	4.67E-02	2.12E-02	7.70E-02	7.70E-01	2.76E-01	2.76E-02
ENDOSULFAN I	3.37E-03	1.00E-05	1.80E+00	3.36E-02	1.53E-02	1.00E+01	1.00E+02	1.53E-03	1.53E-04
ENDOSULFAN II	5.39E-03	0.00E+00	1.80E+00	5.38E-02	2.44E-02	1.00E+01	1.00E+02	2.44E-03	2.44E-04
ENDOSULFAN SULFATE	7.30E-03	0.00E+00	1.80E+00	7.29E-02	3.31E-02	1.00E+01	1.00E+02	3.31E-03	3.31E-04
ENDRIN	1.30E-03	0.00E+00	1.80E+00	1.30E-02	5.89E-03	1.00E-02	1.00E-01	5.89E-01	5.89E-02
ENDRIN KETONE	4.70E-03	0.00E+00	1.80E+00	4.69E-02	2.13E-02	1.00E-02	1.00E-01	2.13E+00	2.13E-01
GAMMA-BHC (LINDANE)	4.60E-03	0.00E+00	1.80E+00	4.59E-02	2.09E-02	2.00E+00	2.00E+01	1.04E-02	1.04E-03
GAMMA-CHLORDANE	4.83E-03	0.00E+00	2.22E+00	5.95E-02	2.70E-02	2.14E+00	1.07E+01	1.26E-02	2.52E-03
METHOXYCHLOR	3.20E-02	0.00E+00	1.80E+00	3.19E-01	1.45E-01	NV	NV	#VALUE!	#VALUE!
INORGANICS									
ARSENIC	5.37E+00	2.67E-03	1.00E+00	5.37E+00	2.48E+00	2.46E+00	7.38E+00	1.01E+00	3.36E-01
CADMIUM	6.50E-01	0.00E+00	1.00E+00	6.50E-01	3.01E-01	1.45E+00	2.00E+01	2.07E-01	1.50E-02
CHROMIUM	1.26E+01	3.89E-03	1.00E+00	1.26E+01	5.82E+00	1.00E+00	5.00E+00	5.82E+00	1.16E+00
COPPER	1.16E+02	1.23E-02	1.00E+00	1.16E+02	5.35E+01	4.70E+01	6.17E+01	1.14E+00	8.67E-01
LEAD	1.01E+02	6.67E-03	1.00E+00	1.01E+02	4.66E+01	1.13E+00	1.13E+01	4.12E+01	4.12E+00
MERCURY	2.17E-01	5.45E-05	1.00E+00	2.17E-01	1.00E-01	6.40E-03	6.40E-02	1.57E+01	1.57E+00
NICKEL	1.69E+01	6.42E-03	1.00E+00	1.69E+01	7.81E+00	7.74E+01	1.07E+02	1.01E-01	7.30E-02
SELENIUM	4.30E-01	0.00E+00	1.00E+00	4.30E-01	1.99E-01	4.00E-01	8.00E-01	4.98E-01	2.49E-01
SILVER	9.73E-01	0.00E+00	1.00E+00	9.73E-01	4.50E-01	NV	NV	#VALUE!	#VALUE!
ZINC	6.62E+02	5.62E-02	1.00E+00	6.62E+02	3.06E+02	1.45E+01	1.31E+02	2.11E+01	2.34E+00

NV - No Value Established
#VALUE! - Value could not be calculated
Cells are shaded if the EEQ is greater than 1.0.
Surface water inorganics data from unfiltered samples
1 - The lower of average of all or positive results from Table 7-6 was used

Definitions:
EEQ - Ecological Effects Quotient
NOAEL - No Observed Adverse Effects Level
LOAEL - Lowest Observed Adverse Effects Level

TETRA TECH NUS, INC. **CALCULATION WORKSHEET** PAGE 1 OF 1

CLIENT	JOB NUMBER
Site 17, Pettibone Creek	

SUBJECT: Percent lipid calculation for fish

BASED ON: USEPA, 1997. The Incidence and Severity of Sediment Contamination in Surface Waters of the US. EPA 823-R-97-006.

DRAWING NUMBER:

BY	CHECKED BY	APPROVED BY	DATE
R. Haynie	A. Bernhardt		5-9-02

Percent lipid content in fish

Species	Whole fish % lipid content *
Redbreast Sunfish	3.6
Green Sunfish	3.2
Pumpkinseed	3.9
Longear Sunfish	2.8
Bluegill Sunfish	3.5
Bluegill Sunfish	4.4

3.566 ≈ 3.6% lipid for fish

* Values taken from Appendix C, Table C-3b, USEPA (1997) The Incidence and Severity of Sediment Contamination in Surface Waters of the United States.

APPENDIX E.4

ALTERNATIVE BENCHMARKS

This appendix presents the additional benchmarks/toxicity data that were used to evaluate the chemicals, which were retained as COPCs after the initial screening, to determine if the concentrations warrant further evaluation.

Surface Water

USEPA has established recommended WQC for several contaminants (USEPA, 1999). In addition, other nonregulatory surface water screening values are used to evaluate the surface water data that do not have WQC. The following surface water screening levels (SWSLs) are used to further evaluate potential risks to aquatic receptors in this SERA:

- Recommended Water Quality Criteria (USEPA, 1999)
- Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota, 1996 Revision (Suter and Tsao, 1996)

The Recommended Water Quality Criteria were developed by USEPA to provide states with guidance for developing their own criteria (USEPA, 1999). These values are set to protect the majority of aquatic organisms from adverse impacts from contaminants in the surface water. The recommended Water Quality Criteria for most metals are based on the dissolved portion of the metals.

The Suter and Tsao (1996) benchmarks were calculated using Tier II methodology as described in the U.S. EPA's Proposed Water Quality Guidance for the Great Lakes System (U.S. EPA, 1993). Tier II values are developed so that aquatic benchmarks could be established with fewer data than are required for the U.S. EPA AWQC.

Sediment

Several of the sediment risk screening levels, that are used to select COPCs, are conservative because chemicals detected at concentrations below these levels are not expected to cause any adverse impacts to the benthic community. Because they are conservative, the sediment risk-screening levels are frequently less than background sediment concentrations. Since the objective of the risk screening is to determine if the chemicals at the site are causing a risk to ecological receptors, alternate benchmarks were used to further evaluate the risk associated with chemicals that exceeded the conservative screening levels. The following bullets list the alternate benchmarks that were used to further evaluate chemicals retained as COPCs after the initial screening in this SERA. The paragraphs following the bullets discuss each of the benchmarks in more detail. The table at the end of this Appendix presents the sediment benchmarks that are discussed in this SERA.

- Ontario Sediment Screening [Ontario Ministry of Environment and Energy (OMOE), 1993]
- Florida Sediment Screening Levels (MacDonald, 1994)
- Apparent Effects Thresholds (Cubbage et al., 1997).
- USEPA Great Lakes ARCS Program (USEPA, 1996 as cited in Jones, et al., 1997).

Ontario Sediment Screening Levels

The Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario (OMOE, 1993) are based on freshwater studies. OMOE (1993) establishes three effects levels, as follows:

- *No Effect Level (NEL):* Sediment will not affect fish or sediment-dwelling organisms. In addition, no transfer through the food chain and no effect on water quality are expected.
- *Lowest Effect Level (LEL):* Sediment is considered marginally polluted but will not affect the majority of sediment-dwelling organisms.
- *Severe Effect Level (SEL):* Sediment is considered highly polluted and likely to affect the health of sediment-dwelling organisms.

LEL values were used as the freshwater risk screening levels, when available.

Apparent Effects Thresholds

The sediment screening level for a few of the chemicals is the Apparent Effects Threshold (AET), as presented in the Creation and Analysis of Freshwater Sediment Quality Values in Washington State (Cubbage et al., 1997). The AET is defined as the concentration of a given chemical above which statistically significant ($p<0.05$) biological effects are always expected to occur (Cubbage et al., 1997). The study also generates Probable AETs (PAETs), which were defined as the 95th percentile of values from all stations with no significant biological effects and concentrations greater that the lowest hit level (Cubbage et al., 1997). The AETs and PAETs in Cubbage et al. (1997) are based on Microtox® bioassays or bioassays using amphipods, *Hyalella azteca*. The AETs/PAETs based on Microtox® bioassays are typically lower than the AETs based on amphipods. However, because one of the assessment endpoints for this SERA are benthic macroinvertebrates, the AETs/PAETs based on amphipods are more appropriate screening levels for determining the need for further evaluation of the chemicals at the sites. Table B-3 presents the AETs and PAETs based on amphipods.

AETs also were developed for the Puget Sound (Tetra Tech, 1986). For selenium, the AET for amphipods was listed as greater than 1.0, and the AET for benthic invertabrates was listed as greater than 63. AETs could not be developed for selenium because there were no impacted stations with chemical concentrations above the highest concentration among non-impacted stations.

USEPA Great Lakes ARCS Program

The National Biological Service produced a set of benchmarks for the USEPA Great Lakes National Program Office as part of the Assessment and Remediation of Contaminated Sediment (ARCS) Project (USEPA, 1996 as cited in Jones, et al., 1997). The benchmarks were developed with the same procedures that were used to develop the ER-Ls and ER-Ms (Long et al., 1995) and the AETs (Cubbage et al., 1997). The ARCS Threshold Effect Level (TEL) is similar to the ER-L. The ARCS Probable Effect Level (PEL) is similar to the ER-M. Finally, the high No Effect Concentration (NEC) is similar to the AET.

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SEDIMENT ECOLOGICAL EFFECTS LEVELS

Chemical	OMOE, 1993		Cubbage et al., 1997			ARCS, 1996		
	LEL	SEL[(1)]	AET	PAET	LAET	TEC	PEC	NEC
Semivolatiles (mg/kg)								
Acenaphthene			100	77	4.1			
Acenaphthylene			2.6	2	2.2			
Anthracene	0.22	3.7	41	28	2.8	0.032	0.548	1.7
Benzo(a)anthracene	0.32	14.8	33	14	7.7	0.26	4.2	3.5
Benzo(b)fluoranthene					16			
Benzo(b,k)fluoranthene						0.027		4
Benzo(k)fluoranthene	0.24	13.4			16			
Total Benzofluoranthenes			34	20				
Benzo(g,h,i)perylene	0.17	3.2	21	4.9	1.4	0.29	6.3	3.8
Benzo(a)pyrene	0.37	14.4	25	9.7	11	0.35	0.394	0.44
Chrysene	0.34	4.6	39	19	11	0.5	5.2	4
Dibenzo(a,h)anthracene	0.06	1.3	3.5	2.2	0.23		0.028	0.87
Fluoranthene	0.75	10.2	130	75	21	0.064	0.834	7.5
Fluorene	0.19	1.6	96	73	4.2	0.035	0.652	1.8
Indeno(1,2,3-cd)pyrene	0.2	3.2	15	4.1	0.76	0.078	0.837	3.8
2-Methylnaphthalene								
Naphthalene			140	47	46	0.033	0.687	0.29
Phenanthrene	0.56	9.5	210	110	15			
Phenol			0.048	0.048	0.048			
Pyrene	0.49	8.5	85	46	23	0.57	3.225	6.1
Low MW PAHs			440	330		0.786	3.369	3.04
High MW PAHs			310	170		2.9	4.354	51
Total PAHs	4	100	700	400		3.553	13.66	84.6
Bis(2-ethylhexyl)phthalate					0.75			
Butylbenzyl Phthalate								
Di-n-butyl phthalate			0.043	0.042	0.043			
Di-n-octyl phthalate								
4-Methyl-2-pentanone								
4-Nitrophenol								
2,2'-Oxybis(1-chloropropane)								
2,4,5-Trichlorophenol								
2,4,6-Trichlorophenol								
Carbazole			1.8	1.6	0.14			
Dibenzofuran			32	2.4	32			

SEDIMENT ECOLOGICAL EFFECTS LEVELS

Chemical	OMOE, 1993		Cubbage et al., 1997			ARCS, 1996		
	LEL	SEL[1]	AET	PAET	LAET	TEC	PEC	NEC
Hexachloroethane								
Isophorone								
Pesticides/PCBs (mg/kg)								
2,4'- + 4,4'-DDT	0.008	0.71						
4,4'-DDD	0.008	0.06						
4,4'-DDE	0.005	0.19						
4,4'-DDT								
Total DDT	0.007	0.12						
Aldrin	0.002	0.08						
Aroclor-1016	0.007	0.53						
Aroclor-1232								
Aroclor-1242			0.1	0.1				
Aroclor-1248	0.03	1.5						
Aroclor-1254	0.06	0.34	0.35	0.24				
Aroclor-1260	0.005	0.24						
Total PCBs	0.07	5.3	0.82	0.45		0.032	0.245	0.194
BHC	0.003	0.12						
alpha-BHC	0.006	0.1						
beta-BHC	0.005	0.21						
delta-BHC								
gamma-BHC (Lindane)	0.003	0.01						
Chlordane	0.007	0.06						
Alpha-Chlordane								
Gamma-Chlordane								
Dieldrin	0.002	0.91						
Endosulfan I								
Endosulfan II								
Endosulfan Sulfate								
Endrin	0.003	1.3						
Endrin Aldehyde								
Endrin Ketone								

	OMOE, 1993		Cubbage et al., 1997			ARCS, 1996		
Chemical	**LEL**	**SEL[1]**	**AET**	**PAET**	**LAET**	**TEC**	**PEC**	**NEC**
HCB	0.02	0.24						
Heptachlor								
Heptachlor Epoxide	0.005	0.05	0.26	0.26				
Methoxychlor								
Mirex	0.007	1.3						
Toxaphene								
Dioxins & Furans (mg/kg)								
2,3,7,8-TCDD			8.8E-06	7.2E-06				
Inorganics (mg/kg)								
Aluminum							58030	73160
Antimony			64	35	3			
Arsenic	6	33	150	19	40	12.1	57	92.9
Barium								
Beryllium								
Cadmium	0.6	10	12	9.3	7.6	0.592	11.7	41.1
Chromium	26	110	280	110	280	56	159	312
Cobalt								
Copper	16	110	840	340	840	28	77.7	54.8
Cyanide								
Iron	20000	40000						
Lead	31	250	720	490	260	34.2	396	68.7
Manganese	460	1100	1800	1400	1800	1673	1081	819
Mercury	0.2	2	2.7	1.6	0.56			
Nickel	16	75			46	39.6	38.5	37.9
Selenium								
Silver			4.5	3.9	4.5			
Thallium								
Vanadium								
Zinc	120	820	3200	1000	520	159	1532	541
Ammonia			930	340				

Notes:

1 Values assume 1% organic carbon.

2 ER-L and ER-M values were not used in developing sediment screening levels

3 Blank spaces indicate values are not available

APPENDIX E.5

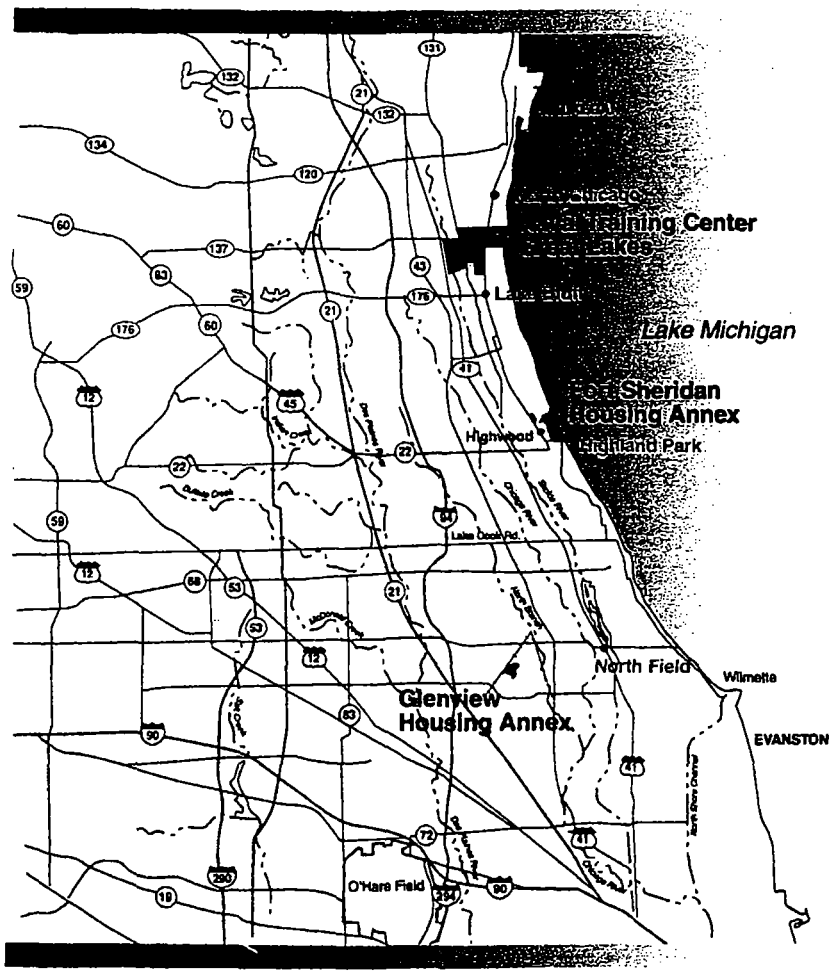
THREATENED OR ENDANGERED SPECIES

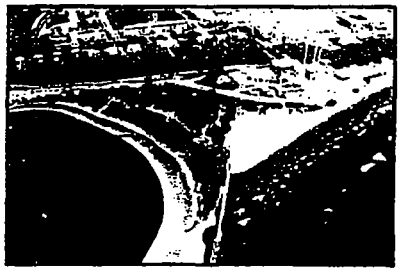
PRELIMINARY
WORKING COPY

ENVIRONMENTAL ASSESSMENT

IMPLEMENTATION OF AN INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN AT NAVAL TRAINING CENTER GREAT LAKES, ILLINOIS

DEPARTMENT OF THE NAVY





ENVIRONMENTAL ASSESSMENT

IMPLEMENTATION OF AN INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN AT NAVAL TRAINING CENTER GREAT LAKES, ILLINOIS

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CHARLESTON, SOUTH CAROLINA

FEBRUARY 2001

Birds

Main Installation

Many species of resident and migratory birds make use of NTC Great Lakes. Recent bird surveys documented 34 species of breeding birds and 100 species of migratory birds within the Main Installation (*Table 3-4*) (U.S. Navy, 1995 and 2000a). The majority of the breeding birds are extremely common in the Chicago area, tolerant of human activities, and able to survive in the edge-dominated landscape found on the Main Installation. The highly developed nature of the Main Installation limits the number of bird species able to make use of it, with the greatest concentration and diversity of species found in Pettibone Ravine and along the lake bluffs and beach areas where human impacts are least. Some of the species listed as migratory may in fact be resident year-round on the Main Installation, but the majority appears to use the ravines, lake bluffs, and beach areas as a resting and feeding area during migrations. During June 2000, a colony of the State-listed endangered common tern (*sterna hirundo*) was documented on the Main Installation in the vicinity of the Outer Harbor. Thirteen nests were counted but failed to fledge (IDNR, 2000).

Fort Sheridan Housing Annex and Glenview Housing Annex

Twenty-three species of birds were documented as breeding birds on FSHA, and 98 as migratory (U.S. Navy, 1995 and 2000a). The majority of these species are extremely common in the Chicago area, tolerant of human activities and able to survive in the edge-dominated landscape. The small number of breeding species (23) is a reflection of the limited amount of vegetation that resembles pre-settlement plant communities in the area. No bird survey was done on GHA, but the species expected are the same as found in the more urban areas of the Main Installation and FSHA.

Mammals

Mammals found on the Main Installation and FSHA are similar because of the similarity of habitats and conditions on each site. The mammalian community is dominated by species that are adapted to edge habitats and human-impacted environments typical in the area. Mammals likely or known to occur on the Main Installation and FSHA are listed in *Table 3-5*. Because of the limited amount of available habitat, most populations of mammals, especially for the larger species listed, are small and transient on the Main Installation and FSHA. Smaller mammals, such as the gray squirrel (*Sciurus carolinensis*), Eastern chipmunk (*Tamias striatus*), and white-footed mouse (*Peromyscus leucopus*), that require less space than larger species can have relatively large populations (U.S. Navy, 1995 and 2000a).

Because of the heavily urbanized nature of the GHA and surrounding areas, the number of species and individuals of mammals likely to be found on the site is small. A survey for mammals on GHA has not been conducted. However, commensal species and those tolerant of the urbanized environment such as the house mouse (*Mus musculus*), gray squirrels, Eastern cottontail rabbits (*Sylvilagus floridanus*), and Eastern chipmunks are the most likely species to be found within GHA (U.S. Navy, 1995).

3.2.3 Threatened and Endangered Species

The USFWS lists four species of animals and four species of plants in Lake and Cook counties as threatened or endangered (USFWS, 1999). Lack of suitable habitat for most of these species and

urbanization surrounding the Main Installation, FSHA, and GHA greatly reduces the possibility of finding any Federal-listed threatened or endangered species on these locations. A county-by-county listing of Federal-listed threatened and endangered species in Illinois is available at *http://www.fws.gov/r3pao/eco_serv/endangrd/index.html.* The Illinois Endangered Species Protection Board (IESPB) listed 299 species of plants as endangered and 58 as threatened in Illinois. In addition, 21 species of fish are listed as endangered and nine species as threatened. Nine species of amphibians and reptiles are listed as endangered, with the same number listed as threatened. Thirty-two species of birds are listed as endangered and nine species are listed as threatened. Six species of mammals are listed as endangered, and three are listed as threatened. The latest lists of State-listed threatened and endangered species can be found on the World Wide Web at *http://www.inhs.uiuc.edu/cbd/main/TnE/* and *http:/dnr.state.il.us/espb/.*

Terrestrial Species

Plants

Three species of plants, the Eastern prairie fringed orchid (*Platanthera leucophaea*), prairie bush-clover (*Lespedeza leptostachya*), and Pitcher's thistle (*Cirsium pitcheri*), are Federal-listed as threatened in Lake and Cook counties (USFWS, 1999). None of these species were documented in a recent floral survey of the Main Installation and FSHA. The eastern prairie fringed orchid requires mesic to wet prairies, and the prairie bush-clover requires dry to mesic prairies with gravelly soils, conditions that do not exist on the Main Installation or FSHA. Potentially suitable conditions for Pitcher's thistle (lakeshore dunes) do exist on the Main Installation and FSHA, however, and this plant eventually may colonize the dunes on either location. This species has been introduced to Lake County (USFWS, 1999).

The 1995 floral survey found five species of plants on the state threatened and endangered species lists within the Main Installation and seven threatened and endangered species on FSHA (*Table 3-6*). Most of these species were found on the lake bluffs and the panne community along the shore of Lake Michigan. Forked aster was found only in Pettibone Ravine at the Main Installation, and black-seeded rice grass only in Bartlett Ravine at FSHA, during the floral survey. A lone white cedar tree was found on the lake bluff of FSHA, but this tree was not expected to survive because of slope erosion occurring around the tree.

Invertebrates

The USFWS currently lists the Karner blue butterfly (*Lycaeides melissa samuelis*) as extirpated in Lake County (USFWS, 1999), but also states that the potential for this butterfly to inhabit the county remains. The loss of oak savannahs and pine barrens to urbanization, and suppression of naturally occurring fires in Lake County is the main reason for the loss of the Karner blue butterfly within Lake County. Because the Main Installation and FSHA lack these types of plant communities, the presence of the Karner blue butterfly is unlikely. In Cook County, the Hine's emerald dragonfly (*Somatochlora hineana*) is Federal-listed as endangered (USFWS, 1999). This insect inhabits calcareous marshes overlaying dolomite bedrock. This type of marsh is not found on GHA, and the presence of the Hine's emerald dragonfly is highly unlikely.

No comprehensive survey for invertebrates has been conducted on the Main Installation, FSHA, and GHA recently, and the presence of any of the State-listed species on NTC Great Lakes is unknown.

Herpetofauna

No species of reptiles or amphibians within Lake and Cook counties are Federal-listed as threatened or endangered (USFWS, 1999). Because no amphibians or reptiles were documented on the Main Installation during recent faunal surveys, the likelihood that any State-listed threatened or endangered species will be found is very small. None of the herptiles documented on FHSA are Federal or State-listed as threatened or endangered.

Birds

No Federal-listed threatened or endangered species of bird are known from Cook or Lake counties. The piping plover (*Charadrius melodus*) and bald eagle (*Haliaeetus leucocephalus*) are potential transient migrants along the shores of Lake Michigan (U.S. Navy, 1998a), though none is likely to nest on the Main Installation or FSHA. The piping plover prefers nesting on undisturbed sandy beaches in proximity to water bodies. The closest proposed habitat for the piping plover is located north of the Main Installation, north of the Waukegan Beach breakwall. Beaches on The Main Installation and FSHA are easily accessible to foot traffic, which creates a relatively low but constant level of disturbance. This disturbance makes the beaches unsuitable as nesting habitat for piping plovers. The areas on and surrounding The Main Installation and FSHA are too urbanized and lack sufficient nesting trees for the bald eagle.

The Main Installation and FSHA are used as feeding and resting sites by migrant birds and are important to the conservation of State-listed threatened and endangered species. Five species identified during a breeding bird survey of the Main Installation and FSHA are State-listed as endangered, and five as threatened (*Table 3-7*) (U.S. Navy, 1995). The investigator conducting the bird survey classified them as migrants, not breeding birds. The investigator believed that these species were using the Main Installation as a feeding and loafing site during migration or while nesting somewhere off-site.

A nesting colony of common terns (*Sterna hirunda*) was documented on the Main Installation during the summer of 2000 (IDNR, 2000). This colony appeared to be a colony that was displaced from a location north of the Main Installation. The colony did not successfully breed during the summer of 2000; however, apparently because human activities on the beach frequently flushed the birds, leaving the nests exposed to predation and causing stress in the nesting pairs.

Mammals

The Indiana bat (*Myotis sodalis*) is considered to be endangered in all counties of Illinois (USFWS, 1999), and is the only Federal-listed threatened or endangered species of mammal in Lake and Cook counties. The normal hibernation habitat (caves and abandoned mines) is not found on the Main Installation, FSHA, and GHA. This bat requires riparian and floodplain forests to form successful maternity colonies and as foraging habitat. Because this type of habitat is not found on NTC Great Lakes, the presence of this bat is highly unlikely.

The most recent faunal survey did not document the presence of any State-listed threatened or endangered mammals on the Main Installation and FSHA (U.S. Navy 1995 and 2000a). Their presence on NTC Great Lakes is unlikely because of the high degree of urbanization of these areas and limited amount of available habitat.

Aquatic Species

The pallid sturgeon (*Scaphirhyncus albus*) is the only Federal-listed endangered species of fish in Illinois (USFWS, 1999). This fish is an inhabitant of large river systems with silty bottoms and having a diversity of depths and velocities formed by braided channels, sand bars, sand flats, and gravel bars. These conditions do not exist on the Main Installation, FSHA, or GHA. Seventeen species of fish are State-listed as endangered, and eight as threatened, within Illinois. Pettibone Creek in its current condition is unsuitable for permanent or self-sustaining populations of fish, and the presence of any of these species in this stream is unlikely. Some of these species may occur in Skokie River, but none were documented on the Main Installation during the 1995 faunal survey.

3.2.4 Wetlands

Main Installation

A wetlands delineation was performed on the Main Installation, excluding Willow Glen Golf Course, in September 1999 (US Navy, 1999a). Five wetland areas, containing 13.972 acres (5.654 ha), were found within the Main Installation. The largest of these wetland areas consists of 12.3 acres (5.0 ha) of emergent wetlands located within the outer harbor shoreline and jetty at the lakefront. The next largest area consists of 1.25 acres (0.51 ha) of emergent and scrub/shrub wetlands, a panne community, found along the shore of Lake Michigan along the North Jetty of the Outer Harbor. The remaining three wetlands, ranging from 0.012 to 0.27 acre (0.005 to 0.11 ha), were found scattered within the interior of the Main Installation. The Chicago District, U.S. Army Corps of Engineers (USACE) verified this delineation in March 2000. Additionally, approximately 5.3 acres (2.1 ha) of wetlands were delineated on Willow Glen Golf Course in 1996 (US Navy, 1996); however, some of these wetlands have received minor changes to their boundaries since that delineation, making the estimate of 5.3 acres (2.1 ha) dated.

Fort Sheridan Housing Annex

Three large wetlands have been identified along the shore of Lake Michigan at FSHA (U.S Navy, 1995), but no wetlands have been identified within the inland areas of the Navy housing areas.

Glenview Housing Annex

No wetlands are located within the GHA.

3.3 SOCIOECONOMIC ENVIRONMENT

3.3.1 Community Setting and Land Use

Land uses on NTC Great Lakes are in four general categories:

- **Improved grounds** are those areas in which development and maintenance mainly are conducted to obtain a pleasing appearance. Improved grounds include all manicured lawns, recreational fields, picnic areas, and areas kept mowed for reasons of security.

TABLE 3-6 STATE-LISTED THREATENED OR ENDANGERED PLANTS DOCUMENTED TO OCCUR ON THE MAIN INSTALLATION AND FORT SHERIDAN HOUSING ANNEX

Common name	Scientific name	Status*	NTC*	FSHA*
Marram grass	*Ammophila breviligulata*	E	X	
Golden sedge	*Carex aurea*	E, PFE		X
Buffalo berry	*Sheperdia canadensis*	E		X
Sea rocket	*Cakile edentula*	T	X	X
Seaside spurge	*Chamaesyce polygonifolia*	E	X	X
Forked aster	*Aster furcatus*	T	X	
Green yellow sedge	*Carex viridula*	E	X	
Common juniper	*Juniperus communis*	T		X
Black-seeded rice grass	*Oryzopsis racemosa*	T		X
White cedar	*Thuja occidentalis*	T		X

*T = threatened, E = endangered, PFE = Proposed Federal Endangered, X = present at this location

Source: U.S. Navy, 1995

TABLE 3-7 STATE-LISTED THREATENED OR ENDANGERED ANIMAL SPECIES DOCUMENTED TO OCCUR ON THE MAIN INSTALLATION AND FORT SHERIDAN HOUSING ANNEX

Common name	Scientific name	Status*	NTC	FSHA
Pied-billed grebe	*Podilymbus podiceps*	T	X	X
Double-crested cormorant	*Phalacrocorax auritus*	T	X	X
Black-crowned night heron	*Nycticocorax nycticocorax*	E	X	
Cooper's hawk	*Accipiter cooperii*	T		X
Bald eagle	*Haliaeetus leucocephalus*	E, FT		X
Osprey	*Pandion haliaetus*	E		X
Common snipe	*Gallinago gallinago*	WL		X
Forster's tern	*Sterna forsteri*	E	X	X
Common tern	*Sterna hirundo*	E	X	
Least flycatcher	*Empidonax minimus*	WL		X
Wood thrush	*Hylocichla mustelina*	WL		X
Veery	*Catharus fuscescens*	T	X	X
Brown creeper	*Certhia americana*	T	X	X
Ovenbird	*Seiurus aurocapillus*	WL		X
Cerulean warbler	*Dendroica cerulea*	WL	X	

*T = State listed threatened, E = State listed endangered, FT = Federal listed threatened, WL = State watch list.

Note: No species of mammal, fish, reptile, amphibian, or invertebrate documented on Main Installation, FSHA, or GHA are on the state threatened or endangered species lists. However, this does not mean that state-listed species cannot occur, or that undocumented individuals of a state-listed species do not occur, on NTC Great Lakes.

Source: U.S. Navy, 1995.