

## **APPENDICES**

*Appendix A*  
**Sample Location Descriptions**

**APPENDIX A**  
**SAMPLE LOCATION DESCRIPTIONS**

Distance Downstream from Scott Street (approx. ft.)	Sample ID	Sample Depth	Side of Creek	Location with Respect to Construction Easement	Sample Notes
	<b>North Side</b>				
12,345	1721 Greenview Circle -A	0"- 9"	North	A	MEC, hand auger, 5/20/03, north side, within construction easement, 1721 Greenview Circle
12,345	1721 Greenview Circle -B	0"- 9"	North	B	MEC, hand auger, 5/20/03, north side, outside construction easement, 1721 Greenview Circle
12,290	1727 Greenview -A	0"- 9"	North	A	MEC, hand auger, 4/28/03, north side, within construction easement, 1727 Greenview Circle
12,290	1727 Greenview -B	0"- 9"	North	B	MEC, hand auger, 4/28/03, north side, outside construction easement, 1727 Greenview Circle
12,180	CC 11A	0"- 9"	North	A	EPA, hand auger, 5/20/03, north side, within construction easement, 1739 Greenview Circle
12,180	CC 11B	0"- 9"	North	B	EPA, hand auger, 5/20/03, north side, outside construction easement, 1739 Greenview Circle
12,140	1743 Greenview -A	0"- 9"	North	A	MEC, hand auger, 5/8/03, north side, within construction easement, 1743 Greenview Circle
12,140	1743 Greenview -B	0"- 9"	North	B	MEC, hand auger, 5/8/03, north side, outside construction easement, 1743 Greenview Circle
11,940	CC 1A	0"- 9"	North	A	EPA, hand auger, 5/20/03, north side, within construction easement, 1763 Greenview Circle
11,940	CC 1B	0"- 9"	North	B	EPA, hand auger, 5/20/03, north side, outside construction easement, 1763 Greenview Circle
11,830	1773 Greenview -A	0"- 9"	North	A	MEC, hand auger, 4/28/03, north side, within construction easement, 1773 Greenview Circle
11,830	1773 Greenview -B	0"- 9"	North	B	MEC, hand auger, 4/28/03, north side, outside construction easement, 1773 Greenview Circle
11,780	CC 2A	0"- 9"	North	A	EPA, hand auger, 5/20/03, north side, within construction easement, 1779 Greenview Circle
11,780	CC 2B	0"- 9"	North	B	EPA, hand auger, 5/20/03, north side, outside construction easement, 1779 Greenview Circle
11,670	1787 Greenview -A	0"- 9"	North	A	MEC, hand auger, 4/28/03, north side, within construction easement, 1787 Greenview Circle
11,670	1787 Greenview -B	0"- 9"	North	B	MEC, hand auger, 4/28/03, north side, outside construction easement, 1787 Greenview Circle
11,620	1793 Greenview -A	0"- 9"	North	A	MEC, hand auger, 6/20/03, north side, within construction easement, 1793 Greenview Circle
11,620	1793 Greenview -B	0"- 9"	North	B	MEC, hand auger, 6/20/03, north side, outside construction easement, 1793 Greenview Circle
11,100	T5-NB-1	0"-12"	North	A	MEC, hand auger 3/9/01, 10' West and 6' North of North-most bridge railing, North Bank of Cypress Creek
10,880	1867 Hubert -A	0"- 9"	North	A	MEC, hand auger, 4/28/03, north side, within construction easement, 1867 Hubert Ave.
10,880	1867 Hubert -B	0"- 9"	North	B	MEC, hand auger, 4/28/03, north side, outside construction easement, 1867 Hubert Ave.
10,790	1915 Hubert -B	0"- 9"	North	B	MEC, hand auger, 6/10/03, north side, outside construction easement, 1915 Hubert Ave., apartments
10,675	1915 Hubert -A	0"- 9"	North	A	MEC, hand auger, 6/10/03, north side, within construction easement, 1915 Hubert Ave., apartments
9,935	CC 3WB	0"- 9"	North	B	EPA, hand auger, 5/20/03, north side, outside construction easement, 1135 University St., apartments
9,935	CC 3WA	0"- 9"	North	B	EPA, hand auger, 5/20/03, north side, outside construction easement, 1135 University St., apartments
9,800	CC 3CA	0"- 9"	North	A	EPA, hand auger, 5/20/03, north side, within construction easement, 1135 University St., apartments
9,750	CC 3EA	0"- 9"	North	A	EPA, hand auger, 5/20/03, north side, within construction easement, 1135 University St., apartments
9,700	T4-NB-1	0"-12"	North	A	MEC, hand auger 3/9/01, North bank of Cypress Creek, 3' due East of North-most bridge railing, University Blvd. Bridge
9,550	1130 University -A	0"- 9"	North	A	MEC, hand auger, 5/30/03, north side, within construction easement, 1130 University St.
9,550	1130 University -B	0"- 9"	North	B	MEC, hand auger, 5/30/03, north side, outside construction easement, 1130 University St.
9,430	2031 Hubert -A	0"- 9"	North	A	MEC, hand auger, 5/30/03, north side, within construction easement, 2031 Hubert Ave.
9,430	2031 Hubert -B	0"- 9"	North	B	MEC, hand auger, 5/30/03, north side, outside construction easement, 2031 Hubert Ave.
9,380	CC 7A	0"- 9"	North	A	EPA, hand auger, 5/20/03, north side, within construction easement, 2037 Hubert Ave.
9,380	CC 7B	0"- 9"	North	B	EPA, hand auger, 5/20/03, north side, outside construction easement, 2037 Hubert Ave.
9,330	CC 6A	0"- 9"	North	A	EPA, hand auger, 5/20/03, north side, within construction easement, 2041 Hubert Ave.
9,330	CC 6B	0"- 9"	North	B	EPA, hand auger, 5/20/03, north side, outside construction easement, 2041 Hubert Ave.

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**SAMPLE LOCATION DESCRIPTIONS**

Distance Downstream from Scott Street (approx. ft.)	Sample ID	Sample Depth	Side of Creek	Location with Respect to Construction Easement	Sample Notes
9,170	CC 5A	0"- 9"	North	A	EPA, hand auger, 5/20/03, north side, within construction easement, 2057 Hubert Ave.
9,170	CC 5B	0"- 9"	North	B	EPA, hand auger, 5/20/03, north side, outside construction easement, 2057 Hubert Ave.
9,130	2061 Hubert -A	0"- 9"	North	A	MEC, hand auger, 5/30/03, north side, within construction easement, 2061 Hubert Ave.
9,130	2061 Hubert -B	0"- 9"	North	B	MEC, hand auger, 5/30/03, north side, outside construction easement, 2061 Hubert Ave.
8,980	2077 Hubert -A	0"- 9"	North	A	MEC, hand auger, 5/30/03, north side, within construction easement, 2077 Hubert Ave.
8,980	2077 Hubert -B	0"- 9"	North	B	MEC, hand auger, 5/30/03, north side, outside construction easement, 2077 Hubert Ave.
8,790	2091 Hubert -A	0"- 9"	North	A	MEC, hand auger, 5/30/03, north side, within construction easement, 2091 Hubert Ave.
8,790	2091 Hubert -B	0"- 9"	North	B	MEC, hand auger, 5/30/03, north side, outside construction easement, 2091 Hubert Ave.
8,670	2101 Hubert -A	0"- 9"	North	A	MEC, hand auger, 5/30/03, north side, within construction easement, 2101 Hubert Ave.
8,670	2101 Hubert -B	0"- 9"	North	B	MEC, hand auger, 5/30/03, north side, outside construction easement, 2101 Hubert Ave.
8,490	CC 4A	0"- 9"	North	A	EPA, hand auger, 5/20/03, north side, within construction easement, 2111 Hubert Ave.
8,460	CC 4B	0"- 9"	North	B	EPA, hand auger, 5/20/03, north side, outside construction easement, 2111 Hubert Ave.
8,350	HA-2	0"-12"	North	A	MEC, Geoprobe, 3/5/01, North bank of Cypress Creek behind OakRidge Apartments, 3' North of fence and 8' South (East) of East-most bollard, 1188 Tunica St.
7,900	1188 Tunica -A	0"- 9"	North	A	MEC, hand auger, 6/20/03, north side, within construction easement, 1188 Tunica St. apartments
7,900	1188 Tunica -B	0"- 9"	North	B	MEC, hand auger, 6/20/03, north side, outside construction easement, 1188 Tunica St. apartments
7,430	1210 Springdale -B	0"- 9"	North	B	MEC, hand auger, 6/4/03, north side, outside construction easement, 1210 Springdale St.
7,330	1210 Springdale -A	0"- 9"	North	A	MEC, hand auger, 6/4/03, north side, within construction easement, 1210 Springdale St.
7,200	2245 Hunter -B	0"- 9"	North	B	MEC, hand auger, 7/2/03, north side, outside construction easement, church property behind 2245 Hunter Ave.
7,110	2245 Hunter -A	0"- 9"	North	A	MEC, hand auger, 7/2/03, north side, within construction easement, church property behind 2245 Hunter Ave.
6,880	2263 Shasta -A	0"- 9"	North	A	MEC, hand auger, 7/2/03, north side, within construction easement, 2263 Shasta Ave.
6,880	2263 Shasta -B	0"- 9"	North	B	MEC, hand auger, 7/2/03, north side, outside construction easement, 2263 Shasta Ave.
6,750	City on Trezevant -A	0"- 9"	North	A	MEC, hand auger, 6/20/03, north side, within construction easement, Parcel ID 042-037-00032, south of residences on Shasta Ave.
6,700	County on Trezevant -B	0"- 9"	North	B	MEC, hand auger, 6/20/03, north side, outside construction easement, Parcel ID 042-037-00031, at Dexter Ave.
6,520	2289 Dexter -A	0"- 9"	North	A	MEC, hand auger, 6/10/03, north side, within construction easement, 2289 Dexter Ave.
6,260	Harris -A	0"- 9"	North	A	MEC, hand auger, 5/28/03, north side, within construction easement, Parcel ID 042-037-00208, at end of Vandale Ave.
6,260	Harris -B	0"- 9"	North	B	MEC, hand auger, 5/28/03, north side, outside construction easement, Parcel ID 042-037-00208, at end of Vandale Ave.
5,830	Syed No. -B	0"- 9"	North	B	MEC, hand auger, 5/28/03, north side, outside construction easement, Parcel ID 042-037-00164, south of residences on Vandale Ave.
5,780	Syed No. -A	0"- 9"	North	A	MEC, hand auger, 5/28/03, north side, within construction easement, Parcel ID 042-037-00164, south of residences on Vandale Ave.
5,380	2397 Gentry -A	0"- 9"	North	A	MEC, hand auger, 6/10/03, north side, within construction easement, 2397 Gentry Ave.
5,380	2397 Gentry -B	0"- 9"	North	B	MEC, hand auger, 6/10/03, north side, outside construction easement, 2397 Gentry Ave.
5,330	2403 Gentry -A	0"- 9"	North	A	MEC, hand auger, 6/10/03, north side, within construction easement, 2403 Gentry Ave.
5,330	2403 Gentry -B	0"- 9"	North	B	MEC, hand auger, 6/10/03, north side, outside construction easement, 2403 Gentry Ave.
5,120	2411 Gentry -A	0"- 9"	North	A	MEC, hand auger, 5/28/03, north side, within construction easement, 2411 Gentry Ave.
5,120	2411 Gentry -B	0"- 9"	North	B	MEC, hand auger, 5/28/03, north side, outside construction easement, 2411 Gentry Ave.

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**SAMPLE LOCATION DESCRIPTIONS**

Distance Downstream from Scott Street (approx. ft.)	Sample ID	Sample Depth	Side of Creek	Location with Respect to Construction Easement	Sample Notes
4,660	City on Devoy -A	0"- 9"	North	A	MEC, hand auger, 5/28/03, north side, within construction easement, parcel immediately west of 2425 Devoy Ave.
4,660	City on Devoy -B	0"- 9"	North	B	MEC, hand auger, 5/28/03, north side, outside construction easement, parcel immediately west of 2425 Devoy Ave.
4,050	1027 Hollywood -B	0"- 9"	North	B	MEC, hand auger, 7/2/03, north side, outside construction easement, 1027 No. Hollywood St.
3,960	1027 Hollywood -A	0"- 9"	North	A	MEC, hand auger, 7/2/03, north side, within construction easement, 1027 No. Hollywood St.
3,900	T3-NB-1	0"-12"	North	A	MEC, hand auger 3/9/01, 10' North and 7' West of North-most bridge railing, North Bank of Cypress Creek
3,280	CC 19B	0"- 9"	North	B	EPA, hand auger, 5/21/03, north side, outside construction easement, church property behind 1005 Meagher St.
3,200	CC 19A	0"- 9"	North	A	EPA, hand auger, 5/21/03, north side, within construction easement, church property behind 1005 Meagher St.
2,790	CC 18A	0"- 9"	North	A	EPA, hand auger, 5/21/03, north side, within construction easement, 959 Meagher St.
2,740	CC 18B	0"- 9"	North	A	EPA, hand auger, 5/21/03, north side, within construction easement, 959 Meagher St.
2,670	957 Meagher -A	0"- 9"	North	A	MEC, hand auger, 5/21/03, north side, within construction easement, 957 Meagher St.
2,510	948 Meagher -B	0"- 9"	North	B	MEC, hand auger, 6/4/03, north side, outside construction easement, 948 Meagher St.
2,440	948 Meagher -A	0"- 9"	North	A	MEC, hand auger, 6/4/03, north side, within construction easement, 948 Meagher St.
2,310	933 Bingham -B	0"- 9"	North	B	MEC, hand auger, 6/4/03, north side, outside construction easement, 933 Bingham St.
1,980	920 Bingham -A	0"- 9"	North	A	MEC, hand auger, 6/10/03, north side, within construction easement, 920 Bingham St.
1,980	920 Bingham -B	0"- 9"	North	B	MEC, hand auger, 6/10/03, north side, outside construction easement, 920 Bingham St.
1,750	MLGW -A	0"- 9"	North	A	MEC, hand auger, 7/2/03, north side, within construction easement, MLGW's North Service Center
1,100	T2-EB-1	0"-12"	North	A	MEC, Geoprobe, 3/5/01, 2' East of Sidewalk beneath Jackson Street Overpass on East side of Cypress Creek at access road bridge.
<b>South Side</b>					
12,310	Evergreen -A	0"- 9"	South	A	MEC, hand auger, 5/8/03, south side, within construction easement, N. Evergreen St., Parcel ID 041-020-00216
12,310	Evergreen -B	0"- 9"	South	A	MEC, hand auger, 5/8/03, south side, within construction easement, N. Evergreen St., Parcel ID 041-020-00216
12,045	1754 Edward -A	0"- 9"	South	A	MEC, hand auger, 5/8/03, south side, within construction easement, City property behind 1754 Edward Ave., Parcel ID 041-020-00218
12,045	1754 Edward -B	0"- 9"	South	A	MEC, hand auger, 5/8/03, south side, within construction easement, City property behind 1754 Edward Ave., Parcel ID 041-020-00218
11,860	1772 Edward -A	0"- 9"	South	A	MEC, hand auger, 4/28/03, south side, within construction easement, City property behind 1772 Edward Ave., Parcel ID 041-020-00218
11,860	1772 Edward -B	0"- 9"	South	A	MEC, hand auger, 4/28/03, south side, within construction easement, City property behind 1772 Edward Ave., Parcel ID 041-020-00218
11,605	1798 Edward -A	0"- 9"	South	A	MEC, hand auger, 5/8/03, south side, within construction easement, County property behind 1798 Edward Ave., Parcel ID 041-020-00221 & -00222
11,605	1798 Edward -B	0"- 9"	South	A	MEC, hand auger, 5/8/03, south side, within construction easement, County property behind 1798 Edward Ave., Parcel ID 041-020-00221 & -00222
11,475	Tax Edward -A	0"- 9"	South	A	MEC, hand auger, 5/8/03, south side, within construction easement, County property, Parcel ID 041-020-00208
11,440	Tax Edward -B	0"- 9"	South	A	MEC, hand auger, 5/8/03, south side, within construction easement, County property, Parcel ID 041-020-00208

**APPENDIX A**  
**SAMPLE LOCATION DESCRIPTIONS**

Distance Downstream from Scott Street (approx. ft.)	Sample ID	Sample Depth	Side of Creek	Location with Respect to Construction Easement	Sample Notes
11,150	VECA -A	0"- 9"	South	A	MEC, hand auger, 4/23/03, south side, within construction easement, Parcel ID 041-020-00230, on Edward Ave. at McLean Blvd.
11,150	VECA -B	0"- 9"	South	A	MEC, hand auger, 4/23/03, south side, within construction easement, Parcel ID 041-020-00230, on Edward Ave. at McLean Blvd.
11,100	T5-SB-1	0"-12"	South	A	MEC, Geoprobe, 3/5/01, 9' South of fence and 18' West of South-most bridge railing, South bank of Cypress Creek
10,820	1858 Edward -B	0"- 9"	South	B	MEC, hand auger, 4/28/03, south side, outside construction easement, 1858 Edward Ave.
10,670	CC 10A	0"- 9"	South	A	EPA, hand auger, 5/20/03, south side, within construction easement, 1876 Edward Ave.
10,670	CC 10B	0"- 9"	South	B	EPA, hand auger, 5/20/03, south side, outside construction easement, 1876 Edward Ave.
10,530	CC 13A	0"- 9"	South	A	EPA, hand auger, 5/21/03, south side, within construction easement, 1894 Edward Ave.
10,530	CC 13B	0"- 9"	South	B	EPA, hand auger, 5/21/03, south side, outside construction easement, 1894 Edward Ave.
10,465	1900 Edward -A	0"- 9"	South	A	MEC, hand auger, 4/23/03, south side, within construction easement, 1900 Edward Ave.
10,465	1900 Edward -B	0"- 9"	South	B	MEC, hand auger, 4/23/03, south side, outside construction easement, 1900 Edward Ave.
10,400	CC 9A	0"- 9"	South	A	EPA, hand auger, 5/20/03, south side, within construction easement, 1906 Edward Ave.
10,400	CC 9B	0"- 9"	South	B	EPA, hand auger, 5/20/03, south side, outside construction easement, 1906 Edward Ave.
10,310	1921 Edward Cove -C	0"- 9"	South	C	MEC, hand auger, 5/21/03, south side, remote from Creek, 1929 Edward Cove. Sample was mis-labeled as 1921.
10,295	CC 15C	0"- 9"	South	C	EPA, hand auger, 5/21/03, south side, remote from Creek, 1939 Edward Cove
10,280	CC 14C	0"- 9"	South	C	EPA, hand auger, 5/21/03, south side, remote from Creek, 1953 Edward Cove
10,220	1930 Edward -A	0"- 9"	South	A	MEC, hand auger, 4/23/03, south side, within construction easement, 1930 Edward Ave.
10,220	1930 Edward -B	0"- 9"	South	B	MEC, hand auger, 4/23/03, south side, outside construction easement, 1930 Edward Ave.
10,095	CC 8A	0"- 9"	South	A	EPA, hand auger, 5/20/03, south side, within construction easement, 1942 Edward Ave.
10,095	CC 8B	0"- 9"	South	B	EPA, hand auger, 5/20/03, south side, outside construction easement, 1942 Edward Ave.
10,030	1950 Edward -A	0"- 9"	South	A	MEC, hand auger, 4/28/03, south side, within construction easement, 1950 Edward Ave.
10,030	1950 Edward -B	0"- 9"	South	B	MEC, hand auger, 4/28/03, south side, outside construction easement, 1950 Edward Ave.
9,965	CC 16A	0"- 9"	South	A	EPA, hand auger, 5/21/03, south side, within construction easement, 1956 Edward Ave.
9,965	CC 16B	0"- 9"	South	B	EPA, hand auger, 5/21/03, south side, outside construction easement, 1956 Edward Ave.
9,900	CC 12A	0"- 9"	South	A	EPA, hand auger, 5/21/03, south side, within construction easement, 1964 Edward Ave.
9,900	CC 12B	0"- 9"	South	B	EPA, hand auger, 5/21/03, south side, outside construction easement, 1964 Edward Ave.
9,805	1970 Edward -A	0"- 9"	South	A	MEC, hand auger, 4/23/03, south side, within construction easement, 1970 Edward Ave.
9,805	1970 Edward -B	0"- 9"	South	B	MEC, hand auger, 4/23/03, south side, outside construction easement, 1970 Edward Ave.
9,710	1992 Edward -A	0"- 9"	South	A	MEC, hand auger, 5/8/03, south side, within construction easement, 1992 Edward Ave.
9,710	1992 Edward -B	0"- 9"	South	B	MEC, hand auger, 5/8/03, south side, outside construction easement, 1992 Edward Ave.
8,530	2116 Howell -B	0"- 9"	South	B	MEC, hand auger, 6/20/03, south side, outside construction easement, 2116 Howell Ave. apartments
8,410	2116 Howell -A	0"- 9"	South	A	MEC, hand auger, 6/20/03, south side, within construction easement, 2116 Howell Ave. apartments
8,320	2134 No. Hubert Cr. -A	0"- 9"	South	A	MEC, hand auger, 5/28/03, south side, within construction easement, 2134 No. Hubert Circle
8,320	2134 No. Hubert Cr. -B	0"- 9"	South	B	MEC, hand auger, 5/28/03, south side, outside construction easement, 2134 No. Hubert Circle

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Distance Downstream from Scott Street (approx. ft.)	Sample ID	Sample Depth	Side of Creek	Location with Respect to Construction Easement	Sample Notes
8,080	2150 Hubert CI -A	0"- 9"	South	A	MEC, hand auger, 6/10/03, south side, within construction easement, 2150 No. Hubert Circle
8,080	2150 Hubert CI -B	0"- 9"	South	B	MEC, hand auger, 6/10/03, south side, outside construction easement, 2150 No. Hubert Circle
7,770	2164 Hubert CI -A	0"- 9"	South	A	MEC, hand auger, 6/4/03, south side, within construction easement, 2164 No. Hubert Circle
7,770	2164 Hubert CI -B	0"- 9"	South	B	MEC, hand auger, 6/4/03, south side, outside construction easement, 2164 No. Hubert Circle
7,600	HA-1	0"-12"	South	A	MEC, Geoprobe, 3/5/01, South bank of Cypress Creek, 18' West and 8' North of North-West Corner of Springdale Street Baptist Church lot, 2' South of South Retaining Wall, 1193 Springdale St.
7,130	1190 Springdale west -A	0"- 9"	South	A	MEC, hand auger, 6/20/03, south side, within construction easement, 1190 Springdale St., parking lot
7,130	1190 Springdale west -B	0"- 9"	South	B	MEC, hand auger, 6/20/03, south side, outside construction easement, 1190 Springdale St., parking lot
6,930	1190 Springdale east -A	0"- 9"	South	A	MEC, hand auger, 6/20/03, south side, within construction easement, 1190 Springdale St., open space east of parking lot
6,930	1190 Springdale east -B	0"- 9"	South	B	MEC, hand auger, 6/20/03, south side, outside construction easement, 1190 Springdale St., open space east of parking lot
6,560	Springwood -A	0"- 9"	South	A	MEC, hand auger, 5/8/03, south side, within construction easement, at the end of abandoned Springwood Cove
6,560	Springwood -B	0"- 9"	South	B	MEC, hand auger, 5/8/03, south side, outside construction easement, at the end of abandoned Springwood Cove
5,970	2304 Brown -A	0"- 9"	South	A	MEC, hand auger, 7/2/03, south side, within construction easement, 2304 Brown Ave.
5,970	2304 Brown -B	0"- 9"	South	B	MEC, hand auger, 7/2/03, south side, outside construction easement, 2304 Brown Ave.
5,530	Syed So. -A	0"- 9"	South	A	MEC, hand auger, 6/20/03, south side, within construction easement, Parcel ID 042-037-00164, north of Staten Ave.
5,530	Syed So. -B	0"- 9"	South	B	MEC, hand auger, 6/20/03, south side, outside construction easement, Parcel ID 042-037-00164, north of Staten Ave.
4,860	2402 Devoy -A	0"- 9"	South	A	MEC, hand auger, 5/28/03, south side, within construction easement, 2402 Devoy St.
4,860	2402 Devoy -B	0"- 9"	South	B	MEC, hand auger, 5/28/03, south side, outside construction easement, 2402 Devoy St.
4,680	1050 Dawes -A	0"- 9"	South	A	MEC, hand auger, 5/28/03, south side, within construction easement, 1050 Dawes St.
4,680	1050 Dawes -B	0"- 9"	South	B	MEC, hand auger, 5/28/03, south side, outside construction easement, 1050 Dawes St.
4,590	1042 Dawes -A	0"- 9"	South	A	MEC, hand auger, 5/28/03, south side, within construction easement, 1042 Dawes St.
4,590	1042 Dawes -B	0"- 9"	South	B	MEC, hand auger, 5/28/03, south side, outside construction easement, 1042 Dawes St.
3,900	T3-SB-1	0"-12"	South	A	MEC, hand auger 3/9/01, 4' South and 4' West of South-most bridge railing, South bank of Cypress Creek
3,670	2466 Vollintine -A	0"- 9"	South	A	MEC, hand auger, 6/10/03, south side, within construction easement, 2466 Vollintine Cove
3,670	2466 Vollintine -B	0"- 9"	South	B	MEC, hand auger, 6/10/03, south side, outside construction easement, 2466 Vollintine Cove
3,450	2482 Vollintine -A	0"- 9"	South	A	MEC, hand auger, 6/4/03, south side, within construction easement, 2482 Vollintine Cove
3,450	2482 Vollintine -B	0"- 9"	South	B	MEC, hand auger, 6/4/03, south side, outside construction easement, 2482 Vollintine Cove
2,470	928 Meagher -A	0"- 9"	South	A	MEC, hand auger, 6/4/03, south side, within construction easement, 928 Meagher St.
2,440	928 Meagher -B	0"- 9"	South	B	MEC, hand auger, 6/4/03, south side, outside construction easement, 928 Meagher St.
2,190	915 Bingham -B	0"- 9"	South	B	MEC, hand auger, 5/30/03, south side, outside construction easement, 915 Bingham St.
2,140	915 Bingham -A	0"- 9"	South	A	MEC, hand auger, 5/30/03, south side, within construction easement, 915 Bingham St.
2,070	CC 17A	0"- 9"	South	A	EPA, hand auger, 5/21/03, south side, within construction easement, 916 Bingham St.
2,070	CC 17B	0"- 9"	South	B	EPA, hand auger, 5/21/03, south side, outside construction easement, 916 Bingham St.
1,860	906 Russell -A	0"- 9"	South	A	MEC, hand auger, 6/10/03, south side, within construction easement, 906 Russell St.
1,860	906 Russell -B	0"- 9"	South	B	MEC, hand auger, 6/10/03, south side, outside construction easement, 906 Russell St.

**APPENDIX A**  
**SAMPLE LOCATION DESCRIPTIONS**

Distance Downstream from Scott Street (approx. ft.)	Sample ID	Sample Depth	Side of Creek	Location with Respect to Construction Easement	Sample Notes
1,770	900 Russell -A	0"- 9"	South	A	MEC, hand auger, 6/4/03, south side, within construction easement, 900 Russell St.
1,770	900 Russell -B	0"- 9"	South	B	MEC, hand auger, 6/4/03, south side, outside construction easement, 900 Russell St.
1,570	892 Russell -A	0"- 9"	South	A	MEC, hand auger, 6/4/03, south side, within construction easement, 892 Russell St.
1,570	892 Russell -B	0"- 9"	South	B	MEC, hand auger, 6/4/03, south side, outside construction easement, 892 Russell St.
1,400	2620 Liberty -A	0"- 9"	South	A	MEC, hand auger, 6/10/03, south side, within construction easement, 2620 Liberty Ave.
1,400	2620 Liberty -B	0"- 9"	South	B	MEC, hand auger, 6/10/03, south side, outside construction easement, 2620 Liberty Ave.
1,100	T2-WB-1	0"-12"	South	A	MEC, Geoprobe, 3/5/01, 2' West of Sidewalk beneath Jackson Street Overpass on West side of Cypress Creek at access road bridge.

**Notes:**

A is within construction easement

B is outside of construction easement

C is remote from Creek and not related to construction easement



***Appendix B***  
**Data Validation Report**



FILE COPY

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**Environmental Services, Inc.**

*155 North Main Street, Suite 202*

*Collierville, TN 38017*

*Phone: (901) 850-5404*

*Fax: (901) 850-5144*

---

**MEMORANDUM**

---

**TO:** Gary Hermann  
**COMPANY:** Memphis Environmental Center, Inc.  
**FROM:** Joe Ricker JR  
**TOPIC:** Analytical Data Quality Assessment and Validation  
Cypress Creek Sub-Area III  
**DATE:** August 27, 2003

---

The following details a data quality assessment and validation for 124 soil samples collected from the above referenced site over the sampling period of April 23, 2003 through July 2, 2003. Additional quality assurance/quality control (QA/QC) samples collected include seven field duplicates and five equipment rinse blanks. The analyses were conducted by GTW Analytical Services, LLC (GTW). The quality assurance criteria were established by the associated Sampling and Analysis Procedures (SAP) for Velsicol Chemical Corporation – Memphis, Tennessee, as revised in January 2001. All soil samples were analyzed for pesticides and moisture content using EPA method SW-846 3350B/8081A. A summary of analytical reports and corresponding sample numbers is included in Attachment A. Copies of the QA/QC summary provided by the laboratory and the chain-of-custody forms are included in Attachment B.

***Sample Delivery***

All samples were collected, transported, handled, and analyzed maintaining chain-of-custody protocols. Documentation relative to the collection of samples and laboratory analyses were listed on the chain-of-custody form that accompanied the samples to the laboratory. Upon review of the chain-of-custody forms, it is noted that the samples were received at the laboratory at proper temperatures and were properly preserved.

### ***Holding Time Periods***

The allowable holding time periods for pesticides analyses are 7 days from sample collection to extraction, and 40 days from extraction to completion of analysis. On the basis of the sample collection and analysis dates referenced on the chain-of-custody form and the analytical reports provided by GTW, the extractions and analyses were performed within the allowable holding times.

### ***Laboratory Blank Analyses***

Sample contamination contributed by laboratory conditions or procedures was monitored by the concurrent preparation and analysis of method blank samples. The method blank samples for all analyses yielded non-detectable concentrations of analytes of interest, indicating that no laboratory contamination occurred.

### ***Surrogate Compound Percent Recovery***

The recoveries of surrogate compounds are used to assess the individual sample performance achieved by the laboratory for organic analyses. Surrogate recoveries for all analyses were within control limits.

### ***Blank Spike Analyses***

The recoveries of blank spike analyses are used to assess the analytical accuracy achieved by the laboratory. As the blank spike analyses are independent of potential matrix effects, they give a true indication of the analytical accuracy achieved by the laboratory for the respective analyses performed. Blank spike analyses were within acceptable recovery limits for all analyses, indicating that acceptable levels of accuracy were achieved for these analytical methodologies.

### ***Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses***

The recoveries of MS/MSD analyses are used to assess the analytical accuracy on an individual sample basis, while the relative percent difference (RPD) between the MS and the MSD indicates the analytical precision achieved for that sample. MS/MSD analyses were conducted on eight samples, thereby satisfying the SAP required frequency of one per 20 primary samples.

Due to the level of contamination in many of the samples and matrix interference, many MS and MSD recoveries were unavailable or outside acceptable recovery limits. A summary of the MS/MSD analyses are included in Attachment C. As

observed in Attachment C, there is no clear pattern of consistent MS/MSD recovery failures or RPD failures. For example, although the spiked compounds have numerous failures, there are also many acceptable MS or MSD recoveries. It is noted that both endrin and dieldrin had no valid recoveries for all MS/MSD analyses. According to notation provided by the laboratory, recovery was unavailable in all cases due to high concentration of the analyte in the samples that were spiked. Review of the spiked sample analytical data confirms that this assertion is correct.

As noted above, all blank spike samples were within acceptable recovery limits. If the MS/MSD failures were a result of laboratory systematic problems, there should be similar failures in blank spike samples. Based on this information and the known high level of contamination in many of the samples in this and previous site investigations, the MS/MSD failures are likely due to matrix interference and not due to laboratory systematic problems. As precision and accuracy of the laboratory cannot be measured on MS/MSD data alone and in light of other QA/QC data (i.e., acceptable blank spike and surrogate recoveries), no qualification of the data is necessary due to MS/MSD failure, other than the individual samples where MS/MSD failures occurred. In the instance where both the MS and MSD are outside acceptable recovery limits, or where the RPD was above the control limit, then the result for that analyte for the *spiked sample only* should be qualified as estimated and flagged "J".

#### ***Rinse Blank Analysis***

Five equipment rinse blank samples were collected to verify the decontamination procedures employed during the sample collection event. Two analytes were detected in the rinse blank collected on May 8, 2003. Hexachlorocyclopentadiene and Octachlorocyclopentene were detected at levels of 0.29 µg/l and 0.26 µg/l, respectively. Neither of these compounds was detected, however, in any samples collected on this sampling date. Therefore, no qualification of the data is necessary. All results for the other four rinse blanks resulted in non-detect values.

#### ***Field Duplicate Analysis***

In order to monitor the precision of the field sample collection procedures and the laboratory analytical methods, seven field duplicate samples were collected. A summary of the duplicate sample results compared to primary sample results, including RPD calculations, is included as Attachment D.

Based on a review of the RPD calculations in Attachment D, adequate precision was achieved. No qualification of the data is necessary due to field duplicate RPD failures, other than the specific samples in which the failure occurred (indicated by a bold value in Attachment D). If the RPD for any primary sample and its duplicate

is above the acceptable limit, then that sample should be qualified as estimated and flagged "J".

#### ***Miscellaneous Quality Assurance/Quality Control***

Many sample results were qualified by the laboratory with a flag of "UC" and the notation that confirmation is not possible due to matrix interference. Results for these analyses should be qualified as estimated and flagged "J". Some sample results were qualified by the laboratory with a flag of "CK" and the notation that the percent difference in the calibration checks exceeded the 15% criterion for this analyte; however, method requirements were met. Results for these analyses should be qualified as estimated and flagged "J". Some results were qualified by the laboratory with a flag of "LB" and the notation that the PQL is raised due to laboratory background and some results were qualified by the laboratory with a flag of "PM" and the notation that the PQL is raised due to matrix interference.

#### ***Completeness***

Completeness is a measure of the amount of valid data compared to the expected amount under normal conditions. In most cases, the reported concentration and associated quality control results indicate that the data are of sufficient quality. Some analytical results were qualified as estimated due to duplicate failures, MS/MSD failures, or reporting below the detection limit. The estimated data are usable as qualified. The completeness of the data collected during this period is 100%, which achieves the requirement of greater than 85%.

**Attachment A**  
**Laboratory Report and Sample ID Summary**

**Summary of Laboratory Reports  
and Sample Identification  
Cypress Creek Sub-Area III**

Report	Sample ID	Date Collected
R-230439	042303-DUP	4/23/03
	042303-RB	4/23/03
	1900EDWARD-A	4/23/03
	1900EDWARD-B	4/23/03
	1930EDWARD-A	4/23/03
	1930EDWARD-B	4/23/03
	1970EDWARD-A	4/23/03
	1970EDWARD-B	4/23/03
	VECA-A	4/23/03
	VECA-B	4/23/03
R-230456	042803-RB	4/28/03
	1727GREENVIEW-A	4/28/03
	1727GREENVIEW-B	4/28/03
	1772EDWARD-A	4/28/03
	1772EDWARD-B	4/28/03
	1773GREENVIEW-A	4/28/03
	1773GREENVIEW-B	4/28/03
	1787GREENVIEW-A	4/28/03
	1787GREENVIEW-B	4/28/03
	1858EDWARD-B	4/28/03
	1867HUBERT-A	4/28/03
	1867HUBERT-B	4/28/03
	1950EDWARD-A	4/28/03
	1950EDWARD-B	4/28/03
R-230503	050803-DUP	5/8/03
	050803-RB	5/8/03
	1743GREENVIEW-A	5/8/03
	1743GREENVIEW-B	5/8/03
	1754EDWARD-A	5/8/03
	1754EDWARD-B	5/8/03
	1798EDWARD-A	5/8/03
	1798EDWARD-B	5/8/03
	1992EDWARD-A	5/8/03
	1992EDWARD-B	5/8/03
	EVERGREEN-A	5/8/03
	EVERGREEN-B	5/8/03
	SPRINGWOOD-A	5/8/03
	SPRINGWOOD-B	5/8/03
	TAX EDWARD-A	5/8/03
	TAX EDWARD-B	5/8/03
R-230561	1721 GREENVIEW CIRCLE - A	5/20/03
	1721 GREENVIEW CIRCLE - B	5/20/03
	1921 EDWARD COVE - C	5/21/03
	957 MEAGHER - A	5/21/03

**Summary of Laboratory Reports  
and Sample Identification  
Cypress Creek Sub-Area III**

Report	Sample ID	Date Collected
R-230596	052803-DUP	5/28/03
	052803-RB	5/28/03
	1042 DAWES - A	5/28/03
	1042 DAWES - B	5/28/03
	1050 DAWES - A	5/28/03
	1050 DAWES - B	5/28/03
	2134 NO. HUBERT CR. - A	5/28/03
	2134 NO. HUBERT CR. - B	5/28/03
	2402 DEVOY - A	5/28/03
	2402 DEVOY - B	5/28/03
	2411 GENTRY - A	5/28/03
	2411 GENTRY - B	5/28/03
	CITY ON DEVOY - A	5/28/03
	CITY ON DEVOY - B	5/28/03
	HARRIS - A	5/28/03
	HARRIS - B	5/28/03
	SYED NO. - A	5/28/03
	SYED NO. - B	5/28/03
R-230606	1130 UNIVERSITY - A	5/30/03
	1130 UNIVERSITY - B	5/30/03
	2031 HUBERT - A	5/30/03
	2031 HUBERT - B	5/30/03
	2061 HUBERT - A	5/30/03
	2061 HUBERT - B	5/30/03
	2077 HUBERT - A	5/30/03
	2077 HUBERT - B	5/30/03
	2091 HUBERT - A	5/30/03
	2091 HUBERT - B	5/30/03
	2101 HUBERT - A	5/30/03
	2101 HUBERT - B	5/30/03
	915 BINGHAM - A	5/30/03
	915 BINGHAM - B	5/30/03



**Summary of Laboratory Reports  
and Sample Identification  
Cypress Creek Sub-Area III**

Report	Sample ID	Date Collected
R-230625	060403-DUP	6/4/03
	060403-RB	6/4/03
	1210 SPRINGDALE - A	6/4/03
	1210 SPRINGDALE - B	6/4/03
	2164 HUBERT CL - A	6/4/03
	2164 HUBERT CL - B	6/4/03
	2482 VOLUNTINE - A	6/4/03
	2482 VOLUNTINE - B	6/4/03
	892 RUSSELL - A	6/4/03
	892 RUSSELL - B	6/4/03
	900 RUSSELL - A	6/4/03
	900 RUSSELL - B	6/4/03
	928 MEAGHER - A	6/4/03
	928 MEAGHER - B	6/4/03
	933 BINGHAM - B	6/4/03
	948 MEAGHER - A	6/4/03
	948 MEAGHER - B	6/4/03
R-230647	061003-DUP	6/10/03
	1915 HUBERT - A	6/10/03
	1915 HUBERT - B	6/10/03
	2150 HUBERT CL - A	6/10/03
	2150 HUBERT CL - B	6/10/03
	2289 DEXTER - A	6/10/03
	2397 GENTRY - A	6/10/03
	2397 GENTRY - B	6/10/03
	2403 GENTRY - A	6/10/03
	2403 GENTRY - B	6/10/03
	2466 VOLLINTINE - A	6/10/03
	2466 VOLLINTINE - B	6/10/03
	2620 LIBERTY - A	6/10/03
	2620 LIBERTY - B	6/10/03
	906 RUSSELL - A	6/10/03
	906 RUSSELL - B	6/10/03
	920 BINGHAM - A	6/10/03
	920 BINGHAM - B	6/10/03

**Summary of Laboratory Reports  
and Sample Identification  
Cypress Creek Sub-Area III**

Report	Sample ID	Date Collected
R-230705	062003-DUP	6/20/03
	1188 TUNICA - A	6/20/03
	1188 TUNICA - B	6/20/03
	1190 SPRINGDALE EAST - A	6/20/03
	1190 SPRINGDALE EAST - B	6/20/03
	1190 SPRINGDALE WEST - A	6/20/03
	1190 SPRINGDALE WEST - B	6/20/03
	1793 GREENVIEW - A	6/20/03
	1793 GREENVIEW - B	6/20/03
	2116 HOWELL - A	6/20/03
	2116 HOWELL - B	6/20/03
	CITY ON TREZVANT - A	6/20/03
	COUNTY ON TREZVANT - B	6/20/03
	SYED SO. - A	6/20/03
	SYED SO. - B	6/20/03
R-230753	070203-DUP	7/2/03
	1027 HOLLYWOOD - A	7/2/03
	1027 HOLLYWOOD - B	7/2/03
	2245 HUNTER - A	7/2/03
	2245 HUNTER - B	7/2/03
	2263 SHASTA - A	7/2/03
	2263 SHASTA - B	7/2/03
	2304 BROWN - A	7/2/03
	2304 BROWN - B	7/2/03
	MLGW - A	7/2/03

**Attachment B**  
**QA/QC Summary Pages**

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

## FILE COPY

### LABORATORY REPORT

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek Sub-Area III  
Sample(s) Type: Soil

Report Date: 05/27/03  
Report No: R-230439

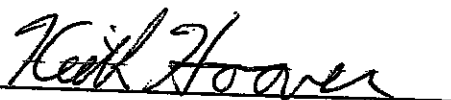
All sample results reported on an "as-received" basis unless otherwise indicated.

#### Quality Assurance Summary (Page 1 of 2):

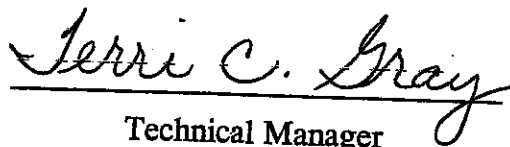
<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3550B/8081A	A	A	A (N-1)	A	A (See N-1)

N-1: As noted in the report one of the recoveries for Aldrin and Heptachlor was either unacceptable or unavailable due to matrix interferences. Due to the level of contamination that was present in the sample that was spiked, no valid recoveries could be determined for Dieldrin and Endrin; however, the blank spike had acceptable recoveries.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

## LABORATORY REPORT

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek Sub-Area III  
Sample(s) Type: Water

Report Date: 05/27/03  
Report No: R-230439

All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary (Page 2 of 2):

<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3510C/8081A	A	A	N-2	A	A (See N-2)

N-2: A blank spike was analyzed that had an acceptable recovery.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager

GTW ANALYTICAL SERVICES, LLC  
3715 S. Perkins, Suite 7, Memphis, TN 38118  
Telephone (901) 323-5554; FAX (901) 323-5573

SUBMIT REPORT TO  
COMPANY: Memphis Environmental Center, Inc.  
CONTACT: Gary Hermann 230439

CHAIN OF CUSTODY  
RECORD

PROJECT NO:  
063-08-  
03-00

PROJECT NAME:

Cypress Creek Sub-Area III

SAMPLER'S SIGNATURE

Mark Lusher

(sign)

M  
A  
T  
R  
I  
X

NO. OF  
CONTAINERS

REMARKS

SEQ. NO.	SAMPLE NO.	DATE	TIME	SAMPLE LOCATION
----------	------------	------	------	-----------------

1013	VECA-A	4/23/03	1100	VECA	5	1	*Pesticides & Soil
1014	VECA-B		1130	VECA			moisture content
1015	042303-Dup		1115				per Memphis Plant
1016	1930 Edward		1315	1930 Edward Ave	5	1	SAP
	-A						
1017	1930 Edward		1340	1930 Edward Ave	5	1	
	-B						
1018	1970 Edward		1415	1970 Edward Ave	5	1	
	-A						
1019	1970 Edward		1435	1970 Edward Ave	5	1	
	-B						
1020	1900 Edward		1520	1900 Edward Ave	5	1	
	-A						
1021	1900 Edward	✓	1540	1900 Edward Ave	5	1	✓
	-B						

1022 042303-RB 4/23/03 1015 Rinse Blank W 2 \*Pesticides per Memphis SAP  
TOTAL NO. OF CONTAINERS - 9

platelet-5-28

RELINQUISHED BY:

1 Mark Lusher  
(sign)

DATE/TIME

4/23/03 1600

RECEIVED BY:

2 Gary Hermann  
(sign)

RELINQUISHED BY:

2 Gary Hermann  
(sign)

DATE/TIME

4-23-03 4:45pm

RECEIVED BY:

3 Terri C. Gray  
(sign)

METHOD OF SHIPMENT:

Hand Delivered

SHIPPED BY:

Gary Hermann

RECEIVED FOR LABORATORY BY:

(sign) Terri C. Gray

DATE/TIME

4-23-03 4:45pm

CONDITION OF SEAL UPON RECEIPT:

NA

COOLER OPENED BY:

(sign) Terri C. Gray

DATE/TIME

4/23/03 4:45pm

GENERAL CONDITION OF COOLER:

ok/ice

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

## FILE COPY

### LABORATORY REPORT

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek Sub-Area III  
Sample(s) Type: Soil

Report Date: 05/30/03  
Report No: R-230456

All sample results reported on an "as-received" basis unless otherwise indicated.

#### Quality Assurance Summary (Page 1 of 2):

<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3550B/8081A	A	A	N-1	A	A (See N-1)
MOISTURE CONTENT	SW-846 3550B	NA	NA	NA	NA	A

N-1: Recoveries were unavailable due to dilution; however, the blank spike had acceptable recoveries.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

## LABORATORY REPORT

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek Sub-Area III  
Sample(s) Type: Water

Report Date: 05/30/03  
Report No: R-230456

All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary (Page 2 of 2):

<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3510C/8081A	A	A	N-2	A	A (See N-2)

N-2: A blank spike was analyzed that had an acceptable recovery.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager



GTW ANALYTICAL SERVICES, LLC  
3715 S. Perkins, Suite 7, Memphis, TN 38118  
Telephone (901) 323-5554; FAX (901) 323-5573

SUBMIT REPORT TO  
COMPANY: Memphis Environmental Center, Inc  
CONTACT: Gary Hermann 730456

CHAIN OF CUSTODY  
RECORD

PROJECT NO:  
#003-08-03-00

PROJECT NAME:  
Cypress Creek Sub-Area III

SAMPLER'S SIGNATURE

Mark Lusk

(sign)

M  
A  
T  
R  
I  
X

N  
O.  
O  
F  
C  
O  
N  
T  
A  
I  
N  
E  
R  
S

REMARKS

SEQ. NO.	SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	M A T R I X	N O. O F C O N T A I N E R S	REMARKS
1046	1858 Edward -B	4/28/03	850	1858 Edward Ave.	S	1	* Pesticides and soil moisture content per Memphis Plant SAP
1047	1950 Edward -A		920	1950 Edward Ave.	S	1	
1048	1950 Edward -B		935	" " "	S	1	
1049	1867 Hubert -A		1005	1867 Hubert Ave	S	1	
1050	1867 Hubert -B		1025	" " "	S	1	
1051	1727 Greenview -A		1100	1727 Greenview Cir.	S	1	
1052	1727 Greenview -B		1120	" " "	S	1	
1053	1773 Greenview -A		1315	1773 Greenview Cir	S	1	
1054	1773 Greenview -B		1335	" " "	S	1	
1055	1787 Greenview -A		1405	1787 Greenview Cir.	S	1	
1056	1787 Greenview -B		1425	" " "	S	1	
1057	1772 Edward -A		1455	1772 Edward Ave.	S	1	V
1058	1772 Edward -B		1515	" " "	S	1	
1059	042803-RB	✓	800	Rinsate Blank	W	2	Pesticides per Memphis SAP

TOTAL NO. OF CONTAINERS -

pt 0405-28

RELINQUISHED BY:

1 Mark Lusk  
(sign)

DATE/TIME

4/28/03 1530

RECEIVED BY:

Gary Hermann  
(sign)

RELINQUISHED BY:

2

(sign)

DATE/TIME

RECEIVED BY:

3

(sign)

METHOD OF SHIPMENT:

Hand Delivered

SHIPPED BY:

Gary Hermann  
(MEC)

RECEIVED FOR LABORATORY BY:

(sign) Leith Hoover

DATE/TIME

4-28-03/4:20PM

CONDITION OF SEAL UPON RECEIPT:

COOLER OPENED BY:

(sign) Leith Hoover

DATE/TIME

4-28-03/4:20PM

GENERAL CONDITION OF COOLER:

On Ice

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

## LABORATORY REPORT

# FILE COPY

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek Sub-Area III  
Sample(s) Type: Soil

Report Date: 05/30/03  
Report No: R-230503

All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary (Page 1 of 2):

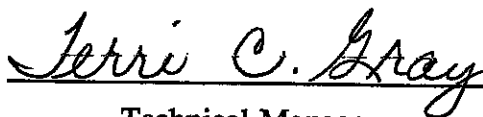
<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3550B/8081A	A	A	N-1	A	A (See N-1)
MOISTURE CONTENT	SW-846 3550B	NA	NA	NA	NA	A

N-1: These samples were analyzed as part of a larger set which included matrix spikes. Recoveries were unavailable due to dilution; however, the blank spike had acceptable recoveries.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

## LABORATORY REPORT

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek Sub-Area III  
Sample(s) Type: Water

Report Date: 05/30/03  
Report No: R-230503

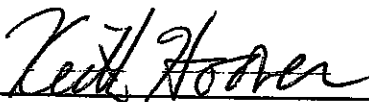
All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary (Page 2 of 2):

<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3510C/8081A	A	A	N-2	A	A (See N-2)

N-2: A blank spike was analyzed that had an acceptable recovery.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager

GTW ANALYTICAL SERVICES, LLC  
3715 S. Perkins, Suite 7, Memphis, TN 38118  
Telephone (901) 323-5554; FAX (901) 323-5573

SUBMIT REPORT TO  
COMPANY: Memphis Environmental Center, Inc.  
CONTACT: Gary Hermann 230503

CHAIN OF CUSTODY  
RECORD

PROJECT NO:  
003-08-03-00

PROJECT NAME:  
Cypress Creek Sub-Area III

SAMPLER'S SIGNATURE Mark Lush  
(sign)

M  
A  
T  
R  
I  
X

N  
O.  
O  
F  
C  
O  
N  
T  
A  
I  
N  
E  
R  
S

REMARKS

SEQ. NO.	SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	M A T R I X	N O. O F C O N T A I N E R S	REMARKS
2	Evergreen-A	5/8/03	840	Evergreen (H.H.)	S	1	*Pesticides & Soil Moisture
3	Evergreen-B		900	" "			Content per Memphis
44	1754 Edward-A		925	1754 Edward Ave.			Plant SAP
45	1754 Edward-B		945	" "			
46	1798 Edward-A		1010	1798 Edward Ave.			
47	1798 Edward-B		1030	" "			
48	Tax Edward-A		1130	Edward Ave. (Tax)			
49	Tax Edward-B		1150	" "			
50	1743 Greenville-A		1340	1743 Greenville Cir.			
51	1743 Greenville-B		1410	" "			
52	050803-DUP		1350				
53	Springwood-A		1500	Springwood			
54	Springwood-B		1520	"			
55	1992 Edward-A		1600	1992 Edward Ave			
56	1992 Edward-B	✓	1620	" "	✓	✓	✓
RIS7							
7	050803-RB	5/8/03	815	Rinse Blank	W	2	Pesticides per Memphis SAP

TOTAL NO. OF CONTAINERS -

RELINQUISHED BY: 1 Mark Lush  
(sign)

DATE/TIME  
5/8/03 1630

RECEIVED BY: 2 Gary Hermann  
(sign)

RELINQUISHED BY: 2 Gary Hermann  
(sign)

DATE/TIME  
5-9-03 7:45am

RECEIVED BY: 3  
(sign)

METHOD OF SHIPMENT:  
Hand Delivered

SHIPPED BY:  
Gary Hermann

RECEIVED FOR LABORATORY BY:  
(sign) Emilie Stone

DATE/TIME  
5/9/03 7:45a

CONDITION OF SEAL UPON RECEIPT:

COOLER OPENED BY:  
(sign) Emilie Stone

DATE/TIME  
5/9/03 7:50A

GENERAL CONDITION OF COOLER:

On Ice

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

# FILE COPY

## LABORATORY REPORT

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek  
Sample(s) Type: Soil

Report Date: 06/23/03  
Report No: R-230561

All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary:

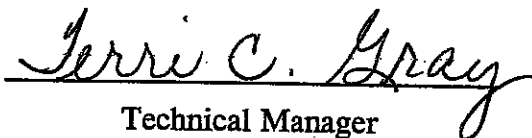
<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3550B/8081A	A	A	A (N-1)	A	A (See N-1)
MOISTURE CONTENT	SW-846 3550B	NA	NA	NA	NA	A

N-1: The recoveries for Aldrin and Heptachlor were unacceptable due to matrix interferences. Due to the level of contamination that was present in the sample that was spiked, no valid recoveries could be determined for Dieldrin and Endrin. However, the blank spike had acceptable recoveries.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager



# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

## LABORATORY REPORT

**FILE COPY**

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek  
Sample(s) Type: Soil

Report Date: 06/23/03  
Report No: R-230596

All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary:

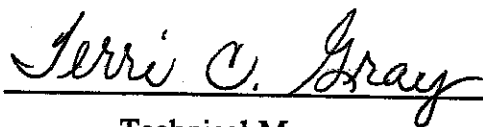
<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3550B/8081A	A	A	A (N-1)	A	A (See N-1)
MOISTURE CONTENT	SW-846 3550B	NA	NA	NA	NA	A

N-1: As noted in the report, some of the recoveries were unacceptable due to matrix interferences. Due to the level of contamination that was present in the sample that was spiked, no valid recoveries could be determined for 4,4'-DDT, Dieldrin and Endrin. However, the blank spike had acceptable recoveries.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager

SUBMIT REPORT TO  
COMPANY: Memphis Environmental Center, Inc  
CONTACT: Gary Hermann 230591

PROJECT NAME:  
Cypress Creek Sub-Area III

(sign)

# MATRIX

NO. OF  
CONTAINERS

REMARKS

**TOTAL NO. OF CONTAINERS —**

(sign)

5/28/03 1650

(sign)

(sign)

5-29-03 8:48 AM

2.

(sign)

Gary Hermann

(sign) Leith Horn

5-29-03/B: 48 AM

(sign) Leith H. Owe

G-29-03/8:48 AM

GENERAL CONDITION OF COOLER: On Ice

(sign)

NO-



# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

**FILE COPY**

## LABORATORY REPORT

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek Sub-Area III  
Sample(s) Type: Water

Report Date: 06/24/03  
Report No: R-230596-A

All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary:

<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3510C/8081A	A	A	N-1	A	A (See N-1)

N-1: A blank spike was analyzed that had an acceptable recovery.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager

GTW ANALYTICAL SERVICES, LLC  
3715 S. Perkins, Suite 7, Memphis, TN 38118  
Telephone (901) 323-5554; FAX (901) 323-5573

SUBMIT REPORT TO  
COMPANY: Memphis Environmental Center, Inc.  
CONTACT: Gary Hermann 230596

CHAIN OF CUSTODY  
RECORD

PROJECT NO:  
#003-08-03-00

PROJECT NAME:  
Cypress Creek Sub-Area III

SAMPLER'S SIGNATURE Mark Lush  
(sign)

MATRIX  
NO. OF  
CONTAINERS

REMARKS

SEQ. NO.	SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	MATRIX	NO. OF CONTAINERS	REMARKS
332	2134 No. Hubert Cr. - A	5/28/03	910	2134 No. Hubert Cir	S	1	Pesticides & Soil Moisture
333	2134 No. Hubert Cr. - B		930	" " "	S	1	Content per Memphis Plant SAP
334	Harris - A		1020	Harris	S	1	
335	Harris - B		1040	"	S	1	
336	Syed No. - A		1105	Syed North	S	1	
337	Syed No. - B		1125	" "	S	1	
338	052803-DUP		1135		S	1	
339	2411 Gentry - A		1300	2411 Gentry	S	1	
340	2411 Gentry - B		1520	" "	S	1	
341	2402 Devoy - A		1350	2402 Devoy	S	1	
342	2402 Devoy - B		1410	" "	S	1	
343	City on Devoy - A		1440	Devoy (City Pop)	S	1	
344	City on Devoy - B		1500	" "	S	1	
345	1042 Dawes - A		1540	1042 Dawes	S	1	
346	1042 Dawes - B		1600	" "	S	1	
347	1050 Dawes - A		1620	1050 Dawes	S	1	
348	1050 Dawes - B		1640	" "	S	1	
349	052803-RB	5/28/03	830	Rinse Blank	W	2	Pesticides per Memphis SAP pH 6.16: 6 KH

TOTAL NO. OF CONTAINERS -

RELINQUISHED BY: 1 Mark Lush  
(sign)

DATE/TIME  
5/28/03 1050

RECEIVED BY: 2 Gary Hermann  
(sign)

RELINQUISHED BY: 2 Gary Hermann  
(sign)

DATE/TIME  
5-29-03 8:48 AM

RECEIVED BY: 3  
(sign)

METHOD OF SHIPMENT:  
Hand Delivered

SHIPPED BY:  
Gary Hermann

RECEIVED FOR LABORATORY BY:  
(sign) Keith Hoover

DATE/TIME  
5-29-03 8:48 AM

CONDITION OF SEAL UPON RECEIPT:

COOLER OPENED BY:  
(sign) Keith Hoover

DATE/TIME  
5-29-03 8:48 AM

GENERAL CONDITION OF COOLER: On Ice

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

## LABORATORY REPORT

**FILE COPY**

**Client Contact:** Gary Hermann  
**Project:** MEC  
Cypress Creek Sub-Area III  
**Sample(s) Type:** Soil

**Report Date:** 06/23/03  
**Report No:** R-230606

All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary:


<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3550B/8081A	A	A	A (N-1)	A	A (See N-1)
MOISTURE CONTENT	SW-846 3550B	NA	NA	NA	NA	A

N-1: These samples were analyzed as part of a larger set which included matrix spikes. Recoveries were acceptable except for 4,4'-DDT, Dieldrin, and Endrin, which were unavailable due to the level of contamination that was present in the sample that was spiked; however, the blank spike had acceptable recoveries.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager

SUBMIT REPORT TO 230606  
COMPANY: Memphis Environmental Center  
CONTACT: Gary Hermann

PROJECT NAME: Cypress Creek Sub-Area III

Mark Lush  
(sign)

MATRIX	NO. OF CONTAINERS
1	1
2	1
3	1
4	1
5	1
6	1
7	1
8	1
9	1
10	1
11	1
12	1
13	1
14	1
15	1
16	1
17	1
18	1
19	1
20	1
21	1
22	1
23	1
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85	1
86	1
87	1
88	1
89	1
90	1
91	1
92	1
93	1
94	1
95	1
96	1
97	1
98	1
99	1
100	1

EQ. NO.	SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	R I X	NO. OF CONTAINERS	REMARKS
263	1130 University - B	5/30/03	850	1130 University	S	1	*Pesticides & Soil moisture content per Memphis Plant SAP
262	1130 University - A		910	" "	S	1	
264	2031 Hubert - A		940	2031 Hubert	S	1	
265	2031 Hubert - B		1000	" "	S	1	
266	2061 Hubert - A		1030	2061 Hubert	S	1	
267	2061 Hubert - B		1050	" "	S	1	
268	2077 Hubert - A		1140	2077 Hubert	S	1	
269	2077 Hubert - B		1200	" "	S	1	
270	915 Bingham - A		1300	915 Bingham	S	1	
271	915 Bingham - B		1320	" "	S	1	
272	2091 Hubert - A		1400	2091 Hubert	S	1	
273	2091 Hubert - B		1420	" "	S	1	
274	2101 Hubert - A		1440	2101 Hubert	S	1	
275	2101 Hubert - B	↓	1500	" "	S	1	↓ ↓

**TOTAL NO. OF CONTAINERS —**

Y: Mark Lusk  
(sign)

5/30/03 1510

2 Ray Hermann  
(sign)

Y: 2. Gary Hermann  
(sign)

5-10-03 4:02pm

3 \_\_\_\_\_  
(sign)

"and Delivery

Gary Hermann

(sign) Carl Foster

5-30-03/4:02 pm

COOLER OPENED BY:

5-30-03/4:02 pm

GENERAL CONDITION OF COOLER: On Ice

**{sign}**

(sign) Kill House

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

**FILE COPY**

## LABORATORY REPORT

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek Sub-Area III  
Sample(s) Type: Soil

Report Date: 07/02/03  
Report No: R-230625

All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary (Page 1 of 2):

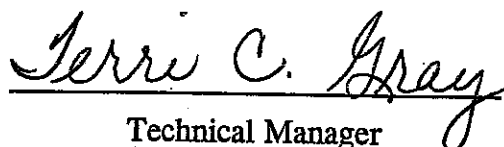
<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3550B/8081A	A	A	A (N-1)	A	A (See N-1)
MOISTURE CONTENT	SW-846 3550B	NA	NA	NA	NA	A

N-1: Due to the level of contamination that was present in the sample that was spiked, no valid recoveries could be determined for Dieldrin and Endrin. The recoveries for Aldrin and Hepatchlor were either unacceptable or unavailable due to matrix interferences. However, the blank spike had acceptable recoveries.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

## LABORATORY REPORT

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek Sub-Area III  
Sample(s) Type: Water

Report Date: 07/02/03  
Report No: R-230625

All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary (Page 2 of 2):

<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3510C/8081A	A	A	N-2	A	A (See N-2)

N-2: A blank spike was analyzed that had an acceptable recovery.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager

GTW ANALYTICAL SERVICES, LLC  
3715 S. Perkins, Suite 7, Memphis, TN 38118  
Telephone (901) 323-5554; FAX (901) 323-5573

SUBMIT REPORT TO  
COMPANY: Memphis Environmental Center  
CONTACT: Gary Hermann 230625

CHAIN OF CUSTODY  
RECORD

PROJECT NO:  
#003-08-03-00

PROJECT NAME:  
Cypress Creek Sub-Area III

SAMPLER'S SIGNATURE

Mark Lush  
(sign)

M  
A  
T  
R  
I  
X

N  
O.  
O  
F  
C  
O  
N  
T  
A  
I  
N  
E  
R  
S

REMARKS

EQ. O.	SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	M A T R I X	N O. O F C O N T A I N E R S	REMARKS
146	2482 Volunfine	6/4/03	845	2482 Volunfine	S	1	Pesticides & soil moisture
-	-A						content per Memphis
147	2482 Volunfine-B		905	" "	S	1	Plant SAP
148	933 Bingham-B		940	933 Bingham	S	1	
149	948 Meagher-A		1010	948 Meagher	S	1	
140	948 Meagher-B		1030	" "	S	1	
4	928 Meagher-A		1130	928 Meagher	S	1	
422	928 Meagher-B		1150	" "	S	1	
3	892 Russell-A		1240	892 Russell	S	1	
44	892 Russell-B		1300	" "	S	1	
45	900 Russell-A		1320	900 Russell	S	1	
6	900 Russell-B		1340	" "	S	1	
27	2164 Hubert C-A		1420	2164 Hubert Circle	S	1	
8	2164 Hubert C-B		1440	" " "	S	1	
129	060403-BUP		1450		S	1	
120	1210 Springdale-		1505	1210 Springdale	S	1	
-A							
31	1210 Springdale		1525	" "	S	1	↓
-B							↓
4	060403-RB	✓	815	Rinsate Blank	W	2	Pesticides per Memphis SAP
							pH @ 100 = 6
							6/5/03 KH

TOTAL NO. OF CONTAINERS -

RELINQUISHED BY:

1 Mark Lush  
(sign)

DATE/TIME

6/4/03 1535

RECEIVED BY:

2 Gary Hermann  
(sign)

RELINQUISHED BY:

2 Gary Hermann  
(sign)

DATE/TIME

6-4-03 4:23 pm

RECEIVED BY:

3 \_\_\_\_\_  
(sign)

METHOD OF SHIPMENT:

Hand Delivery

SHIPPED BY:

Gary Hermann

RECEIVED FOR LABORATORY BY:

Terri C. Gray  
(sign)

DATE/TIME

6-4-03 4:23 pm

CONDITION OF SEAL UPON RECEIPT:

OK/ice

COOLER OPENED BY:

Terri C. Gray  
(sign)

DATE/TIME

6-4-03 4:23 pm

GENERAL CONDITION OF COOLER:

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

## LABORATORY REPORT

**FILE COPY**

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek Sub-Area III  
Sample(s) Type: Soil

Report Date: 07/11/03  
Report No: R-230647

All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary:

<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3550B/8081A	A	A	A (N-1)	A	A (See N-1)
MOISTURE CONTENT	SW-846 3550B	NA	NA	NA	NA	A

N-1: Recoveries for 4,4'-DDT were unavailable due to matrix interferences. Due to the level of contamination that was present in the sample that was spiked, no valid recoveries could be determined for Aldrin, Dieldrin, Endrin, and Heptachlor. However, the blank spike had acceptable recoveries.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager



SUBMIT REPORT TO  
COMPANY: Memphis Environmental Center  
CONTACT: Gary Hermann 23064T

PROJECT NAME:  
Cypress Creek Sub-Area III

MATRIX	NO. OF CONTAINERS
1	1
2	1
3	1
4	1
5	1
6	1
7	1
8	1
9	1
10	1
11	1
12	1
13	1
14	1
15	1
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83	1
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85	1
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87	1
88	1
89	1
90	1
91	1
92	1
93	1
94	1
95	1
96	1
97	1
98	1
99	1
100	1

EQ. NO.	SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	R I X	NO. OF CONTAINERS	REMARKS
47	2150 Hubert CL	A 6/10/03	835	2150 Hubert Circle	S	1	Pesticides and soil moisture
75	061003 - Dup		845		S	1	Content per Memphis
476	2150 Hubert CL	B	855	2150 Hubert Circle	S	1	Plant SAP.
77	1915 Hubert - A		920	1915 Hubert	S	1	
778	1915 Hubert - B		940	" "	S	1	
779	2289 Dexter - A		1005	2289 Dexter	S	1	
80	2403 Gentry - A		1055	2403 Gentry	S	1	
481	2403 Gentry - B		1115	" "	S	1	
72	2397 Gentry - A		1135	2397 Gentry	S	1	
483	2397 Gentry - B		1150	" "	S	1	
74	2466 Vollintine - A		1240	2466 Vollintine	S	1	
5	2466 Vollintine - B		1300	" "	S	1	
486	920 Bingham - A		1350	920 Bingham	S	1	
7	920 Bingham - B		1410	" "	S	1	
488	906 Russell - A		1435	906 Russell	S	1	
9	906 Russell - B		1455	" "	S	1	
0	2620 Liberty - B		1520	2620 Liberty	S	1	
491	2620 Liberty - A	✓	1540	" "	S	1	✓

RELINQUISHED BY: 1 <u>Mark Lush</u> (sign)	DATE/TIME <u>1555 / 6/10/03</u>	RECEIVED BY: 2 <u>Gary Herman</u> (sign)
RELINQUISHED BY: 2 <u>Gary Herman</u> (sign)	DATE/TIME <u>6-11-03 7:55am</u>	RECEIVED BY: 3 _____ (sign)

METHOD OF SHIPMENT: <i>Hand Delivery</i>	SHIPPED BY: <i>Gary Hermann</i>	RECEIVED FOR LABORATORY BY: (signature) <i>Julie X Spang</i>	DATE/TIME: <i>6-11-03 7:55 AM</i>
CONDITION OF SEAL UPON RECEIPT: <i>on ice</i>		COOLER OPENED BY: (signature) <i>Julie X Spang</i>	DATE/TIME: <i>11</i>
GENERAL CONDITION OF COOLER: 			

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

# FILE COPY

## LABORATORY REPORT

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek Sub-Area III  
Sample(s) Type: Soil

Report Date: 07/15/03  
Report No: R-230705

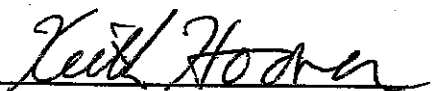
All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary:

<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3550B/8081A	A	A	A (N-1)	A	A (See N-1)
MOISTURE CONTENT	SW-846 3550B	NA	NA	NA	NA	A

N-1: As noted in the report, some recoveries were unacceptable due to matrix interferences. Due to the level of contamination that was present in the sample that was spiked, no valid recoveries could be determined for Dieldrin and Endrin. However, the blank spike had acceptable recoveries.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager

GTW ANALYTICAL SERVICES, LLC  
3715 S. Perkins, Suite 7, Memphis, TN 38118  
Telephone (901) 323-5554; FAX (901) 323-5573

SUBMIT REPORT TO  
COMPANY: Memphis Environmental Center  
CONTACT: Gary Hermann 230705

CHAIN OF CUSTODY  
RECORD

PROJECT NO:  
003-08-03-00

PROJECT NAME:  
Cypress Creek Sub-Area III

SAMPLER'S SIGNATURE Mark Lush  
(sign)

M  
A  
T  
R  
I  
X  
NO. OF  
CONTAINERS

REMARKS

EQ. NO.	SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	MATRIX	NO. OF CONTAINERS	REMARKS
19	17936 Greenview-A	6/20/03	845	17936 Greenview Cir	S	1	Pesticides & Soil Moisture
20	17936 Greenview-B		905	" "	S	1	Content per Memphis
1621	1190 Springdale		940	1190 Springdale West	S	1	Plant SAP
	West-A		<del>940</del>				
1022	1190 Springdale		1000	" " "	S	1	
	West-B						
23	1190 Springdale		1020	1190 Springdale East	S	1	
	East-A						
14	1190 Springdale		1040	" " "	S	1	
	East-B						
25	1188 Tunica-A		1130	1188 Tunica	S	1	
6	1188 Tunica-B		1150	" "	S	1	
27	2116 Howell-A		1255	2116 Howell	S	1	
8	2116 Howell-B		1315	" "	S	1	
29	County on Trezvant-B		1345	County Prop./Trezvant	S	1	
0	062003-Dup		1355		S	1	
1	City on Trezvant-A		1405	City Prop./Trezvant	S	1	
32	Syed So.-A		1440	Syed South	S	1	
3	Syed So.-B	✓	1500	" "	S	1	✓
34	062003-RB	6/20/03	815	Rinsate Blank	N	2	Pesticides per Memphis SAP pH@lab=6 XPH

TOTAL NO. OF CONTAINERS - 17

RELINQUISHED BY:  
1 Mark Lush  
(sign)

DATE/TIME  
6/20/03 1520

RECEIVED BY:  
2 Gary Hermann  
(sign)

RELINQUISHED BY:  
2 \_\_\_\_\_  
(sign)

DATE/TIME

RECEIVED BY:  
3 \_\_\_\_\_  
(sign)

METHOD OF SHIPMENT:  
Hand Delivered

SHIPPED BY:  
Gary Hermann

RECEIVED FOR LABORATORY BY:  
(sign) Terri C. Gray 6/20/03 4<sup>10</sup> PM

CONDITION OF SEAL UPON RECEIPT:

COOLER OPENED BY:  
(sign) Terri C. Gray 6/20/03 4<sup>10</sup> PM

GENERAL CONDITION OF COOLER:

OK / ice

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

## LABORATORY REPORT

# FILE COPY

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek Sub-Area III  
Sample(s) Type: Water

Report Date: 07/25/03  
Report No: R-230705-A


All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary:

<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3510C/8081A	A	A	N-1	A	A (See N-1)

N-1: A blank spike was analyzed that had acceptable recoveries.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager

GTW ANALYTICAL SERVICES, LLC  
3715 S. Perkins, Suite 7, Memphis, TN 38118  
Telephone (901) 323-5554; FAX (901) 323-5573

SUBMIT REPORT TO  
COMPANY: Memphis Environmental Center  
CONTACT: Gary Hermann 230705

CHAIN OF CUSTODY  
RECORD

PROJECT NO:  
003-08-03-00

PROJECT NAME:  
Cypress Creek Sub-Area III

AMPLER'S SIGNATURE Mark Lush  
(sign)

M  
A  
T  
R  
I  
X

NO. OF  
CONTAINERS

REMARKS

1.	SAMPLE NO.	DATE	TIME	SAMPLE LOCATION	M A T R I X	NO. OF CONTAINERS	REMARKS
19	17936 Greenview-A	6/20/03	845	17936 Greenview Cir	S	1	Pesticides & Soil Moisture
20	17936 Greenview-B		905	" "	S	1	Content per Memphis
21	1190 Springdale		940	1190 Springdale West	S	1	Plant SAP
	West-A		<del>945</del>				
22	1190 Springdale		1000	" " "	S	1	
	West-B						
31	1190 Springdale		1020	1190 Springdale East	S	1	
	East-A						
41	1190 Springdale		1040	" " "	S	1	
	East-B						
25	1188 Tunica-A		1130	1188 Tunica	S	1	
	1188 Tunica-B		1150	" "	S	1	
27	2116 Howell-A		1255	2116 Howell	S	1	
	2116 Howell-B		1315	" "	S	1	
	County on Trezvant-B		1345	County Prop./Trezvant	S	1	
10	062003-Dup		1355		S	1	
	City on Trezvant-A		1405	City Prop./Trezvant	S	1	
2	Syed So.-A		1440	Syed South	S	1	
	Syed So.-B	✓	1500	" "	S	1	✓
4	062003-RB	6/20/03	815	Rinsate Blank	W	2	Pesticides per Memphis SAP pH@lab=6 XK

TOTAL NO. OF CONTAINERS - 17

ACQUIRED BY: 1 Mark Lush  
(sign)

DATE/TIME  
6/20/03 1520

RECEIVED BY: 2 Gary Hermann  
(sign)

ACQUIRED BY: 2 \_\_\_\_\_  
(sign)

DATE/TIME

RECEIVED BY: 3 \_\_\_\_\_  
(sign)

MODE OF SHIPMENT:  
and Delivered

SHIPPED BY:  
Gary Hermann

RECEIVED FOR LABORATORY BY:  
(sign) Terri C. Gray

DATE/TIME  
6/20/03 4<sup>10</sup> PM

CONDITION OF SEAL UPON RECEIPT:

OK / ice

COOLER OPENED BY:

(sign) Terri C. Gray

DATE/TIME  
6/20/03 4<sup>10</sup> PM

INITIAL CONDITION OF COOLER:

# GTW ANALYTICAL SERVICES, LLC

3715 S. Perkins, Suite 7  
Memphis, Tennessee 38118  
(901) 323-5554

# FILE COPY

## LABORATORY REPORT

Client Contact: Gary Hermann  
Project: MEC  
Cypress Creek Sub-Area III  
Sample(s) Type: Soil

Report Date: 08/11/03  
Report No: R-230753

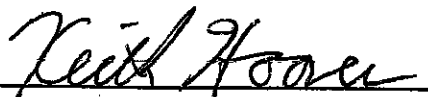
All sample results reported on an "as-received" basis unless otherwise indicated.

### Quality Assurance Summary:

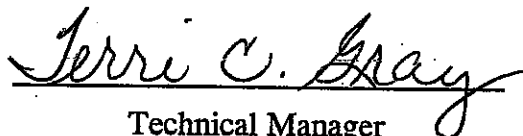
<u>Type of Analysis</u>	<u>Method</u>	<u>Holding Time</u>	<u>Surrogate Recoveries</u>	<u>Matrix Spike Recoveries</u>	<u>Blanks</u>	<u>Overall Summary</u>
PESTICIDES	SW-846 3550B/8081A	A	A	A (N-1)	A	A (See N-1)
MOISTURE CONTENT	SW-846 3550B	NA	NA	NA	NA	A

N-1: As noted in the report, one of the recoveries was unacceptable due to matrix interferences for Aldrin and Heptachlor. Due to the level of contamination that was present in the sample that was spiked, no valid recoveries could be determined for Dieldrin and Endrin. However, the blank spike had acceptable recoveries.

A = Requirements by method were met  
NA = Not applicable



QA Officer



Technical Manager

SUBMIT REPORT TO 230753  
COMPANY: Memphis Environmental Center  
CONTACT: Gary Hermann

PROJECT NAME:  
Cypress Creek Sub-Area III

M A T R I X	N O. O F C O N T A I N E R S
1	1
2	1
3	1
4	1
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97	1
98	1
99	1
100	1

[illegible]

RECEIVED BY: 2 Gary Harmon  
(sign)

RECEIVED BY: 3 \_\_\_\_\_  
(sign)

DATE/TIME  
7/2/03 1:50 PM

(sign) Terr C. Gray 7/2/03 1pm

GENERAL CONDITION OF COOLER:

**Attachment C**  
**Summary of MS/MSD Analyses**



# Summary of MS/MSD Analyses Cypress Creek Sub-Area III

Spiked Compound	Acceptable % Recovery Limits	MS % Recovery	MSD % Recovery	RPD	Acceptable RPD Limit
<b>VECA-A</b>					
4,4'-DDT	25-160	56.6	109	<b>63.29</b>	< 40%
Aldrin	42-122	64.7	-- <sup>C</sup>	--	< 40%
Dieldrin	36-146	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Endrin	30-147	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Gamma-BHC (Lindane)	32-127	88.5	106	17.99	< 40%
Heptachlor	34-111	82.3	<b>129<sup>B</sup></b>	44.20	< 40%
<b>1772 EDWARD-A</b>					
4,4'-DDT	25-160	-- <sup>D</sup>	-- <sup>D</sup>	--	< 40%
Aldrin	42-122	-- <sup>D</sup>	-- <sup>D</sup>	--	< 40%
Dieldrin	36-146	-- <sup>D</sup>	-- <sup>D</sup>	--	< 40%
Endrin	30-147	-- <sup>D</sup>	-- <sup>D</sup>	--	< 40%
Gamma-BHC (Lindane)	32-127	-- <sup>D</sup>	-- <sup>D</sup>	--	< 40%
Heptachlor	34-111	-- <sup>D</sup>	-- <sup>D</sup>	--	< 40%
<b>1721 GREENVIEW CIRCLE-A</b>					
4,4'-DDT	25-160	67.8	110	<b>44.47</b>	< 40%
Aldrin	42-122	<b>210<sup>B</sup></b>	<b>150<sup>B</sup></b>	33.33	< 40%
Dieldrin	36-146	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Endrin	30-147	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Gamma-BHC (Lindane)	32-127	114	115	0.87	< 40%
Heptachlor	34-111	<b>192<sup>B</sup></b>	<b>204<sup>B</sup></b>	6.06	< 40%
<b>1050 DAWES-B</b>					
4,4'-DDT	25-160	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Aldrin	42-122	58.9	<b>146<sup>B</sup></b>	<b>85.02</b>	< 40%
Dieldrin	36-146	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Endrin	30-147	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Gamma-BHC (Lindane)	32-127	63.6	<b>132<sup>B</sup></b>	<b>69.94</b>	< 40%
Heptachlor	34-111	93.5	<b>128<sup>B</sup></b>	31.15	< 40%
<b>928 MEAGHER-A</b>					
4,4'-DDT	25-160	121	96.5	22.53	< 40%
Aldrin	42-122	-- <sup>C</sup>	<b>137<sup>B</sup></b>	--	< 40%
Dieldrin	36-146	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Endrin	30-147	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Gamma-BHC (Lindane)	32-127	90.2	94.0	4.13	< 40%
Heptachlor	34-111	-- <sup>C</sup>	-- <sup>C</sup>	--	< 40%

## Summary of MS/MSD Analyses Cypress Creek Sub-Area III

Spiked Compound	Acceptable % Recovery Limits	MS % Recovery	MSD % Recovery	RPD	Acceptable RPD Limit
<b>2397 GENTRY-B</b>					
4,4'-DDT	25-160	-- <sup>C</sup>	-- <sup>C</sup>	--	< 40%
Aldrin	42-122	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Dieldrin	36-146	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Endrin	30-147	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Gamma-BHC (Lindane)	32-127	103	111	7.48	< 40%
Heptachlor	34-111	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
<b>1793 GREENVIEW-A</b>					
4,4'-DDT	25-160	96.3	104	7.69	< 40%
Aldrin	42-122	<b>37.5<sup>B</sup></b>	75.9	<b>67.72</b>	< 40%
Dieldrin	36-146	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Endrin	30-147	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Gamma-BHC (Lindane)	32-127	84.3	95.7	12.67	< 40%
Heptachlor	34-111	76.2	<b>145<sup>B</sup></b>	<b>62.21</b>	< 40%
<b>2245 HUNTER-A</b>					
4,4'-DDT	25-160	127	116	9.05	< 40%
Aldrin	42-122	71.9	-- <sup>C</sup>	--	< 40%
Dieldrin	36-146	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Endrin	30-147	-- <sup>E</sup>	-- <sup>E</sup>	--	< 40%
Gamma-BHC (Lindane)	32-127	114	119	4.29	< 40%
Heptachlor	34-111	<b>126</b>	90	<b>33.33</b>	< 40%

Notes: B - Recovery unacceptable due to matrix interference

C - Recovery unavailable due to matrix interference

D - Recovery unavailable due to dilution

E - Recovery unavailable due to high concentration of analyte in sample

## **Attachment D**

### **Summary of Field Duplicate Analyses**

## Summary of Field Duplicate Analyses Cypress Creek Sub-Area III

Analyte	VECA-A	042303-DUP	RPD (%)	RPD Control Limit
4,4'-DDE	8.35	< 20	82.2	< 40%
4,4'-DDT	17.4	48.5	94.4	< 40%
Aldrin	9.2	41.6	127.6	< 40%
Alpha-Chlordane	16	34.1	72.3	< 40%
Chlordene	49.4	282	140.4	< 40%
Dieldrin	369	854	79.3	< 40%
Endosulfan II	5.84	< 20	109.6	< 40%
Endrin	1,330	3,750	95.3	< 40%
Endrin Ketone	1,150	2,790	83.2	< 40%
Gamma-Chlordane	76.9	166	73.4	< 40%
Heptachlor Epoxide	12	48.5	120.7	< 40%
Hex VCL	944	2,950	103.0	< 40%
Hexachloronorbornadiene	21.3	54	86.9	< 40%
Isodrin	150	662	126.1	< 40%

Analyte	1743GREENVIEW-A	050803-DUP	RPD (%)	RPD Control Limit
4,4'-DDD	< 5	11.1	75.8	< 40%
4,4'-DDE	61	63.9	4.6	< 40%
4,4'-DDT	67.6	75.2	10.6	< 40%
Alpha-Chlordane	< 5	31.8	145.7	< 40%
Aldrin	26.4	< 5	136.3	< 40%
Beta-BHC	5.67	< 5	12.6	< 40%
Chlordene	339	11	187.4	< 40%
Dieldrin	212	218	2.8	< 40%
Endrin	912	505	57.4	< 40%
Endrin Ketone	390	371	5.0	< 40%
Gamma-Chlordane	72.2	63.7	12.5	< 40%
Heptachlor	29.4	< 5	141.9	< 40%
Heptachlor Epoxide	41.5	36.8	12.0	< 40%
Hex VCL	1330	1508	12.5	< 40%
Hexachloronorbornadiene	228	40.6	139.5	< 40%
Isodrin	790	35.2	182.9	< 40%

## Summary of Field Duplicate Analyses Cypress Creek Sub-Area III

Analyte	SYED NO. - B	052803-DUP	RPD (%)	RPD Control Limit
Aldrin	198	293	38.7	< 40%
Alpha-Chlordane	150	167	10.7	< 40%
Beta-BHC	37.2	53.6	36.1	< 40%
Chlordene	3,330	4,200	23.1	< 40%
Dieldrin	3,060	3,260	6.3	< 40%
Endosulfan II	57.4	94.3	<b>48.6</b>	< 40%
Endosulfan Sulfate	43.5	53.9	21.4	< 40%
Endrin	10,000	10,200	2.0	< 40%
Endrin Ketone	59,400	51,200	14.8	< 40%
Gamma-Chlordane	637	695	8.7	< 40%
Heptachlor	416	495	17.3	< 40%
Heptachlor Epoxide	84.7	89.4	5.4	< 40%
Hex VCL	12,700	14,000	9.7	< 40%
Hexachloronorborene	5,290	5,760	8.5	< 40%
Isodrin	7,780	10,400	28.8	< 40%

Analyte	2164 HUBERT CL - B	060403-DUP	RPD (%)	RPD Control Limit
4,4'-DDE	< 5	29.9	<b>142.7</b>	< 40%
4,4'-DDT	< 5	49.5	<b>163.3</b>	< 40%
Chlordene	20	26.8	29.1	< 40%
Dieldrin	474	488	2.9	< 40%
Endosulfan II	53.2	26.5	<b>67.0</b>	< 40%
Endrin	1,420	1,510	6.1	< 40%
Endrin Ketone	3,270	3,290	0.6	< 40%
Heptachlor	43.7	7.72	<b>139.9</b>	< 40%
Heptachlor Epoxide	154	109	34.2	< 40%
Hex VCL	79.1	72.9	8.2	< 40%
Hexachloronorborene	10.7	15.4	36.0	< 40%
Isodrin	93.3	114	20.0	< 40%
Technical Chlordane	8,410	5,590	<b>40.3</b>	< 40%

## Summary of Field Duplicate Analyses Cypress Creek Sub-Area III

Analyte	2150 HUBERT CL - A	061003-DUP	RPD (%)	RPD Control Limit
4,4'-DDT	11.1	8.5	26.5	< 40%
Aldrin	5.63	8.58	41.5	< 40%
Alpha-Chlordane	24.8	17.6	34.0	< 40%
Chlordene	69.3	35.4	64.8	< 40%
Dieldrin	452	319	34.5	< 40%
Endosulfan II	7.13	< 5	35.1	< 40%
Endrin	2,560	1,460	54.7	< 40%
Endrin Ketone	5,120	3,820	29.1	< 40%
Gamma-Chlordane	130	87.6	39.0	< 40%
Heptachlor	12.6	6.84	59.3	< 40%
Heptachlor Epoxide	38.6	28.4	30.4	< 40%
Hex VCL	1,040	692	40.2	< 40%
Hexachloronorbornadiene	37.4	27	32.3	< 40%
Isodrin	258	302	15.7	< 40%

Analyte	COUNTY ON TREZVANT - B	062003-DUP	RPD (%)	RPD Control Limit
Dieldrin	18.9	20.8	9.6	< 40%
Endrin	46.9	38.5	19.7	< 40%
Endrin Ketone	24.7	< 20	21.0	< 40%
Hex VCL	6.93	6.79	2.0	< 40%
Hexachlorocyclopentadiene	5.86	5.68	3.1	< 40%
Isodrin	5.13	< 5	2.6	< 40%

Analyte	MLGW - A	070203-DUP	RPD (%)	RPD Control Limit
Aldrin	517	720	32.8	< 40%
Alpha-Chlordane	441	550	22.0	< 40%
Chlordene	7,940	9,960	22.6	< 40%
Dieldrin	9,070	10,300	12.7	< 40%
Endosulfan II	169	230	30.6	< 40%
Endosulfan Sulfate	107	137	24.6	< 40%
Endrin	58,100	70,400	19.1	< 40%
Endrin Ketone	119,000	142,000	17.6	< 40%
Gamma-Chlordane	1,380	1,670	19.0	< 40%
Heptachlor	1,720	1,910	10.5	< 40%
Heptachlor Epoxide	149	168	12.0	< 40%
Hex VCL	23,600	25,000	5.8	< 40%
Hexachloronorbornadiene	16,500	17,100	3.6	< 40%
Isodrin	22,200	29,600	28.6	< 40%