Appendix E
USACE Sediment Sampling and Testing

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APPENDIX E:

USACE SEDIMENT SAMPLING AND TESTING

E.1 Introduction

This appendix includes the methods and results of sediment sampling and testing by the USACE within the MKARNS in Oklahoma and Arkansas respectively.

E.2 Sediment Sampling and Testing in Oklahoma

E.2.1 Data Quality Validation Memorandum Letter

04 December 2004

Memorandum For: Chief, Planning (Steve Nolen)

SUBJECT: McClellan-Kerr Arkansas River Navigation System, September 2004 Sediment Study, Chemical Data Quality Assurance Report Memorandum

1. This memorandum addresses the quality of data generated by the sediment study conducted along the McClellan Kerr Arkansas Navigation System (MKARNS) during the month of September 2004. From 20th - 24th September, representatives of the US Army Corps of Engineers (USACE), Tulsa District collected sediment samples along the MKARNS. In particular, 24 surface sediment, 12 subsurface sediment, 4 quality control (QC) duplicate, 4 quality assurance (QA) duplicate, and 3 equipment blank samples were collected.

2. All field, QC duplicate, and equipment blank samples were shipped to General Engineering Laboratory (GEL), located in Charleston, South Carolina. The QA duplicate samples were shipped to Analytical Management Laboratories (AML), located in Olathe, Kansas. Both laboratories are currently under contract to the USACE, Tulsa District.

All samples were analyzed for the following parameters; semivolatile organics, organochlorine pesticides, polychlorinated biphenyls, total cyanide, total organic carbon, and total metals. The list of metals included, arsenic, barium, cadmium, copper, chromium, iron, lead, manganese, mercury, silver, selenium, and zinc. Samples were analyzed in accordance with current guidelines established by the environmental protection agency and routinely referenced in USEPA SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (3rd Edition).

3. Analytical data generated by the September 2004 sampling event is addressed in GEL sample delivery group 122190, 122094, 122194, 122195, and 122196 and AML report 5905. Reviews of the GEL reports were completed and are addressed in the following paragraphs. A review of the AML report was completed, however, no remarks were made since no issues affecting the field results were observed.

Chain of Custody

All samples were received within the proper holding times and in accordance with current sample handling protocols with the following exceptions:

Samples analyzed for total cyanide (7-SBC A and 338.0 A) were analyzed 1 day outside of the method holding time. Current protocols recommend that results reported as "detected" should be

considered estimated and marked "J". Results reported as "nondetect" should be considered rejected and marked "R".

Sample Preparation and Analytical Batches

Semivolatile Organics: Sediment samples were prepared in accordance with SW846 method 3550B and identified by sample batch 368632, 368640, and 368642. Sediment samples were analyzed in accordance with SW846 method 8270C and identified by sample batch 368633, 368641, and 368643.

Liquid samples were prepared in accordance with SW846 method 3510C and identified by sample batch 368634 and 368634. Liquid samples were analyzed in accordance with SW846 method 8270C and identified by sample batch 368635 and 368635.

Organochlorine Pesticides: Sediment samples were prepared in accordance with SW846 method 3550B and identified by sample batch 368983 and 369399. Sediment samples were analyzed in accordance with SW846 method 8081A and identified by sample batch 368984 and 369400.

Liquid samples were prepared in accordance with SW846 method 3510C and identified by sample batch 368663 and 369397. Liquid samples were analyzed in accordance with SW846 method 8081A and identified by sample batch 368664 and 369398.

Note: Samples 7-SBC A, 7-SBC B, 9-SBC A, 9-SBC B, 338.0 A, 344.0 A, 348.7 A, 348.7 B, 355.7 A, 355.7 A QC, 355.7 B, and 362.2 A were re-analyzed due to a check standard failure. Sample results were not adversely affected.

Polychlorinated Biphenyls: Sediment samples were prepared in accordance with SW846 method 3550B and identified by sample batch 368616, 368620, and 368618. Sediment samples were analyzed in accordance with SW846 method 8082 and identified by sample batch 368617, 368621, and 368619.

Liquid samples were prepared in accordance with SW846 method 3510C and identified by sample batch 368622 and 368622. Liquid samples were analyzed in accordance with SW846 method 8082 and identified by sample batch 368624 and 368624.

Total Cyanide: Sediment samples were prepared in accordance with SW846 method 9010B and identified by sample batch 370689, 371815, 371379, 371389, and 371389. Sediment samples were analyzed in accordance with SW846 method 9012A and identified by sample batch 370691, 371816, 371386, 371390, and 371390.

Liquid samples were prepared in accordance with SW846 method 9010B and identified by sample batch 370706. Sediment samples were analyzed in accordance with SW846 method 9012A and identified by sample batch 370707.

Total Organic Carbon: Sediment samples were prepared in accordance with EPA method 415.1(modified) and identified by sample batch 369014, 369016, 369022, 369019, 369022, and 369019. Sediment samples were analyzed in accordance with EPA method 415.1(modified) and identified by sample batch 369013, 369017, 369023, 369019, 369023, and 369020.

Liquid samples were prepared and analyzed in accordance with EPA method 415.1 and identified by sample batch 3721272 and 372175.

Total Metals: Sediment samples were prepared in accordance with SW846 method 3050B/7471A and identified by sample batch 368381, 371168, 371173, and 368723. Sediment samples were analyzed in accordance with SW846 method 6010B/7471A and identified by sample batch 368382, 371169, 371173, and 368721.

Liquid samples were prepared in accordance with SW846 method 3005A/7470A and identified by sample batch 368455, 371160, 371179, 371160, 369151, and 368726. Liquid samples were analyzed in accordance with SW846 method 6010B/7470A and identified by sample batch 368456, 371161, 371180, 371161, 369152 and 368728.

Precision

Internal and surrogate standard (IS/SS) recoveries were reported to fall within acceptable quality control limits with the following exception. GEL reported that the IS for semivolatile organic samples 429.3 A and 443.6 failed to recover properly. The two samples were reanalyzed to confirm that the IS failure was due to matrix interference. The results reported for both samples are considered to be valid.

Similarly, GEL reported that the IS for semivolatile organic samples 379.5 A and 392.3 B failed. The samples were reanalyzed and recovered properly. The results for both samples are considered to be valid.

Laboratory control spike recoveries were reported to fall within acceptable quality control limits.

Accuracy

Laboratory control spike duplicate recoveries were reported to fall within acceptable quality control limits.

Matrix spike duplicate recoveries fell within acceptable quality control limits. Relative percent differences (RPDs) were reported to fall within acceptable quality control limits.

Method and equipment blanks were generally reported to be free of contamination with the following exceptions. The method blank for sediment analyses reported trace level concentrations of zinc (0.250 J, 0.235 J, and 0.310 J ug/kg). The method blank for water analyses reported trace level concentrations of zinc (1.71 J ug/L). Sample results were not adversely affected.

The equipment blank reported estimated levels of manganese and zinc at 0.349 and 2.62 ug/L, respectively. Sample results were not adversely affected.

Representativeness

Four sediment samples were collected in duplicate and analyzed by GEL. An evaluation of the field and QC duplicate sample data suggests that the results are comparable.

Comparability

Four sediment samples were collected in duplicate and analyzed by GEL. An evaluation of the field and QA duplicate sample data suggests that the results are comparable except for the following. A review of the results for total organic carbon (TOC) data indicated that the QA TOC results were notably greater than the field TOC results. There is no immediate or apparent reason for this discrepancy. A review of each lab and their methods regarding TOC analysis is currently being performed.

Completeness

With regards to sample collection and analysis, a completeness of approximately 98% was demonstrated.

Sensitivity

The analytical methods selected to analyze the samples were determined to meet the project data quality objectives. Initial and continuing calibration verifications were reported to meet acceptable QC limits.

4. An evaluation of the analytical data generated by the September 2004 MKARNS sediment study indicates that the sample handling, shipment, and analytical procedures have been adequately completed and that the analytical results should be considered accurate.

Christopher Kennedy,
Senior Chemist, HTRW Design Center
United States Army Corps of Engineers

E.2.2 Methodology

E.2.2.1 Purpose

Perform "screening" level analysis of MKARNS sediment quality in support of both future O&M dredging needs (maintenance of 9-ft channel) as well as impact assessment for channel deepening proposals.

E.2.2.2 Sampling Site Selection

- Specific reaches for both future O&M dredging as well as channel deepening proposals were identified and plotted on navigational charts.
- All reaches for future O&M dredging (existing 9-ft channel) were selected for sampling.
- Reaches identified as unique to deepening alternatives were evaluated for presence of nearby industry, wastewater discharges, and other readily-identifiable potential contaminant sources. In addition, very limited historical sediment data were evaluated where they existed. Reaches for sampling were selected based on these considerations in an effort to provide for

screening-level sampling in areas most likely to possess contaminants. Sampling locations within reaches were identified by river mile.
- Similar methodology was used for sampling site selection for both OK and AR portions of the MKARNS. Sampling sites in OK and AR were selected by Tulsa and Little Rock District personnel, respectively.

E.2.2.3 Sampling Methods

- Samples were collected by use of a barge-mounted Geoprobe® sampler. This device employs push technology to collect soil or sediment samples with depth.
- Surface sediment (approximately 0-6 inches) samples were collected to support future O&M dredging needs in appropriate areas. These samples were noted with an "A" in the sample identification number.
- For samples supporting impact assessment for deepening alternatives, a single depth-composited sample from the sediment surface to an approximate depth of dredging (representing 12-ft channel) was collected. These samples were noted with a "B" in the sample ID number.
- Sample ID numbers were denoted by MKARN river mile and depth indicator ("A" or "B" as described above). For example, 379.5A would correspond to a surface sediment sample collected at river mile 379.5. Note that SBC is San Bois Creek in R.S. Kerr Pool.
- Samples were collected by Tulsa District HTRW-trained personnel using appropriate sample containers, decontamination procedures, and other techniques common to HTRW sampling.
- At an approximate 10% sample frequency, triplicate samples were collected. In addition to the primary field sample, a second (designated with "QC" in sample identifier) was analyzed by the primary laboratory as a field duplicate. A third (with "QA" in sample ID) was submitted to an independent laboratory as a quality assurance sample.

E.2.2.4 Analytical Parameters

- Samples were analyzed for the following constituents using the noted methods: semivolatile organics (8270C), chlorinated pesticides (8081A), polychlorinated biphenyls (PCBs)(8082), total metals (arsenic, barium, cadmium, chromium, copper, iron, lead, manganese, selenium, silver, zinc)(6010) and mercury (7471), total organic carbon (415.1), and total cyanide (9012A).
- Samples for grain size analysis were collected and archived for future analysis, if necessary.
- Upon receipt of results, data validation was conducted by Tulsa District chemists. The resulting Chemical Data Quality Assurance Report Memorandum (CDQARM) is attached.

E.2.2.5 Threshold Values for Data Interpretation

As national sediment quality standards do not exist, sediment quality guidelines for freshwater systems as described by MacDonald *et al.* (2000) are frequently used for sediment quality screening analyses. This paper should be reviewed for a complete understanding of derivation methods and assumptions. MKARNS results were screened using consensus-based Threshold Effects Concentrations (TEC) and Probable Effects Concentrations (PEC) values from this publication. These values are described below.

- Threshold Effects Concentration (TEC): values "below which adverse effects are not expected to occur."
- Probable Effects Concentration (PEC): values "above which adverse effects are expected to occur more often than not."
- TEC and PEC values for constituents evaluated in MKARNS samples are included with the attached data table of results. Absence of guideline values indicates that such criteria have not been developed for that constituent.

E.2.2.6 Synopsis of Results

- To date (1/14/05), results have been obtained for all OK sampling locations with the exception of three sites in Pool 13 which crosses the OK-AR State line. Three OK locations at river miles 312.3 and 317 and Poteau River mile 1.3 will be sampled in conjunction with data collection in the AR portion of the MKARNS.
- Sampling in AR has been delayed owing to safety concerns associated with high water levels. Sampling at 18 locations in the AR portion of the system is planned when water levels subside.
- Analytical results of samples collected to date as well as corresponding TEC and PEC values are included in the attached spreadsheet (MKARNS Sediment data Tables.xls). Values for detected constituents are in bold. Results were reported on a dry weight basis.
- Values denoted with "J" are "estimated values" indicating that the result was greater than the sample detection limit but less than the reporting level.
- "less than" values in the attached table reflect required "reporting levels" (RLs). Actual sample-specific detection limits (DLs) are lower, often by a factor or approximately 2 to 8. These DLs for each sample are available in the analytical data package. In general, DLs for analytes are lower than appropriate TECs facilitating an adequate analysis of results.

E.2.2.7 Detected Constituents

In general, constituents were reported at low detection frequencies and concentrations throughout the sampled Oklahoma portion of the MKARNS.

- bis(2-ethylhexyl)phthalate, a phthalate ester, was detected in low concentrations in several samples. This compound is recognized by the USEPA as a common laboratory contaminant and may be introduced into a sample through laboratory cross-contamination (USEPA 1989).
- The only other detected semivolatile compounds included several detected at low concentrations in the depth-composited sample at river mile 421.0. For those with established TECs, detected concentrations were well-below TEC criteria.
- For chlorinated pesticides, detected constituents occurred in only three samples (7SBC B, 421.0 B, and 422.0 B). In all cases, concentrations were low and below TECs for specific pesticides
- Detected concentrations of PCBs were reported for only one sample (a surface sample at 9 SBC). Total PCBs at this location were 26.2 ug/Kg (parts-per-billion or ppb), below the total PCB TEC of 59.8 ug/Kg.
- With the one exception noted below, concentrations of all metals were below TEC values in all samples at all locations.

- In the surface sample from river mile 421.0 (near Newt Graham Lock and Dam), cadmium was detected at 3.45 mg/Kg (parts-per-million or ppm). This concentration exceeds the cadmium TEC of 0.99 but is less than the PEC of 4.98 ug/Kg. A much lower concentration (0.624 J) was reported in the depth-composited sample at this location.

E.2.2.8 References

MacDonald, D.D., C.G. Ingersoll, and T.A. Berger. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Arch. Environ. Contam. Toxicol. 39:20-31.

USEPA. 1989. Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A). EPA/540/1-89/002. Office of Emergency and Remedial Response, Washington D.C.

Table E.1 Sediment Testing Results from Locations in Oklahoma.

			Sample ID	7 SBC A	7 SBC B	338.0 A	9 SBC A	9 SBC B	344.0 A	348.7 A	348.7 B	355.7 A	355.7 A QC	355.7 A QA	355.7 B	362.2 A	367.2 A	379.5 A	383.5 A	389.4 A
			Lab ID	122090001	122090003	122090002	122090004	122090005	122090006	122090007	122090008	122090009	122090010	590501	122090011	122090012	122196001	122196002	122196003	122196004
			Sample Date	09/20/04	09/20/04	09/20/04	09/20/04	09/21/04	09/21/04	09/21/04	09/21/04	09/22/04	09/22/04	09/22/04	09/22/04	09/22/04	09/22/04	09/22/04	09/22/04	09/22/04
Parameter	**Method**	**Analyte**	**Units**																	
Semivolatile Organic	8270C	1,2,4,5 tetrachlorobenzene	ug/kg	<521	<433	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		2,3,4,6 tetrachlorophenol	ug/kg	<521	<433	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		2,4,5 trichlorophenol	ug/kg	<521	<433	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		2,4,6 trichlorophenol	ug/kg	<521	<433	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		2,4 dichlorophenol	ug/kg	<521	<433	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		2,4 dimethylphenol	ug/kg	<521	<433	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		2,4 dinitrophenol	ug/kg	<1040	<885	<1350	<949	<833	<832	<804	<861	<970	<963	<469	<788	<782	<1000	<809	<800	<793
		2,4 dinitrotoluene	ug/kg	<521	<433	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		2,6 dichlorophenol	ug/kg	<521	<433	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		2,6 dinitrotoluene	ug/kg	<521	<433	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		2 chloronaphthalene	ug/kg	<52.1	<443	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<469	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		2 chlorophenol	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		2 methyl 4,6 dinitrophenol	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		2 methylnaphthalene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<469	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		2 nitrophenol	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		3,3' dichlorobenzidine	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		3,3' dimethylbenzidine	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		4 bromophenylphenylether	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		4 chloro 3 methylphenol	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		4 chloroaniline	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		4 chlorophenylphenylether	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		4 nitrophenol	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		acenaphthylene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<469	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		acetophenone	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		aniline	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		anthracene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<469	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		benzo(a)anthracene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<93.9	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		benzo(a)pyrene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<93.9	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		benzo(b)fluoranthene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<93.9	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		benzo(ghi)perylene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<469	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		benzo(k)fluoranthene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<93.9	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		benzyl alcohol	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		butylbenzylphthalate	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		chlorobenzilate	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		chrysene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<93.9	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		di n butylphthalate	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		di n octylphthalate	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		dibenzo(a,b)anthracene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<93.9	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		dibenzofuran	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		diethylphthalate	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		dimethylphthalate	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		diphenylamine	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		ethyl methanesulfonate	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		fluoranthene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<469	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		fluorene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<469	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		hexachlorobenzene	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		hexachlorocyclopentadiene	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		hexachloroethane	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		indeno (1,2,3 cd)pyrene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<93.9	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		methyl methanesulfonate	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		N methyl N nitrosomethylamine	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		N nitrosodi n butylamine	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		N nitrosodiethylamine	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		N nitrosodipropylamine	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		nitrobenzene	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		pentachlorobenzene	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		pentachloronitrobenzene	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		pentachlorophenol	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		phenacetin	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		phenanthrene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<469	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		phenol	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397

Table E.1 Sediment Testing Results from Locations in Oklahoma.

		Sample ID	7 SBC A	7 SBC B	338.0 A	9 SBC A	9 SBC B	344.0 A	348.7 A	348.7 B	355.7 A	355.7 A QC	355.7 A QA	355.7 B	362.2 A	367.2 A	379.5 A	383.5 A	389.4 A
		Lab ID	122090001	122090003	122090002	122090004	122090005	122090006	122090007	122090008	122090009	122090010	590501	122090011	122090012	122196001	122196002	122196003	122196004
		Sample Date	09/20/04	09/20/04	09/20/04	09/20/04	09/21/04	09/21/04	09/21/04	09/21/04	09/22/04	09/22/04	09/22/04	09/22/04	09/22/04	09/22/04	09/22/04	09/22/04	09/22/04
Parameter	**Method**	**Analyte**	**Units**																
		pyrene	ug/kg	<52.1	<44.3	<67.7	<47.4	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<469	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		pyridine	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		bis(2 chloroethoxy)methane	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		bis(2 choroethyl) ether	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		bis(2 ethlyhexyl)phthalate	ug/kg	**60.7 J**	**42.5 J**	<388	**44.7 J**	<417	**40.2 J**	<402	**44.9 J**	**50.8 J**	**48.4 J**	<469	**37.9 J**	**35.8 J**	<502	<404	<400	<397
		m,p cresols	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	**80.5**	<394	<391	<502	<404	<400	<397
		m nitroaniline	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		o cresol	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		o nitroaniline	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
		p nitroaniline	ug/kg	<521	<443	<677	<474	<417	<416	<402	<430	<485	<481	<469	<394	<391	<502	<404	<400	<397
Pesticide	8081A	4,4' DDD	ug/kg	<2.08	<1.77	<2.71	<1.90	<1.67	<1.66	<1.61	<1.72	<1.94	<1.93	5.28 J	<1.58	<1.56	<2.01	<1.62	<1.60	<1.59
		4,4' DDE	ug/kg	<2.08	<1.77	**1.18 J**	<1.90	<1.67	<1.66	<1.61	<1.72	<1.94	<1.93	1.68 J	<1.58	<1.56	<2.01	<1.62	<1.60	<1.59
		4,4' DDT	ug/kg	<2.08	<1.77	<2.71	<1.90	<1.67	<1.66	<1.61	<1.72	<1.94	<1.93	67	<1.58	<1.56	<2.01	<1.62	<1.60	<1.59
		aldrin	ug/kg	<1.04	<0.885	<1.35	<0.949	<0.833	<0.832	<0.804	<0.861	<0.970	<0.963	<1.16	<0.788	<0.782	<1.00	<0.809	<0.800	<0.793
		chlordane	ug/kg	<13.0	<11.1	<16.9	<11.9	<10.4	<10.4	<10.0	<10.8	<12.1	<12.0	<23.2	<9.85	<9.78	<12.6	<10.1	<9.99	<9.92
		dieldrin	ug/kg	<2.08	<1.77	<2.71	<1.90	<1.67	<1.66	<1.61	<1.72	<1.94	<1.93	<1.16	<1.58	<1.56	<2.01	<1.62	<1.60	<1.59
		endosulfan I	ug/kg	<1.04	<0.885	<1.35	<0.949	<0.833	<0.832	<0.804	<0.861	<0.970	<0.963	<1.16	<0.788	<0.782	<1.00	<0.809	<0.800	<0.793
		endosulfan II	ug/kg	<2.08	<1.77	<2.71	<1.90	<1.67	<1.66	<1.61	<1.72	<1.94	<1.93	<2.32	<1.58	<1.56	<2.01	<1.62	<1.60	<1.59
		endosulfan sulfate	ug/kg	<2.08	<1.77	<2.71	<1.90	<1.67	<1.66	<1.61	<1.72	<1.94	<1.93	<2.32	<1.58	<1.56	<2.01	<1.62	<1.60	<1.59
		endrin	ug/kg	<2.08	<1.77	<2.71	<1.90	<1.67	<1.66	<1.61	<1.72	<1.94	<1.93	<2.32	<1.58	<1.56	<2.01	<1.62	<1.60	<1.59
		endrin aldehyde	ug/kg	<2.08	<1.77	<2.71	<1.90	<1.67	<1.66	<1.61	<1.72	<1.94	<1.93	<2.32	<1.58	<1.56	<2.01	<1.62	<1.60	<1.59
		heptachlor	ug/kg	<1.04	<0.885	<1.35	<0.949	<0.833	<0.832	<0.804	<0.861	<0.970	<0.963	<1.16	<0.788	<0.782	<1.00	<0.809	<0.800	<0.793
		heptachlor epoxide	ug/kg	<1.04	<0.885	<1.35	<0.949	<0.833	<0.832	<0.804	<0.861	<0.970	<0.963	<1.16	<0.788	<0.782	<1.00	<0.809	<0.800	<0.793
		methoxychlor	ug/kg	<10.4	<8.85	<13.5	<9.49	<8.33	<8.32	<8.04	<8.61	<9.70	<9.63	<1.16	<7.88	<7.82	<10.0	<8.09	<8.00	<7.93
		toxaphene	ug/kg	<52.1	<44.3	<67.7	<47.9	<41.7	<41.6	<40.2	<43.0	<48.5	<48.1	<46.4	<39.4	<39.1	<50.2	<40.4	<40.0	<39.7
		alpha BHC	ug/kg	<2.08	<0.885	<1.35	<0.949	<0.833	<0.832	<0.804	<0.861	<0.970	<0.963	<1.16	<0.788	<0.782	<1.00	<0.809	<0.800	<0.793
		beta BHC	ug/kg	<2.08	<0.885	<1.35	<0.949	<0.833	<0.832	<0.804	<0.861	<0.970	<0.963	<1.16	<0.788	<0.782	<1.00	<0.809	<0.800	<0.793
		delta BHC	ug/kg	<2.08	<0.885	<1.35	<0.949	<0.833	<0.832	<0.804	<0.861	<0.970	<0.963	<1.16	<0.788	<0.782	<1.00	<0.809	<0.800	<0.793
		gamma BHC (lindane)	ug/kg	<2.08	<0.885	<1.35	<0.949	<0.833	<0.832	<0.804	<0.861	<0.970	<0.963	<1.16	<0.788	<0.782	<1.00	<0.809	<0.800	<0.793
Polychlorinated Biphenyl	8082	arochlor 1016	ug/kg	<5.21	<4.43	<6.77	<4.74	<4.17	<4.16	<4.02	<4.30	<4.85	<4.81	<46.4	<3.94	<3.91	<5.02	<4.04	<4.00	<3.97
		arochlor 1221	ug/kg	<5.21	<4.43	<6.77	<4.74	<4.17	<4.16	<4.02	<4.30	<4.85	<4.81	<46.4	<3.94	<3.91	<5.02	<4.04	<4.00	<3.97
		arochlor 1232	ug/kg	<5.21	<4.43	<6.77	<4.74	<4.17	<4.16	<4.02	<4.30	<4.85	<4.81	<46.4	<3.94	<3.91	<5.02	<4.04	<4.00	<3.97
		arochlor 1242	ug/kg	<5.21	<4.43	<6.77	**15.0**	<4.17	<4.16	<4.02	<4.30	<4.85	<4.81	<46.4	<3.94	<3.91	<5.02	<4.04	<4.00	<3.97
		arochlor 1248	ug/kg	<5.21	<4.43	<6.77	<4.74	<4.17	<4.16	<4.02	<4.30	<4.85	<4.81	<46.4	<3.94	<3.91	<5.02	<4.04	<4.00	<3.97
		arochlor 1254	ug/kg	<5.21	<4.43	<6.77	**7.00**	<4.17	<4.16	<4.02	<4.30	<4.85	<4.81	<46.4	<3.94	<3.91	<5.02	<4.04	<4.00	<3.97
		arochlor 1260	ug/kg	<5.21	<4.43	<6.77	**4.20 J**	<4.17	<4.16	<4.02	<4.30	<4.85	<4.81	<46.4	<3.94	<3.91	<5.02	<4.04	<4.00	<3.97
Total Metals	6010	arsenic	mg/kg	**4.80**	**5.82**	**4.24**	**9.18**	**2.80**	**2.22**	**0.460 J**	**0.506 J**	**2.78**	**2.89**	**2.47**	**1.28**	**7.22**	**3.31**	**1.19**	**1.48**	**1.68**
		barium	mg/kg	**100**	**145**	**139**	**99.4**	**119**	**42.4**	**19.3**	**17.8**	**70.2**	**74.2**	**49.3**	**22.4**	**50.8**	**95.1**	**23.9**	**22.7**	**30.1**
		cadmium	mg/kg	<0.774	<0.665	<0.997	<3.52	<0.613	<0.610	<0.591	<0.634	<0.711	<0.716	<0.567	<0.585	<0.573	**0.180 J**	<0.601	<0.590	<0.595
		chromium	mg/kg	**16.2**	**24.6**	**23.0**	**27.0**	**22.5**	**7.51**	**1.82**	**1.78**	**11.5**	**11.2**	**1.77**	**3.19**	**3.10**	**14.0**	**3.34**	**2.29**	**2.01**
		copper	mg/kg	**7.61**	**12.4**	**11.1**	**11.1**	**9.66**	**3.06**	**0.408 J**	**0.455 J**	**5.07**	**4.96**	**3.82**	**0.816**	**1.54**	**8.22**	**0.880**	**0.545 J**	**0.947**
		iron	mg/kg	**16600**	**24500**	**18500**	**32500**	**15800**	**6840**	**1800**	**1590**	**9430**	**9560**	**5824**	**2940**	**7500**	**12300**	**2920**	**2460**	**2640**
		lead	mg/kg	**9.93**	**13.9**	**13.3**	**16.0**	**8.12**	**4.39**	**1.40**	**1.21**	**7.03**	**7.01**	**5.22**	**2.41**	**4.55**	**9.95**	**2.41**	**2.70**	**2.62**
		manganese	mg/kg	**666**	**447**	**618**	**1020**	**200**	**292**	**68.9**	**39.3**	**491**	**487**	**329**	**78.9**	**515**	**405**	**108**	**83.5**	**102**
		selenium	mg/kg	**0.656 J**	**1.91**	**2.39**	**2.06**	**1.47**	**0.957**	<0.591	<0.634	**0.235 J**	**0.580 J**	<0.567	**0.521 J**	<0.573	**0.483 J**	<0.601	<0.590	<0.595
		silver	mg/kg	**0.172 J**	<0.665	**0.139 J**	**0.175 J**	**0.131 J**	<0.610	<0.591	<0.634	<0.711	**0.170 J**	**<2.84**	<0.585	<0.573	<0.733	<0.601	<0.590	**7.12**
		zinc	mg/kg	**41.8**	**58.2**	**61.7**	**60.2**	**45.9**	**17.8**	**4.32**	**3.98**	**33.1**	**32.2**	**23.5**	**9.07**	**17.1**	**47.2**	**8.71**	**6.41**	<2.97
	7471	mercury	mg/kg	**0.0187**	**0.0169**	**0.0254**	**0.0142**	**0.0168**	**0.00403 J**	<0.0118	<0.0128	**0.00932 J**	**0.00679 J**	<0.018	**0.00189 J**	**0.00132 J**	**0.014**	<0.0119	**0.0023 J**	<0.0115
Total Organic Carbon	415.1	total organic carbon	mg/kg	**9130**	**3860**	**7980**	**10900**	**3870**	**2970**	**712**	**887**	**3800**	**5240**	**25650**	**371**	**1960**	**8950**	**924**	**437**	**510**
Total Cyanide	9012A	cyanide	ug/kg	**411**	**56.0 J**	**277 H J**	**316 J**	**172 J**	<297	**298**	**182 J**	**146 J**	**125 J**	<778	<295	**116 J**	**357 J**	<303	<300	<275

Table E.1 Sediment Testing Results from Locations in Oklahoma.

			390.7 A	392.2 A	392.2 A QC	392.2 A QA	392.2 B	392.7 A	392.7 B	394.3 A	394.3 B	400.3 A	400.3 B	402.0 A	402.0 B	421.0 A	421.0 B	422.0 A	422.0 B	422 .0 B QC
			122196005	122196006	122196007	590502	122196008	122196009	122196010	122196011	122196012	122195001	122195002	122195003	122195003	122195005	122195006	122195007	122195008	122195009
			09/22/04	09/23/04	09/23/04	09/23/04	09/23/04	09/23/04	09/23/04	09/23/04	09/23/04	09/23/04	09/23/04	09/23/04	09/23/04	09/23/04	09/23/04	09/24/04	09/24/04	09/24/04
Parameter	**Method**	**Analyte**																		
Semivolatile Organic	8270C	1,2,4,5 tetrachlorobenzene	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		2,3,4,6 tetrachlorophenol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		2,4,5 trichlorophenol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		2,4,6 trichlorophenol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		2,4 dichlorophenol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		2,4 dimethylphenol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		2,4 dinitrophenol	<813	<816	<811	<407	<770	<810	<744	<789	<786	<980	<918	<1030	<842	<906	<975	<1050	<932	<935
		2,4 dinitrotoluene	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		2,6 dichlorophenol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		2,6 dinitrotoluene	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		2 chloronaphthalene	<40.7	<40.8	<40.5	<407	<38.5	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<52.3	<46.6	<46.8
		2 chlorophenol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		2 methyl 4,6 dinitrophenol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		2 methylnaphthalene	<40.7	<40.8	<40.5	<407	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	<48.8	<52.3	<46.6	<46.8
		2 nitrophenol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		3,3' dichlorobenzidine	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		3,3' dimethylbenzidine	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		4 bromophenylphenylether	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		4 chloro 3 methylphenol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		4 chloroaniline	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		4 chlorophenylphenylether	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		4 nitrophenol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		acenaphthylene	<40.7	<40.8	<40.5	<407	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	<48.8	<52.3	<46.6	<46.8
		acetophenone	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		aniline	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		anthracene	<40.7	<40.8	<40.5	<407	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	<48.8	<52.3	<46.6	<46.8
		benzo(a)anthracene	<40.7	<40.8	<40.5	<81.5	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	**26.7 J**	<52.3	<46.6	<46.8
		benzo(a)pyrene	<40.7	<40.8	<40.5	<81.5	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	<48.8	<52.3	<46.6	**217**
		benzo(b)fluoranthene	<40.7	<40.8	<40.5	<81.5	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	<48.8	<52.3	<46.6	<46.8
		benzo(ghi)perylene	<40.7	<40.8	<40.5	<407	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	<48.8	<52.3	<46.6	<46.8
		benzo(k)fluoranthene	<40.7	<40.8	<40.5	<81.5	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	**28.3 J**	<52.3	<46.6	<46.8
		benzyl alcohol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		butylbenzylphthalate	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		chlorobenzilate	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		chrysene	<40.7	<40.8	<40.5	<81.5	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	<48.8	<52.3	<46.6	<468
		di n butylphthalate	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		di n octylphthalate	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		dibenzo(a,b)anthracene	<40.7	<40.8	<40.5	<81.5	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	<48.8	<52.3	<46.6	<46.8
		dibenzofuran	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		diethylphthalate	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		dimethylphthalate	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		diphenylamine	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		ethyl methanesulfonate	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		fluoranthene	<40.7	<40.8	<40.5	64.7	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	**32.0 J**	<52.3	<46.6	<46.8
		fluorene	<40.7	<40.8	<40.5	<407	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	<48.8	<52.3	<46.6	<46.8
		hexachlorobenzene	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		hexachlorocyclopentadiene	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		hexachloroethane	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		indeno (1,2,3 cd)pyrene	<40.7	<40.8	<40.5	132	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	<48.8	<52.3	<46.6	<46.8
		methyl methanesulfonate	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		N methyl N nitrosomethylamine	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		N nitrosodi n butylamine	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		N nitrosodiethylamine	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		N nitrosodipropylamine	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	**301 J**
		nitrobenzene	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		pentachlorobenzene	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		pentachloronitrobenzene	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		pentachlorophenol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		phenacetin	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		phenanthrene	<40.7	<40.8	<40.5	<407	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	<48.8	<52.3	<46.6	<46.8
		phenol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468

Table E.1 Sediment Testing Results from Locations in Oklahoma.

Parameter	Method	Analyte	390.7 A 122196005 09/22/04	392.2 A 122196006 09/23/04	392.2 A QC 122196007 09/23/04	392.2 A QA 590502 09/23/04	392.2 B 122196008 09/23/04	392.7 A 122196009 09/23/04	392.7 B 122196010 09/23/04	394.3 A 122196011 09/23/04	394.3 B 122196012 09/23/04	400.3 A 122195001 09/23/04	400.3 B 122195002 09/23/04	402.0 A 122195003 09/23/04	402.0 B 122195003 09/23/04	421.0 A 122195005 09/23/04	421.0 B 122195006 09/23/04	422.0 A 122195007 09/24/04	422.0 B 122195008 09/24/04	422 .0 B QC 122195009 09/24/04
		pyrene	<40.7	<40.8	<40.5	<407	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<51.3	<42.1	<45.3	**28.6 J**	<52.3	<46.6	<46.8
		pyridine	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		bis(2 chloroethoxy)methane	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		bis(2 choroethyl) ether	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		bis(2 ethlyhexyl)phthalate	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		m,p cresols	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		m nitroaniline	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		o cresol	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		o nitroaniline	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
		p nitroaniline	<407	<408	<405	<407	<385	<405	<372	<395	<393	<490	<459	<513	<421	<453	<488	<523	<466	<468
Pesticide	8081A	4,4' DDD	<1.63	<1.63	<1.62	<1.98	<1.54	<1.62	<1.49	<1.58	<1.57	<1.96	<1.84	<10.3	<8.42	<9.06	<1.95	<2.09	<1.86	<9.35
		4,4' DDE	<1.63	<1.63	<1.62	<1.98	<1.54	<1.62	<1.49	<1.58	<1.57	<1.96	<1.84	<10.3	<8.42	<9.06	<1.95	<2.09	**0.374 J**	<9.35
		4,4' DDT	<1.63	<1.63	<1.62	<1.98	<1.54	<1.62	<1.49	<1.58	<1.57	<1.96	<1.84	<10.3	<8.42	<9.06	**3.17**	<2.09	**2.68**	<9.35
		aldrin	<0.813	<0.816	<0.811	<0.991	<0.770	<0.810	<0.744	<0.789	<0.786	<0.980	<0.918	<5.13	<4.21	<4.53	<0.975	<1.05	<0.932	<4.68
		chlordane	<10.2	<1.63	<10.1	<19.8	<9.63	<10.1	<9.30	<9.87	<9.82	<12.2	<11.5	<64.1	<52.6	<56.6	<12.2	<13.1	<11.7	<58.4
		dieldrin	<1.63	<1.63	<1.62	<0.991	<1.54	<1.62	<1.49	<1.58	<1.57	<1.96	<1.84	<10.3	<8.42	<9.06	**0.529 J**	<2.09	<1.86	<9.35
		endosulfan I	<0.813	<0.816	<0.811	<0.991	<0.770	<0.810	<0.744	<0.789	<0.786	<0.980	<0.918	<5.13	<4.21	<4.53	<0.975	<1.05	<0.932	<4.68
		endosulfan II	<1.63	<1.63	<1.62	<1.98	<1.54	<1.62	<1.49	<1.58	<1.57	<1.96	<1.84	<10.3	<8.42	<9.06	<1.95	<2.09	<1.86	<9.35
		endosulfan sulfate	<1.63	<1.63	<1.62	<1.98	<1.54	<1.62	<1.49	<1.58	<1.57	<1.96	<1.84	<10.3	<8.42	<9.06	<1.95	<2.09	<1.86	<9.35
		endrin	<1.63	<1.63	<1.62	<1.98	<1.54	<1.62	<1.49	<1.58	<1.57	<1.96	<1.84	<10.3	<8.42	<9.06	<1.95	<2.09	<1.86	<9.35
		endrin aldehyde	<1.63	<1.63	<1.62	<1.98	<1.54	<1.62	<1.49	<1.58	<1.57	<1.96	<1.84	<10.3	<8.42	<9.06	<1.95	<2.09	<1.86	<9.35
		heptachlor	<0.813	<0.816	<0.811	<0.991	<0.770	<0.810	<0.744	<0.789	<0.786	<0.980	<0.918	<5.13	<4.21	<4.53	<0.975	<1.05	<0.932	<4.68
		heptachlor epoxide	<0.813	<0.816	<0.811	<0.991	<0.770	<0.810	<0.744	<0.789	<0.786	<0.980	<0.918	<5.13	<4.21	<4.53	<0.975	<1.05	<0.932	<4.68
		methoxychlor	<8.13	<8.16	<8.11	<9.91	<7.70	<8.10	<7.44	<7.89	<7.86	<9.80	<9.18	<51.3	<42.1	<45.3	<9.75	<10.5	<9.32	<46.8
		toxaphene	<40.7	<40.8	<40.5	<39.7	<38.5	<40.5	<37.2	<39.5	<39.3	<49.0	<45.9	<256	<211	<227	<48.8	<52.3	<46.6	<234
		alpha BHC	<0.813	<0.816	<0.811	<0.991	<0.770	<0.810	<0.744	<0.789	<0.786	<0.980	<0.918	<5.13	<4.21	<4.53	<0.975	<1.05	<0.932	<4.68
		beta BHC	<0.813	<0.816	<0.811	<0.991	<0.770	<0.810	<0.744	<0.789	<0.786	<0.980	<0.918	<5.13	<4.21	<4.53	<0.975	<1.05	<0.932	<4.68
		delta BHC	<0.813	<0.816	<0.811	<0.991	<0.770	<0.810	<0.744	<0.789	<0.786	<0.980	<0.918	<5.13	<4.21	<4.53	<0.975	<1.05	<0.932	<4.68
		gamma BHC (lindane)	<0.813	<0.816	<0.811	<0.991	<0.770	<0.810	<0.744	<0.789	<0.786	<0.980	<0.918	<5.13	<4.21	<4.53	<0.975	<1.05	<0.932	<4.68
Polychlorinated Biphenyl	8082	arochlor 1016	<4.07	<4.08	<4.05	<39.7	<3.85	<4.05	<3.72	<3.95	<3.93	<4.90	<4.59	<5.13	<4.21	<4.53	<4.88	<5.23	<4.66	<4.68
		arochlor 1221	<4.07	<4.08	<4.05	<39.7	<3.85	<4.05	<3.72	<3.95	<3.93	<4.90	<4.59	<5.13	<4.21	<4.53	<4.88	<5.23	<4.66	<4.68
		arochlor 1232	<4.07	<4.08	<4.05	<39.7	<3.85	<4.05	<3.72	<3.95	<3.93	<4.90	<4.59	<5.13	<4.21	<4.53	<4.88	<5.23	<4.66	<4.68
		arochlor 1242	<4.07	<4.08	<4.05	<39.7	<3.85	<4.05	<3.72	<3.95	<3.93	<4.90	<4.59	<5.13	<4.21	<4.53	<4.88	<5.23	<4.66	<4.68
		arochlor 1248	<4.07	<4.08	<4.05	<39.7	<3.85	<4.05	<3.72	<3.95	<3.93	<4.90	<4.59	<5.13	<4.21	<4.53	<4.88	<5.23	<4.66	<4.68
		arochlor 1254	<4.07	<4.08	<4.05	<39.7	<3.85	<4.05	<3.72	<3.95	<3.93	<4.90	<4.59	<5.13	<4.21	<4.53	<4.88	<5.23	<4.66	<4.68
		arochlor 1260	<4.07	<4.08	<4.05	<39.7	<3.85	<4.05	<3.72	<3.95	<3.93	<4.90	<4.59	<5.13	<4.21	<4.53	<4.88	<5.23	<4.66	<4.68
Total Metals	6010	arsenic	**0.778**	**1.15**	**1.33**	**1.1**	**3.75**	**1.12**	**3.36**	**1.10**	**1.28**	**4.39**	**5.14**	**3.61**	**1.83**	**3.88**	**3.97**	**3.85**	**4.52**	**5.90**
		barium	**16.8**	**12.6**	**14.5**	**14.2**	**36.2**	**32.2**	**18.0**	**27.5**	**17.7**	**90.4**	**94.5**	**91.7**	**30.6**	**51.8**	**55.5**	**90.5**	**109**	**133**
		cadmium	<0.610	<0.600	<0.607	<0.486	<0.575	<0.600	<0.551	<0.580	<0.587	**0.345 J**	**0.337 J**	**0.254 J**	<0.623	**3.45**	**0.624 J**	**0.277 J**	**0.696**	**1.72**
		chromium	**1.71**	**0.940**	**1.95**	<2.43	**9.82**	**2.23**	**2.92**	**2.80**	**2.35**	**16.0**	**16.1**	**16.8**	**7.00**	**8.92**	**10.8**	**17.5**	**19.5**	**22.7**
		copper	**0.406 J**	<0.600	**0.329**	<2.43	**31.1**	<0.600	**0.957**	**1.08**	**0.457**	**8.63**	**8.77**	**8.97**	**2.89**	**6.30**	**7.07**	**8.54**	**10.7**	**13.7**
		iron	**1700**	**1880**	**2300**	**1399**	**4430**	**2190**	**5770**	**2880**	**2760**	**13700**	**14800**	**14600**	**5880**	**8220**	**9520**	**13900**	**16100**	**19100**
		lead	**1.56**	**1.23**	**1.57**	**0.916**	**6.11**	**1.15**	**2.22**	**2.14**	**1.32**	**11.1**	**11.4**	**11.4**	**3.90**	**7.78**	**10.7**	**11.3**	**15.8**	**19.0**
		manganese	**55.0**	**34.6**	**46.0**	**38.4**	**45.6**	**39.2**	**170**	**98.6**	**59.3**	**397**	**562**	**406**	**98.2**	**296**	**297**	**349**	**360**	**573**
		selenium	<0.610	<0.600	<0.607	<0.972	<0.575	<0.600	**0.245 J**	<0.580	<0.587	<0.726	<0.687	**0.456 J**	**0.216 J**	**0.407 J**	<0.731	**0.797**	<0.688	**0.349 J**
		silver	<0.610	0.600	<0.607	<2.43	<0.575	<0.600	<0.551	<0.580	<0.587	**0.181 J**	**0.255 J**	**0.239 J**	<0.623	**0.151 J**	**0.144 J**	**0.187 J**	**0.258 J**	**0.338 J**
		zinc	**4.70**	**4.31**	**5.02**	<9.72	**17.7**	**4.77**	**9.53**	**7.53**	**5.20**	**53.0**	**49.0**	**50.9**	**16.4**	**32.6**	**35.5**	**54.5**	**71.8**	**103**
	7471	mercury	<0.0116	**0.00244 J**	**0.00158 J**	<0.016	**0.0035 J**	<0.0117	**0.0114**	**0.00148 J**	<0.0113	**0.017**	**0.0198**	**0.0185**	**0.00483 J**	**0.00973 J**	**0.0167**	**0.0225**	**0.0407**	**0.0287**
Total Organic Carbon	415.1	total organic carbon	**345**	**202**	**289**	**13738**	**236**	**137**	**3020**	**1670**	**928**	**7740**	**7960**	**7090**	**1350**	**6300**	**10600**	**5850**	**10400**	**11700**
Total Cyanide	9012A	cyanide	<285	<303	<295	<686	<289	<298	<266	<296	**481**	<353	**638**	<381	<298	<315	**111 J**	**198 J**	**21500**	**278**

Table E.1 Sediment Testing Results from Locations in Oklahoma.

			422.0 B QA	429.3 A	441.3 A	443.6 A	443.6 QC	443.6 A QA	444.6 A2	444.6 B		
			590503	122195011	122195010	122195012	122195014	590504	122195015	122195013		
			09/24/04	09/24/04	09/24/04	09/24/04	09/24/04	09/24/04	09/24/04	09/24/04		
Parameter	**Method**	**Analyte**									Concensus-based TEC	Concensus-based PEC
Semivolatile Organic	8270C	1,2,4,5 tetrachlorobenzene	<502	<535	<503	<440	<439	<420	<439	<397		
		2,3,4,6 tetrachlorophenol	<502	<535	<503	<440	<439	<420	<439	<397		
		2,4,5 trichlorophenol	<502	<535	<503	<440	<439	<420	<439	<397		
		2,4,6 trichlorophenol	<502	<535	<503	<440	<439	<420	<439	<397		
		2,4 dichlorophenol	<502	<535	<503	<440	<439	<420	<439	<397		
		2,4 dimethylphenol	<502	<535	<503	<440	<439	<420	<439	<397		
		2,4 dinitrophenol	<502	<1070	<1010	<881	<878	<420	<879	<793		
		2,4 dinitrotoluene	<502	<535	<503	<440	<439	<420	<439	<397		
		2,6 dichlorophenol	<502	<535	<503	<440	<439	<420	<439	<397		
		2,6 dinitrotoluene	<502	<535	<503	<440	<439	<420	<439	<397		
		2 chloronaphthalene	<502	<535	<503	<440	<439	<420	<439	<397		
		2 chlorophenol	<502	<535	<503	<440	<439	<420	<439	<397		
		2 methyl 4,6 dinitrophenol	<502	<535	<503	<440	<439	<420	<439	<397		
		2 methylnaphthalene	<502	<53.5	<50.3	<44.0	<43.9	<420	<43.9	<39.7		
		2 nitrophenol	<502	<535	<503	<440	<439	<420	<439	<397		
		3,3' dichlorobenzidine	<502	<535	<503	<440	<439	<420	<439	<397		
		3,3' dimethylbenzidine	<502	<535	<503	<440	<439	<420	<439	<397		
		4 bromophenylphenylether	<502	<535	<503	<440	<439	<420	<439	<397		
		4 chloro 3 methylphenol	<502	<535	<503	<440	<439	<420	<439	<397		
		4 chloroaniline	<502	<535	<503	<440	<439	<420	<439	<397		
		4 chlorophenylphenylether	<502	<535	<503	<440	<439	<420	<439	<397		
		4 nitrophenol	<502	<535	<503	<440	<439	<420	<439	<397		
		acenaphthylene	<502	<53.5	<50.3	<44.0	<43.9	<420	<43.9	<39.7		
		acetophenone	<502	<535	<503	<440	<439	<420	<439	<397		
		aniline	<502	<535	<503	<440	<439	<420	<439	<397		
		anthracene	<502	<53.5	<50.3	<44.0	<43.9	<420	<43.9	<39.7	57.2	845
		benzo(a)anthracene	<100	<53.5	<50.3	<44.0	<43.9	<84	<43.9	<39.7	108	1,050
		benzo(a)pyrene	<100	<53.5	<50.3	<44.0	<43.9	<84	<43.9	<39.7	150	1,450
		benzo(b)fluoranthene	<100	<53.5	<50.3	<44.0	<43.9	<84	<43.9	<39.7		
		benzo(ghi)perylene	<502	<53.5	<50.3	<44.0	<43.9	<420	<43.9	<39.7		
		benzo(k)fluoranthene	<100	<53.5	<50.3	<44.0	<43.9	<84	<43.9	<39.7		
		benzyl alcohol	<502	<535	<503	<440	<439	<420	<439	<397		
		butylbenzylphthalate	<502	<535	<503	<440	<439	<420	<439	<397		
		chlorobenzilate	<502	<535	<503	<440	<439	<420	<439	<397		
		chrysene	<100	<535	<503	<440	<439	<84	<439	<397	166	1,290
		di n butylphthalate	<502	<535	<503	<440	<439	<420	<439	<397		
		di n octylphthalate	<502	<535	<503	<440	<439	<420	<439	<397		
		dibenzo(a,b)anthracene	<100	<53.5	<50.3	<44.0	<43.9	<84	<43.9	<39.7		
		dibenzofuran	<502	<535	<503	<440	<439	<420	<439	<397		
		diethylphthalate	<502	<535	<503	<440	<439	<420	<439	<397		
		dimethylphthalate	<502	<535	<503	<440	<439	<420	<439	<397		
		diphenylamine	<502	<535	<503	<440	<439	<420	<439	<397		
		ethyl methanesulfonate	<502	<535	<503	<440	<439	<420	<439	<397		
		fluoranthene	<502	<53.5	<50.3	<44.0	<43.9	<420	<43.9	<39.7	423	2,230
		fluorene	<502	<53.5	<50.3	<44.0	<43.9	<420	<43.9	<39.7	77.4	536
		hexachlorobenzene	<502	<535	<503	<440	<439	<420	<439	<397		
		hexachlorocyclopentadiene	<502	<535	<503	<440	<439	<420	<439	<397		
		hexachloroethane	<502	<535	<503	<440	<439	<420	<439	<397		
		indeno (1,2,3 cd)pyrene	<502	<53.5	<50.3	<44.0	<43.9	<420	<43.9	<39.7		
		methyl methanesulfonate	<502	<535	<503	<440	<439	<420	<439	<397		
		N methyl N nitrosomethylamine	<502	<535	<503	<440	<439	<420	<439	<397		
		N nitrosodi n butylamine	<502	<535	<503	<440	<439	<420	<439	<397		
		N nitrosodiethylamine	<502	<535	<503	<440	<439	<420	<439	<397		
		N nitrosodipropylamine	<502	<535	<503	<440	<439	<420	<439	<397		
		nitrobenzene	<502	<535	<503	<440	<439	<420	<439	<397		
		pentachlorobenzene	<502	<535	<503	<440	<439	<420	<439	<397		
		pentachloronitrobenzene	<502	<535	<503	<440	<439	<420	<439	<397		
		pentachlorophenol	<502	<535	<503	<440	<439	<420	<439	<397		
		phenacetin	<502	<535	<503	<440	<439	<420	<439	<397		
		phenanthrene	<502	<53.5	<50.3	<44.0	<43.9	<420	<43.9	<39.7	204	1,170
		phenol	<502	<535	<503	<440	<439	<420	<439	<397		

Table E.1 Sediment Testing Results from Locations in Oklahoma.

			422.0 B QA	429.3 A	441.3 A	443.6 A	443.6 QC	443.6 A QA	444.6 A2	444.6 B			
			590503	122195011	122195010	122195012	122195014	590504	122195015	122195013			
			09/24/04	09/24/04	09/24/04	09/24/04	09/24/04	09/24/04	09/24/04	09/24/04			
Parameter	**Method**	**Analyte**										Concensus-based TEC	Concensus-based PEC
		pyrene	<502	<53.5	<50.3	<44.0	<43.9	<420	<43.9	<39.7		195	1,520
		pyridine	<502	<535	<503	<440	<439	<420	<439	<397			
		bis(2 chloroethoxy)methane	<502	<535	<503	<440	<439	<420	<439	<397			
		bis(2 choroethyl) ether	<502	<535	<503	<440	<439	<420	<439	<397			
		bis(2 ethlyhexyl)phthalate	<502	<268	<503	<440	<439	<420	<439	<397			
		m,p cresols	<502	<535	<503	<440	<439	<420	<439	<397			
		m nitroaniline	<502	<535	<503	<440	<439	<420	<439	<397			
		o cresol	<502	<535	<503	<440	<439	<420	<439	<397			
		o nitroaniline	<502	<535	<503	<440	<439	<420	<439	<397			
		p nitroaniline	<502	<535	<503	<440	<439	<420	<439	<397			
Pesticide	8081A	4,4' DDD	<2.55	<10.7	<10.1	<1.76	<1.76	<2.14	<1.38	<7.93	Sum DDD	4.88	28
		4,4' DDE	<2.55	<10.7	<10.1	<1.76	<1.76	<2.14	<1.38	<7.93	Sum DDE	3.16	31.3
		4,4' DDT	<2.55	<10.7	<10.1	<1.76	<1.76	<2.14	<1.38	<7.93	Sum DDT	4.16	62.9
		aldrin	<1.27	<5.35	<5.03	<0.881	<0.878	<1.07	<4.39	<3.97			
		chlordane	<25.5	<66.9	<62.9	<11.0	<11.0	<21.4	<54.9	<49.6		3.24	17.6
		dieldrin	<1.27	<10.7	<10.1	<1.76	<1.76	<1.07	<1.38	<7.93		1.9	61.8
		endosulfan I	<1.27	<5.35	<5.03	<0.881	<0.878	<1.07	<4.39	<3.97			
		endosulfan II	<2.55	<10.7	<10.1	<1.76	<1.76	<2.14	<1.38	<7.93			
		endosulfan sulfate	<2.55	<10.7	<10.1	<1.76	<1.76	<2.14	<1.38	<7.93			
		endrin	<2.55	<10.7	<10.1	<1.76	<1.76	<2.14	<1.38	<7.93		2.22	207
		endrin aldehyde	<2.55	<10.7	<10.1	<1.76	<1.76	<2.14	<1.38	<7.93			
		heptachlor	<1.27	<5.35	<5.03	<0.881	<0.878	<1.07	<4.39	<3.97			
		heptachlor epoxide	<1.27	<5.35	<5.03	<0.881	<0.878	<1.07	<4.39	<3.97		2.47	16
		methoxychlor	<12.7	<53.5	<50.3	<8.81	<8.78	<10.7	<43.9	<39.7			
		toxaphene	<50.9	<268	<252	<44.0	<43.9	<42.8	<220	<198			
		alpha BHC	<1.27	<5.35	<5.03	<0.881	<0.878	<1.07	<4.39	<3.97			
		beta BHC	<1.27	<5.35	<5.03	<0.881	<0.878	<1.07	<4.39	<3.97			
		delta BHC	<1.27	<5.35	<5.03	<0.881	<0.878	<1.07	<4.39	<3.97			
		gamma BHC (lindane)	<1.27	<5.35	<5.03	<0.881	<0.878	<1.07	<4.39	<3.97		2.37	4.99
Polychlorinated Biphenyl	8082	arochlor 1016	<50.9	<5.35	<5.03	<4.40	<4.39	<42.8	<4.39	<3.97			
		arochlor 1221	<50.9	<5.35	<5.03	<4.40	<4.39	<42.8	<4.39	<3.97			
		arochlor 1232	<50.9	<5.35	<5.03	<4.40	<4.39	<42.8	<4.39	<3.97			
		arochlor 1242	<50.9	<5.35	<5.03	<4.40	<4.39	<42.8	<4.39	<3.97			
		arochlor 1248	<50.9	<5.35	<5.03	<4.40	<4.39	<42.8	<4.39	<3.97			
		arochlor 1254	<50.9	<5.35	<5.03	<4.40	<4.39	<42.8	<4.39	<3.97			
		arochlor 1260	<50.9	<5.35	<5.03	<4.40	<4.39	<42.8	<4.39	<3.97	Total PCB	59.8	676
Total Metals	6010	arsenic	**6.23**	**5.09**	**4.00**	**6.86**	**6.40**	**3.61**	**2.79**	**4.93**		9.79	33.0
		barium	**154**	**111**	**82.6**	**56.6**	**52.5**	**27.9**	**148**	**44.6**			
		cadmium	**1.33**	**0.418 J**	**0.198 J**	**0.0837 J**	**0.469 J**	<0.258	<0.651	<0.594		0.99	4.98
		chromium	**12.7**	**19.3**	**14.3**	**13.5**	**10.4**	**2.8**	**6.83**	**15.5**		43.4	111
		copper	**14.4**	**10.6**	**7.22**	**4.85**	**4.18**	**2.4**	**3.19**	**9.57**		31.6	149
		iron	**18174**	**16400**	**12100**	**13600**	**11600**	**627**	**7070**	**25700**			
		lead	**20.4**	**13.8**	**9.64**	**13.2**	**11.2**	**5.79**	**5.98**	**6.76**		35.8	128
		manganese	**907**	**491**	**508**	**613**	**452**	**278**	**447**	**938**			
		selenium	<1.2	<0.795	<0.755	<0.658	<0.648	<0.516	**0.276 J**	<0.594			
		silver	<3	**0.143 J**	**0.136 J**	**0.272 J**	**0.193 J**	<2.58	<0.651	**0.283 J**			
		zinc	**80.9**	**64.8**	**42.5**	**28.4**	**106**	**16**	**17.5**	**65.5**		121	459
	7471	mercury	**0.036**	**0.0219**	**0.0118 J**	**0.00508 J**	**0.00388 J**	<0.021	**0.0107 J**	**0.0129**		0.18	1.06
Total Organic Carbon	415.1	total organic carbon	**24442**	**7970**	**3380**	**2030**	**1510**	**21758**	**2690**	**13500**			
Total Cyanide	9012A	cyanide	<852	**5440**	<377	**261 J**	**4540**	<704	**82.7 J**	**122 J**			

E.3 Sediment Sampling and Testing in Arkansas

Similar methodology was used for the sediment sampling and testing in Arkansas as was used in Oklahoma. Below is a synopsis of the results and the detected constituents.

E.3.1 Synopsis of Results

- Sampling in AR was originally delayed owing to safety concerns associated with high water levels. Once water levels subsided sampling was conducted at 18 locations in the AR portion of the system.
- Analytical results of samples collected to date as well as corresponding TEC and PEC values are included in the attached spreadsheet (MKARNS Sediment data Tables.xls). Results were reported on a dry weight basis.
- Values denoted with "J" are "estimated values" indicating that the result was greater than the sample detection limit but less than the reporting level.
- "less than" values in the attached table reflect required "reporting levels" (RLs). Actual sample-specific detection limits (DLs) are lower, often by a factor or approximately 2 to 8. These DLs for each sample are available in the analytical data package. In general, DLs for analytes are lower than appropriate TECs facilitating an adequate analysis of results.

E.3.2 Detected Constituents

In general, constituents were reported at low detection frequencies and concentrations throughout the sampled Arkansas portion of the MKARNS.

- bis(2-ethylhexyl)phthalate, a phthalate ester, was detected in low concentrations in several samples. This compound is recognized by the USEPA as a common laboratory contaminant and may be introduced into a sample through laboratory cross-contamination (USEPA 1989).
- Other detected semivolatile compounds included Di-n-butylphthalate, Pyrene, Fluoranthene, 2,4,5-Trichlorophenol, and m,p-Cresols. Only Pyrene and Fluoranthene had established TEC values and the detected estimated values for these two semivolatiles were below these established TEC values.
- For chlorinated pesticides, detected constituents occurred in only two samples (221.7SBC A and 86.0 B). 4,4'-DDE and Methoxychlor were found at low concentrations, with the estimated value for 4,4'-DDE being below the established TEC. Methoxychlor does not have an established TEC value.
- Detected concentrations of PCBs were reported for only one sample (a single depth-composited sample at 107.8 SBC). Total PCBs at this location were 27.30 ug/Kg (parts-per-billion or ppb), below the total PCB TEC of 59.8 ug/Kg.
- Concentrations of all metals were below TEC values in all samples at all locations. However there are no established TEC values for Barium and Selenium which were detected in low concentrations.

E.3.3 References

MacDonald, D.D., C.G. Ingersoll, and T.A. Berger. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Arch. Environ. Contam. Toxicol. 39:20-31.

USEPA. 1989. Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A). EPA/540/1-89/002. Office of Emergency and Remedial Response, Washington D.C.

			Sample ID	107.8 A	107.8 B	11.0	125.0 A	125.0 B	142.8	146.3 A	146.3 B	158.7	169.2 A	169.2 B	186.5 A	186.5 AQC	186.5 B	221.7 A
			Lab ID	131126011	131126012	131182009	131126009	131126010	131126008	131126006	131126007	131122012	131126004	131126005	131126001	131126003	131126002	131122010
			Sample Date	02/19/05	02/19/05	02/21/05	02/19/05	02/19/05	02/19/05	02/19/05	02/19/05	2/18/2005	02/18/05	02/18/05	02/18/05	02/18/05	02/18/05	02/17/05
Parameter	**Method**	**Analyte**	**Units**	**107.8 A**	**107.8 B**	**11.0**	**125.0 A**	**125.0 B**	**142.8**	**146.3 A**	**146.3 B**	**158.7**	**169.2 A**	**169.2 B**	**186.5 A**	**186.5 AQC**	**186.5 B**	**221.7 A**
Total Organic Carbon	415.1 M	Total Organic Carbon Average	MG/KG	964	382	8080	109	168	90.5 J	114	70.6 J	83.1 J	87.3 J	68.9 J	149	134	199	2830
Total Cyanide	9012A	Cyanide, Total	UG/KG	< 313	< 288	97.6 J	< 279	< 272	< 313	< 279	< 288	< 290	489	< 294	< 299	< 283	< 278	< 326
Semivolatile Organics	8270C	1,2,4,5-Tetrachlorobenzene	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	2,3,4,6-Tetrachlorophenol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	2,4,5-Trichlorophenol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	2,4,6-Trichlorophenol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	2,4-Dichlorophenol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	2,4-Dimethylphenol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	2,4-Dinitrophenol	UG/KG	< 851	< 805	< 1240	< 811	< 799	< 850	< 788	< 814	< 828	< 809	< 817	< 797	< 794	< 809	< 870
Semivolatile Organics	8270C	2,4-Dinitrotoluene	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	2,6-Dichlorophenol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	2,6-Dinitrotoluene	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	2-Chloronaphthalene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	2-Chlorophenol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	2-Methyl-4,6-dinitrophenol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	2-Methylnaphthalene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	2-Nitrophenol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	3,3'-Dichlorobenzidine	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	3,3'-Dimethylbenzidine	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	4-Bromophenylphenylether	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	4-Chloro-3-methylphenol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	4-Chloroaniline	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	4-Chlorophenylphenylether	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	4-Nitrophenol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Acenaphthylene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	Acetophenone	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Aniline	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Anthracene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	Benzo(a)anthracene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	Benzo(a)pyrene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	Benzo(b)fluoranthene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	Benzo(ghi)perylene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	Benzo(k)fluoranthene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	Benzyl alcohol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	bis(2-Chloroethoxy)methane	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	bis(2-Chloroethyl) ether	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	bis(2-Ethylhexyl)phthalate	UG/KG	47.3 J	46.0 J	< 310	37.8 J	103 J	61.2 J	< 197	126 J	< 207	< 202	147 J	< 199	< 198	< 202	< 218
Semivolatile Organics	8270C	Butylbenzylphthalate	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Chlorobenzilate	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Chrysene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	Dibenzo(a,h)anthracene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	Dibenzofuran	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Diethylphthalate	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Dimethylphthalate	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Di-n-butylphthalate	UG/KG	< 425	< 403	< 621	< 406	53.4 J	38.0 J	< 394	64.4 J	< 414	< 404	57.0 J	29.5 J	< 397	32.2 J	< 435
Semivolatile Organics	8270C	Di-n-octylphthalate	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Diphenylamine	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Ethyl Methanesulfonate	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Fluoranthene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	Fluorene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	Hexachlorobenzene	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Hexachlorocyclopentadiene	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Hexachloroethane	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Indeno(1,2,3-cd)pyrene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	m,p-Cresols	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Methyl methanesulfonate	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	m-Nitroaniline	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435

			Sample ID	107.8 A	107.8 B	11.0	125.0 A	125.0 B	142.8	146.3 A	146.3 B	158.7	169.2 A	169.2 B	186.5 A	186.5 AQC	186.5 B	221.7 A
			Lab ID	131126011	131126012	131182009	131126009	131126010	131126008	131126006	131126007	131122012	131126004	131126005	131126001	131126003	131126002	131122010
			Sample Date	02/19/05	02/19/05	02/21/05	02/19/05	02/19/05	02/19/05	02/19/05	02/19/05	2/18/2005	02/18/05	02/18/05	02/18/05	02/18/05	02/18/05	02/17/05
Parameter	**Method**	**Analyte**	**Units**	**107.8 A**	**107.8 B**	**11.0**	**125.0 A**	**125.0 B**	**142.8**	**146.3 A**	**146.3 B**	**158.7**	**169.2 A**	**169.2 B**	**186.5 A**	**186.5 AQC**	**186.5 B**	**221.7 A**
Semivolatile Organics	8270C	Nitrobenzene	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	N-Methyl-N-nitrosomethylamine	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	N-Nitrosodiethylamine	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	N-Nitrosodi-n-butylamine	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	N-Nitrosodipropylamine	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	o-Cresol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	o-Nitroaniline	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Pentachlorobenzene	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Pentachloronitrobenzene	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Pentachlorophenol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Phenacetin	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Phenanthrene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	Phenol	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	p-Nitroaniline	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Semivolatile Organics	8270C	Pyrene	UG/KG	< 42.5	< 40.3	< 62.1	< 40.6	< 40.0	< 42.5	< 39.4	20.5 J	< 41.4	< 40.4	38.8 J	< 39.9	< 39.7	< 40.4	< 43.5
Semivolatile Organics	8270C	Pyridine	UG/KG	< 425	< 403	< 621	< 406	< 400	< 425	< 394	< 407	< 414	< 404	< 408	< 399	< 397	< 404	< 435
Pesticides	8081A	4,4'-DDD	UG/KG	< 1.70	< 1.61	< 49.7	< 1.62	< 1.60	< 1.70	< 1.58	< 1.63	< 1.66	< 1.62	< 1.63		< 1.59	< 1.62	< 1.74
Pesticides	8081A	4,4'-DDE	UG/KG	< 1.70	< 1.61	< 49.7	< 1.62	< 1.60	< 1.70	< 1.58	< 1.63	< 1.66	< 1.62	< 1.63		< 1.59	< 1.62	0.359 Jh
Pesticides	8081A	4,4'-DDT	UG/KG	< 1.70	< 1.61	< 49.7	< 1.62	< 1.60	< 1.70	< 1.58	< 1.63	< 1.66	< 1.62	< 1.63		< 1.59	< 1.62	< 1.74
Pesticides	8081A	Aldrin	UG/KG	< 0.851	< 0.805	< 24.8	< 0.811	< 0.799	< 0.850	< 0.788	< 0.814	< 0.828	< 0.809	< 0.817		< 0.794	< 0.809	< 0.870
Pesticides	8081A	alpha-BHC	UG/KG	< 0.851	< 0.805	< 24.8	< 0.811	< 0.799	< 0.850	< 0.788	< 0.814	< 0.828	< 0.809	< 0.817		< 0.794	< 0.809	< 0.870
Pesticides	8081A	beta-BHC	UG/KG	< 0.851	< 0.805	< 24.8	< 0.811	< 0.799	< 0.850	< 0.788	< 0.814	< 0.828	< 0.809	< 0.817		< 0.794	< 0.809	< 0.870
Pesticides	8081A	Chlordane (tech.)	UG/KG	< 10.6	< 10.1	< 310	< 10.1	< 9.99	< 10.6	< 9.85	< 10.2	< 10.4	< 10.1	< 10.2		< 9.92	< 10.1	< 10.9
Pesticides	8081A	delta-BHC	UG/KG	< 0.851	< 0.805	< 24.8	< 0.811	< 0.799	< 0.850	< 0.788	< 0.814	< 0.828	< 0.809	< 0.817		< 0.794	< 0.809	< 0.870
Pesticides	8081A	Dieldrin	UG/KG	< 1.70	< 1.61	< 49.7	< 1.62	< 1.60	< 1.70	< 1.58	< 1.63	< 1.66	< 1.62	< 1.63		< 1.59	< 1.62	< 1.74
Pesticides	8081A	Endosulfan I	UG/KG	< 0.851	< 0.805	< 24.8	< 0.811	< 0.799	< 0.850	< 0.788	< 0.814	< 0.828	< 0.809	< 0.817		< 0.794	< 0.809	< 0.870
Pesticides	8081A	Endosulfan II	UG/KG	< 1.70	< 1.61	< 49.7	< 1.62	< 1.60	< 1.70	< 1.58	< 1.63	< 1.66	< 1.62	< 1.63		< 1.59	< 1.62	< 1.74
Pesticides	8081A	Endosulfan sulfate	UG/KG	< 1.70	< 1.61	< 49.7	< 1.62	< 1.60	< 1.70	< 1.58	< 1.63	< 1.66	< 1.62	< 1.63		< 1.59	< 1.62	< 1.74
Pesticides	8081A	Endrin	UG/KG	< 1.70	< 1.61	< 49.7	< 1.62	< 1.60	< 1.70	< 1.58	< 1.63	< 1.66	< 1.62	< 1.63		< 1.59	< 1.62	< 1.74
Pesticides	8081A	Endrin aldehyde	UG/KG	< 1.70	< 1.61	< 49.7	< 1.62	< 1.60	< 1.70	< 1.58	< 1.63	< 1.66	< 1.62	< 1.63		< 1.59	< 1.62	< 1.74
Pesticides	8081A	gamma-BHC (Lindane)	UG/KG	< 0.851	< 0.805	< 24.8	< 0.811	< 0.799	< 0.850	< 0.788	< 0.814	< 0.828	< 0.809	< 0.817		< 0.794	< 0.809	< 0.870
Pesticides	8081A	Heptachlor	UG/KG	< 0.851	< 0.805	< 24.8	< 0.811	< 0.799	< 0.850	< 0.788	< 0.814	< 0.828	< 0.809	< 0.817		< 0.794	< 0.809	< 0.870
Pesticides	8081A	Heptachlor epoxide	UG/KG	< 0.851	< 0.805	< 24.8	< 0.811	< 0.799	< 0.850	< 0.788	< 0.814	< 0.828	< 0.809	< 0.817		< 0.794	< 0.809	< 0.870
Pesticides	8081A	Methoxychlor	UG/KG	< 8.51	< 8.05	< 248	< 8.11	< 7.99	< 8.50	< 7.88	< 8.14	< 8.28	< 8.09	< 8.17		< 7.94	< 8.09	< 8.70
Pesticides	8081A	Toxaphene	UG/KG	< 42.5	< 40.3	< 1240	< 40.6	< 40.0	< 42.5	< 39.4	< 40.7	< 41.4	< 40.4	< 40.8		< 39.7	< 40.4	< 43.5
Total Metals	7471A	Mercury	MG/KG	0.00217 J	< 0.0113	0.0258	< 0.0119	< 0.0117	< 0.0118	< 0.0116	< 0.012	< 0.0119	< 0.0119	< 0.012	< 0.0113	< 0.0114	< 0.0113	0.00511 J
Total Metals	6010B	Arsenic	MG/KG	1.14	1.18	8.84	0.774	0.587 J	0.688	0.854	0.760	0.776	1.19	0.807	0.773	1.10	1.02	1.73
Total Metals	6010B	Barium	MG/KG	24.7	13.8	173	6.86	8.08	5.86	5.46	7.04	6.27	6.35	9.33	3.93	5.54	11.5	40.0
Total Metals	6010B	Cadmium	MG/KG	< 0.626	< 0.602	0.157 J	< 0.602	< 0.595	< 0.630	< 0.584	< 0.609	< 0.614	< 0.597	< 0.605	< 0.594	< 0.588	< 0.599	< 0.642
Total Metals	6010B	Chromium	MG/KG	2.72	1.87	21.6	1.22	1.43	1.10	1.70	1.42	2.36	0.985	1.37	0.706	1.05	2.41	5.63
Total Metals	6010B	Copper	MG/KG	1.27	0.815	13.3	0.531 J	0.574 J	0.437 J	0.508 J	0.521 J	0.467 J	0.457 J	0.510 J	0.327 J	0.428 J	0.555 J	2.20
Total Metals	6010B	Iron	MG/KG	3760	2000	21800	1490	1710	1370	1780	1640	1650	1800	1910	1150	1800	2140	5730
Total Metals	6010B	Lead	MG/KG	2.39	1.65	16.1	1.09	1.34	1.08	1.12	0.922	1.22	1.07	1.09	0.606	0.937	1.26	3.86
Total Metals	6010B	Manganese	MG/KG	50.6	17.7	925	31.2	25.5	25.2	39.4	38.5	27.3	41.1	25.8	27.0	35.9	33.5	179
Total Metals	6010B	Selenium	MG/KG	0.259 J	0.510 J	< 0.931	< 0.602	< 0.595	< 0.630	0.304 J	< 0.609	0.349 J	0.345 J	< 0.605	0.275 J	< 0.588	< 0.599	0.361 J
Total Metals	6010B	Silver	MG/KG	< 0.626	< 0.602	1.06	< 0.602	< 0.595	< 0.630	< 0.584	< 0.609	< 0.614	< 0.597	< 0.605	< 0.594	< 0.588	< 0.599	0.134 J
Total Metals	6010B	Zinc	MG/KG	9.20	6.60	66.1	4.53	4.24	3.67	3.44	6.01	4.25	3.93	4.63	2.82	3.80	5.30	14.7
Polychlorinated Biphenyl	8082	Aroclor-1016	UG/KG	< 4.25	< 4.03	< 6.21	< 4.06	< 4.00	< 4.25	< 3.94	< 4.07	< 4.14	< 4.04	< 4.08	< 3.99	< 3.97	< 4.04	< 4.35
Polychlorinated Biphenyl	8082	Aroclor-1221	UG/KG	< 4.25	< 4.03	< 6.21	< 4.06	< 4.00	< 4.25	< 3.94	< 4.07	< 4.14	< 4.04	< 4.08	< 3.99	< 3.97	< 4.04	< 4.35
Polychlorinated Biphenyl	8082	Aroclor-1232	UG/KG	< 4.25	< 4.03	< 6.21	< 4.06	< 4.00	< 4.25	< 3.94	< 4.07	< 4.14	< 4.04	< 4.08	< 3.99	< 3.97	< 4.04	< 4.35
Polychlorinated Biphenyl	8082	Aroclor-1242	UG/KG	< 4.25	< 4.03	< 6.21	< 4.06	< 4.00	< 4.25	< 3.94	< 4.07	< 4.14	< 4.04	< 4.08	< 3.99	< 3.97	< 4.04	< 4.35
Polychlorinated Biphenyl	8082	Aroclor-1248	UG/KG	< 4.25	< 4.03	< 6.21	< 4.06	< 4.00	< 4.25	< 3.94	< 4.07	< 4.14	< 4.04	< 4.08	< 3.99	< 3.97	< 4.04	< 4.35
Polychlorinated Biphenyl	8082	Aroclor-1254	UG/KG	< 4.25	< 4.03	< 6.21	< 4.06	< 4.00	< 4.25	< 3.94	< 4.07	< 4.14	< 4.04	< 4.08	< 3.99	< 3.97	< 4.04	< 4.35
Polychlorinated Biphenyl	8082	Aroclor-1260	UG/KG	< 4.25	3.10 J	< 6.21	< 4.06	< 4.00	< 4.25	< 3.94	< 4.07	< 4.14	< 4.04	< 4.08	< 3.99	< 3.97	< 4.04	< 4.35

Sediment Samples

			Sample ID	221.7 B	238.0	271.6	278.0 A	278.0 B	292.0	292.0 QC	31.0	312.3 A	312.3 B	317 B 2	43.5 A	43.5 B	86.0 A	86.0 AQC
			Lab ID	131122011	131122009	131122008	131122006	131122007	131122004	131122005	131182008	131122002	131122003	131122001	131182006	131182007	131182003	131182004
			Sample Date	02/17/05	02/17/05	02/17/05	02/17/05	02/17/05	02/17/05	02/17/05	02/21/05	02/16/05	02/16/05	02/16/05	02/21/05	02/21/05	02/20/05	02/20/05
Parameter	**Method**	**Analyte**	**Units**	**221.7 B**	**238.0**	**271.6**	**278.0 A**	**278.0 B**	**292.0**	**292.0 QC**	**31.0**	**312.3 A**	**312.3 B**	**317 B 2**	**43.5 A**	**43.5 B**	**86.0 A**	**86.0 AQC**
Total Organic Carbon	415.1 M	Total Organic Carbon Average	MG/KG	813	101	91.9 J	113	141	121	138	117	186	269	243	141	118	207	215
Total Cyanide	9012A	Cyanide, Total	UG/KG	92.9 J	62.0 J	< 300	182 J	< 286	< 282	< 296	< 289	< 277	< 286	< 266	82.9 J	< 289	< 296	< 293
Semivolatile Organics	8270C	1,2,4,5-Tetrachlorobenzene	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	2,3,4,6-Tetrachlorophenol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	2,4,5-Trichlorophenol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	2,4,6-Trichlorophenol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	2,4-Dichlorophenol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	2,4-Dimethylphenol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	2,4-Dinitrophenol	UG/KG	< 804	< 797	< 808	< 807	< 686	< 819	< 813	< 808	< 777	< 762	< 789	< 855	< 856	< 852	< 859
Semivolatile Organics	8270C	2,4-Dinitrotoluene	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	2,6-Dichlorophenol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	2,6-Dinitrotoluene	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	2-Chloronaphthalene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	2-Chlorophenol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	2-Methyl-4,6-dinitrophenol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	2-Methylnaphthalene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	2-Nitrophenol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	3,3'-Dichlorobenzidine	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	3,3'-Dimethylbenzidine	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	4-Bromophenylphenylether	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	4-Chloro-3-methylphenol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	4-Chloroaniline	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	4-Chlorophenylphenylether	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	4-Nitrophenol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Acenaphthylene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	Acetophenone	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Aniline	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Anthracene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	Benzo(a)anthracene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	Benzo(a)pyrene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	Benzo(b)fluoranthene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	Benzo(ghi)perylene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	Benzo(k)fluoranthene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	Benzyl alcohol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	bis(2-Chloroethoxy)methane	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	bis(2-Chloroethyl) ether	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	bis(2-Ethylhexyl)phthalate	UG/KG	< 201	< 199	< 202	< 202	< 172	< 205	< 203	< 202	< 194	< 191	< 197	< 214	< 214	< 213	< 215
Semivolatile Organics	8270C	Butylbenzylphthalate	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Chlorobenzilate	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Chrysene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	Dibenzo(a,h)anthracene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	Dibenzofuran	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Diethylphthalate	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Dimethylphthalate	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Di-n-butylphthalate	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Di-n-octylphthalate	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Diphenylamine	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Ethyl Methanesulfonate	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Fluoranthene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	26.9 J	< 42.9
Semivolatile Organics	8270C	Fluorene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	Hexachlorobenzene	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Hexachlorocyclopentadiene	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Hexachloroethane	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Indeno(1,2,3-cd)pyrene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	m,p-Cresols	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Methyl methanesulfonate	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	m-Nitroaniline	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429

Sediment Samples

			Sample ID	221.7 B	238.0	271.6	278.0 A	278.0 B	292.0	292.0 QC	31.0	312.3 A	312.3 B	317 B 2	43.5 A	43.5 B	86.0 A	86.0 AQC
			Lab ID	131122011	131122009	131122008	131122006	131122007	131122004	131122005	131182008	131122002	131122003	131122001	131182006	131182007	131182003	131182004
			Sample Date	02/17/05	02/17/05	02/17/05	02/17/05	02/17/05	02/17/05	02/17/05	02/21/05	02/16/05	02/16/05	02/16/05	02/21/05	02/21/05	02/20/05	02/20/05
Parameter	**Method**	**Analyte**	**Units**	**221.7 B**	**238.0**	**271.6**	**278.0 A**	**278.0 B**	**292.0**	**292.0 QC**	**31.0**	**312.3 A**	**312.3 B**	**317 B 2**	**43.5 A**	**43.5 B**	**86.0 A**	**86.0 AQC**
Semivolatile Organics	8270C	Nitrobenzene	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	N-Methyl-N-nitrosomethylamine	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	N-Nitrosodiethylamine	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	N-Nitrosodi-n-butylamine	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	N-Nitrosodipropylamine	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	o-Cresol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	o-Nitroaniline	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Pentachlorobenzene	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Pentachloronitrobenzene	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Pentachlorophenol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Phenacetin	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Phenanthrene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 42.6	< 42.9
Semivolatile Organics	8270C	Phenol	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	p-Nitroaniline	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Semivolatile Organics	8270C	Pyrene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 34.3	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	22.1 J	< 42.9
Semivolatile Organics	8270C	Pyridine	UG/KG	< 402	< 399	< 404	< 403	< 343	< 410	< 407	< 404	< 388	< 381	< 394	< 427	< 428	< 426	< 429
Pesticides	8081A	4,4'-DDD	UG/KG	< 1.61	< 1.59	< 1.62	< 1.61	< 1.63	< 1.64	< 1.63	< 1.62	< 1.55	< 1.52	< 1.58	< 1.71	< 1.71	< 8.52	< 8.59
Pesticides	8081A	4,4'-DDE	UG/KG	< 1.61	< 1.59	< 1.62	< 1.61	< 1.63	< 1.64	< 1.63	< 1.62	< 1.55	< 1.52	< 1.58	< 1.71	< 1.71	< 8.52	< 8.59
Pesticides	8081A	4,4'-DDT	UG/KG	< 1.61	< 1.59	< 1.62	< 1.61	< 1.63	< 1.64	< 1.63	< 1.62	< 1.55	< 1.52	< 1.58	< 1.71	< 1.71	< 8.52	< 8.59
Pesticides	8081A	Aldrin	UG/KG	< 0.804	< 0.797	< 0.808	< 0.807	< 0.817	< 0.819	< 0.813	< 0.808	< 0.777	< 0.762	< 0.789	< 0.855	< 0.856	< 4.26	< 4.29
Pesticides	8081A	alpha-BHC	UG/KG	< 0.804	< 0.797	< 0.808	< 0.807	< 0.817	< 0.819	< 0.813	< 0.808	< 0.777	< 0.762	< 0.789	< 0.855	< 0.856	< 4.26	< 4.29
Pesticides	8081A	beta-BHC	UG/KG	< 0.804	< 0.797	< 0.808	< 0.807	< 0.817	< 0.819	< 0.813	< 0.808	< 0.777	< 0.762	< 0.789	< 0.855	< 0.856	< 4.26	< 4.29
Pesticides	8081A	Chlordane (tech.)	UG/KG	< 10.1	< 9.96	< 10.1	< 10.1	< 10.2	< 10.2	< 10.2	< 10.1	< 9.71	< 9.53	< 9.86	< 10.7	< 10.7	< 53.3	< 53.7
Pesticides	8081A	delta-BHC	UG/KG	< 0.804	< 0.797	< 0.808	< 0.807	< 0.817	< 0.819	< 0.813	< 0.808	< 0.777	< 0.762	< 0.789	< 0.855	< 0.856	< 4.26	< 4.29
Pesticides	8081A	Dieldrin	UG/KG	< 1.61	< 1.59	< 1.62	< 1.61	< 1.63	< 1.64	< 1.63	< 1.62	< 1.55	< 1.52	< 1.58	< 1.71	< 1.71	< 8.52	< 8.59
Pesticides	8081A	Endosulfan I	UG/KG	< 0.804	< 0.797	< 0.808	< 0.807	< 0.817	< 0.819	< 0.813	< 0.808	< 0.777	< 0.762	< 0.789	< 0.855	< 0.856	< 4.26	< 4.29
Pesticides	8081A	Endosulfan II	UG/KG	< 1.61	< 1.59	< 1.62	< 1.61	< 1.63	< 1.64	< 1.63	< 1.62	< 1.55	< 1.52	< 1.58	< 1.71	< 1.71	< 8.52	< 8.59
Pesticides	8081A	Endosulfan sulfate	UG/KG	< 1.61	< 1.59	< 1.62	< 1.61	< 1.63	< 1.64	< 1.63	< 1.62	< 1.55	< 1.52	< 1.58	< 1.71	< 1.71	< 8.52	< 8.59
Pesticides	8081A	Endrin	UG/KG	< 1.61	< 1.59	< 1.62	< 1.61	< 1.63	< 1.64	< 1.63	< 1.62	< 1.55	< 1.52	< 1.58	< 1.71	< 1.71	< 8.52	< 8.59
Pesticides	8081A	Endrin aldehyde	UG/KG	< 1.61	< 1.59	< 1.62	< 1.61	< 1.63	< 1.64	< 1.63	< 1.62	< 1.55	< 1.52	< 1.58	< 1.71	< 1.71	< 8.52	< 8.59
Pesticides	8081A	gamma-BHC (Lindane)	UG/KG	< 0.804	< 0.797	< 0.808	< 0.807	< 0.817	< 0.819	< 0.813	< 0.808	< 0.777	< 0.762	< 0.789	< 0.855	< 0.856	< 4.26	< 4.29
Pesticides	8081A	Heptachlor	UG/KG	< 0.804	< 0.797	< 0.808	< 0.807	< 0.817	< 0.819	< 0.813	< 0.808	< 0.777	< 0.762	< 0.789	< 0.855	< 0.856	< 4.26	< 4.29
Pesticides	8081A	Heptachlor epoxide	UG/KG	< 0.804	< 0.797	< 0.808	< 0.807	< 0.817	< 0.819	< 0.813	< 0.808	< 0.777	< 0.762	< 0.789	< 0.855	< 0.856	< 4.26	< 4.29
Pesticides	8081A	Methoxychlor	UG/KG	< 8.04	< 7.97	< 8.08	< 8.07	< 8.17	< 8.19	< 8.13	< 8.08	< 7.77	< 7.62	< 7.89	< 8.55	< 8.56	< 42.6	< 42.9
Pesticides	8081A	Toxaphene	UG/KG	< 40.2	< 39.9	< 40.4	< 40.3	< 40.9	< 41.0	< 40.7	< 40.4	< 38.8	< 38.1	< 39.4	< 42.7	< 42.8	< 213	< 215
Total Metals	7471A	Mercury	MG/KG	0.00244 J	0.00127 J	< 0.0117	< 0.0112	< 0.0122	< 0.0119	< 0.0113	< 0.0113	< 0.011	< 0.011	< 0.0109	< 0.0127	< 0.0125	< 0.012	< 0.0126
Total Metals	6010B	Arsenic	MG/KG	1.24	1.04	0.657	0.897	0.790	0.977	0.946	0.833	2.00	1.13	2.50	0.806	0.878	1.01	1.02
Total Metals	6010B	Barium	MG/KG	36.2	5.27	9.92	5.94	7.83	6.94	5.64	5.66	6.14	21.3	10.6	5.89	7.18	10.2	11.5
Total Metals	6010B	Cadmium	MG/KG	0.0801 J	< 0.597	< 0.601	0.0906 J	< 0.610	< 0.613	< 0.600	< 0.596	< 0.571	< 0.571	< 0.583	< 0.630	< 0.633	< 0.639	< 0.642
Total Metals	6010B	Chromium	MG/KG	4.73	1.01	1.21	0.939	1.61	1.59	1.16	1.03	1.64	1.63	1.37	1.00	1.54	2.34	1.76
Total Metals	6010B	Copper	MG/KG	1.95	0.482 J	0.460 J	0.398 J	0.438 J	0.365 J	0.318 J	< 0.596	0.586	0.660	0.465 J	< 0.630	< 0.633	0.298 J	0.269 J
Total Metals	6010B	Iron	MG/KG	4240	1440	1750	1270	1600	1720	1420	1290	8160	2770	2170	1300	1710	2280	2200
Total Metals	6010B	Lead	MG/KG	3.07	0.975	1.15	0.907	1.09	1.33	0.900	0.820	1.30	1.02	0.969	0.842	1.06	1.16	1.50
Total Metals	6010B	Manganese	MG/KG	97.5	32.4	30.8	39.7	33.7	29.5	25.2	13.2	93.6	184	18.9	15.4	16.1	26.4	28.0
Total Metals	6010B	Selenium	MG/KG	0.206 J	< 0.597	< 0.601	0.462 J	0.553 J	1.86 J	< 0.600	< 0.596	< 0.571	< 0.571	1.68 J	< 0.630	< 0.633	< 0.639	< 0.642
Total Metals	6010B	Silver	MG/KG	< 0.600	< 0.597	< 0.601	< 0.601	< 0.610	< 0.613	< 0.600	< 0.596	0.196 J	< 0.571	< 0.583	< 0.630	< 0.633	0.124 J	< 0.642
Total Metals	6010B	Zinc	MG/KG	12.5	3.37	4.52	3.45	4.56	4.90	3.82	3.33	7.44	11.6	2.98	3.39	4.05	5.34	5.96
Polychlorinated Biphenyl	8082	Aroclor-1016	UG/KG	< 4.02	< 3.99	< 4.04	< 4.03	< 4.09	< 4.10	< 4.07	< 4.04	< 3.88	< 3.81	< 3.94	< 4.27	< 4.28	< 4.26	< 4.29
Polychlorinated Biphenyl	8082	Aroclor-1221	UG/KG	< 4.02	< 3.99	< 4.04	< 4.03	< 4.09	< 4.10	< 4.07	< 4.04	< 3.88	< 3.81	< 3.94	< 4.27	< 4.28	< 4.26	< 4.29
Polychlorinated Biphenyl	8082	Aroclor-1232	UG/KG	< 4.02	< 3.99	< 4.04	< 4.03	< 4.09	< 4.10	< 4.07	< 4.04	< 3.88	< 3.81	< 3.94	< 4.27	< 4.28	< 4.26	< 4.29
Polychlorinated Biphenyl	8082	Aroclor-1242	UG/KG	< 4.02	< 3.99	< 4.04	< 4.03	< 4.09	< 4.10	< 4.07	< 4.04	< 3.88	< 3.81	< 3.94	< 4.27	< 4.28	< 4.26	< 4.29
Polychlorinated Biphenyl	8082	Aroclor-1248	UG/KG	< 4.02	< 3.99	< 4.04	< 4.03	< 4.09	< 4.10	< 4.07	< 4.04	< 3.88	< 3.81	< 3.94	< 4.27	< 4.28	< 4.26	< 4.29
Polychlorinated Biphenyl	8082	Aroclor-1254	UG/KG	< 4.02	< 3.99	< 4.04	< 4.03	< 4.09	< 4.10	< 4.07	< 4.04	< 3.88	< 3.81	< 3.94	< 4.27	< 4.28	< 4.26	< 4.29
Polychlorinated Biphenyl	8082	Aroclor-1260	UG/KG	< 4.02	< 3.99	< 4.04	< 4.03	< 4.09	< 4.10	< 4.07	< 4.04	< 3.88	< 3.81	< 3.94	< 4.27	< 4.28	< 4.26	< 4.29

			Sample ID	86.0 B	95.0 A	95.0 B		
			Lab ID	131182005	131182001	131182002		
			Sample Date	02/20/05	02/20/05	02/20/05		
Parameter	**Method**	**Analyte**	**Units**	**86.0 B**	**95.0 A**	**95.0 B**	**TEC**	**PEC**
Total Organic Carbon	415.1 M	Total Organic Carbon Average	MG/KG	335	121	263		
Total Cyanide	9012A	Cyanide, Total	UG/KG	166 J	< 308	< 286		
Semivolatile Organics	8270C	1,2,4,5-Tetrachlorobenzene	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	2,3,4,6-Tetrachlorophenol	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	2,4,5-Trichlorophenol	UG/KG	< 409	< 419	24.3 J		
Semivolatile Organics	8270C	2,4,6-Trichlorophenol	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	2,4-Dichlorophenol	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	2,4-Dimethylphenol	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	2,4-Dinitrophenol	UG/KG	< 818	< 838	< 833		
Semivolatile Organics	8270C	2,4-Dinitrotoluene	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	2,6-Dichlorophenol	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	2,6-Dinitrotoluene	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	2-Chloronaphthalene	UG/KG	< 40.9	< 41.9	< 41.6		
Semivolatile Organics	8270C	2-Chlorophenol	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	2-Methyl-4,6-dinitrophenol	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	2-Methylnaphthalene	UG/KG	< 40.9	< 41.9	< 41.6		
Semivolatile Organics	8270C	2-Nitrophenol	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	3,3'-Dichlorobenzidine	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	3,3'-Dimethylbenzidine	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	4-Bromophenylphenylether	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	4-Chloro-3-methylphenol	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	4-Chloroaniline	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	4-Chlorophenylphenylether	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	4-Nitrophenol	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Acenaphthylene	UG/KG	< 40.9	< 41.9	< 41.6		
Semivolatile Organics	8270C	Acetophenone	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Aniline	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Anthracene	UG/KG	< 40.9	< 41.9	< 41.6	57.2	845
Semivolatile Organics	8270C	Benzo(a)anthracene	UG/KG	< 40.9	< 41.9	< 41.6	108	1050
Semivolatile Organics	8270C	Benzo(a)pyrene	UG/KG	< 40.9	< 41.9	< 41.6	150	1450
Semivolatile Organics	8270C	Benzo(b)fluoranthene	UG/KG	< 40.9	< 41.9	< 41.6		
Semivolatile Organics	8270C	Benzo(ghi)perylene	UG/KG	< 40.9	< 41.9	< 41.6		
Semivolatile Organics	8270C	Benzo(k)fluoranthene	UG/KG	< 40.9	< 41.9	< 41.6		
Semivolatile Organics	8270C	Benzyl alcohol	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	bis(2-Chloroethoxy)methane	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	bis(2-Chloroethyl) ether	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	bis(2-Ethylhexyl)phthalate	UG/KG	< 205	< 209	38.7 J		
Semivolatile Organics	8270C	Butylbenzylphthalate	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Chlorobenzilate	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Chrysene	UG/KG	< 40.9	< 41.9	< 41.6	166	1290
Semivolatile Organics	8270C	Dibenzo(a,h)anthracene	UG/KG	< 40.9	< 41.9	< 41.6		
Semivolatile Organics	8270C	Dibenzofuran	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Diethylphthalate	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Dimethylphthalate	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Di-n-butylphthalate	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Di-n-octylphthalate	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Diphenylamine	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Ethyl Methanesulfonate	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Fluoranthene	UG/KG	21.8 J	< 41.9	< 41.6	423	2230
Semivolatile Organics	8270C	Fluorene	UG/KG	< 40.9	< 41.9	< 41.6	77.4	536
Semivolatile Organics	8270C	Hexachlorobenzene	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Hexachlorocyclopentadiene	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Hexachloroethane	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	Indeno(1,2,3-cd)pyrene	UG/KG	< 40.9	< 41.9	< 41.6		
Semivolatile Organics	8270C	m,p-Cresols	UG/KG	< 409	< 419	42.7 J		
Semivolatile Organics	8270C	Methyl methanesulfonate	UG/KG	< 409	< 419	< 416		
Semivolatile Organics	8270C	m-Nitroaniline	UG/KG	< 409	< 419	< 416		

			Sample ID	86.0 B	95.0 A	95.0 B			
			Lab ID	131182005	131182001	131182002			
			Sample Date	02/20/05	02/20/05	02/20/05			
Parameter	**Method**	**Analyte**	**Units**	**86.0 B**	**95.0 A**	**95.0 B**		**TEC**	**PEC**
Semivolatile Organics	8270C	Nitrobenzene	UG/KG	< 409	< 419	< 416			
Semivolatile Organics	8270C	N-Methyl-N-nitrosomethylamine	UG/KG	< 409	< 419	< 416			
Semivolatile Organics	8270C	N-Nitrosodiethylamine	UG/KG	< 409	< 419	< 416			
Semivolatile Organics	8270C	N-Nitrosodi-n-butylamine	UG/KG	< 409	< 419	< 416			
Semivolatile Organics	8270C	N-Nitrosodipropylamine	UG/KG	< 409	< 419	< 416			
Semivolatile Organics	8270C	o-Cresol	UG/KG	< 409	< 419	< 416			
Semivolatile Organics	8270C	o-Nitroaniline	UG/KG	< 409	< 419	< 416			
Semivolatile Organics	8270C	Pentachlorobenzene	UG/KG	< 409	< 419	< 416			
Semivolatile Organics	8270C	Pentachloronitrobenzene	UG/KG	< 409	< 419	< 416			
Semivolatile Organics	8270C	Pentachlorophenol	UG/KG	< 409	< 419	< 416			
Semivolatile Organics	8270C	Phenacetin	UG/KG	< 409	< 419	< 416			
Semivolatile Organics	8270C	Phenanthrene	UG/KG	< 40.9	< 41.9	< 41.6		204	1170
Semivolatile Organics	8270C	Phenol	UG/KG	< 409	< 419	< 416			
Semivolatile Organics	8270C	p-Nitroaniline	UG/KG	< 409	< 419	< 416			
Semivolatile Organics	8270C	Pyrene	UG/KG	23.7 J	< 41.9	< 41.6		195	1520
Semivolatile Organics	8270C	Pyridine	UG/KG	< 409	< 419	< 416			
Pesticides	8081A	4,4'-DDD	UG/KG	< 8.18	< 1.68	< 1.67		4.88	28
Pesticides	8081A	4,4'-DDE	UG/KG	< 8.18	< 1.68	< 1.67		3.16	31.3
Pesticides	8081A	4,4'-DDT	UG/KG	< 8.18	< 1.68	< 1.67		4.16	62.9
Pesticides	8081A	Aldrin	UG/KG	< 4.09	< 0.838	< 0.833			
Pesticides	8081A	alpha-BHC	UG/KG	< 4.09	< 0.838	< 0.833			
Pesticides	8081A	beta-BHC	UG/KG	< 4.09	< 0.838	< 0.833			
Pesticides	8081A	Chlordane (tech.)	UG/KG	< 51.1	< 10.5	< 10.4		3.24	17.6
Pesticides	8081A	delta-BHC	UG/KG	< 4.09	< 0.838	< 0.833			
Pesticides	8081A	Dieldrin	UG/KG	< 8.18	< 1.68	< 1.67		1.9	61.8
Pesticides	8081A	Endosulfan I	UG/KG	< 4.09	< 0.838	< 0.833			
Pesticides	8081A	Endosulfan II	UG/KG	< 8.18	< 1.68	< 1.67			
Pesticides	8081A	Endosulfan sulfate	UG/KG	< 8.18	< 1.68	< 1.67			
Pesticides	8081A	Endrin	UG/KG	< 8.18	< 1.68	< 1.67		2.22	207
Pesticides	8081A	Endrin aldehyde	UG/KG	< 8.18	< 1.68	< 1.67			
Pesticides	8081A	gamma-BHC (Lindane)	UG/KG	< 4.09	< 0.838	< 0.833		2.37	4.99
Pesticides	8081A	Heptachlor	UG/KG	< 4.09	< 0.838	< 0.833			
Pesticides	8081A	Heptachlor epoxide	UG/KG	< 4.09	< 0.838	< 0.833		2.47	16
Pesticides	8081A	Methoxychlor	UG/KG	25.2 J	< 8.38	< 8.33			
Pesticides	8081A	Toxaphene	UG/KG	< 205	< 41.9	< 41.6			
Total Metals	7471A	Mercury	MG/KG	0.0019 J	< 0.0118	< 0.012		0.18	1.06
Total Metals	6010B	Arsenic	MG/KG	0.978	0.947	0.994		9.79	33
Total Metals	6010B	Barium	MG/KG	14.9	6.32	6.79			
Total Metals	6010B	Cadmium	MG/KG	< 0.602	< 0.616	< 0.623		0.99	4.98
Total Metals	6010B	Chromium	MG/KG	1.95	1.08	1.42		43.4	111
Total Metals	6010B	Copper	MG/KG	0.414 J	< 0.616	< 0.623		31.6	149
Total Metals	6010B	Iron	MG/KG	2260	1510	1700			
Total Metals	6010B	Lead	MG/KG	1.57	0.813	1.10		35.8	128
Total Metals	6010B	Manganese	MG/KG	23.0	20.1	21.1			
Total Metals	6010B	Selenium	MG/KG	< 0.602	< 0.616	< 0.623			
Total Metals	6010B	Silver	MG/KG	< 0.602	< 0.616	< 0.623			
Total Metals	6010B	Zinc	MG/KG	5.63	3.70	3.59		121	459
Polychlorinated Biphenyl	8082	Aroclor-1016	UG/KG	< 4.09	< 4.19	< 4.16			
Polychlorinated Biphenyl	8082	Aroclor-1221	UG/KG	< 4.09	< 4.19	< 4.16			
Polychlorinated Biphenyl	8082	Aroclor-1232	UG/KG	< 4.09	< 4.19	< 4.16			
Polychlorinated Biphenyl	8082	Aroclor-1242	UG/KG	< 4.09	< 4.19	< 4.16			
Polychlorinated Biphenyl	8082	Aroclor-1248	UG/KG	< 4.09	< 4.19	< 4.16			
Polychlorinated Biphenyl	8082	Aroclor-1254	UG/KG	< 4.09	< 4.19	< 4.16			
Polychlorinated Biphenyl	8082	Aroclor-1260	UG/KG	< 4.09	< 4.19	< 4.16	Total PCB	59.8	676