Data Verification Report
for samples collected from
Coffee Creek, Mossy Lake and Ouachita River
on
August 9 and August 10, 2005

Data Verifier: Sandra de las Fuentes
Parsons – Austin

The following data verification report covers water and soil samples collected from Coffee Creek, Mossy Lake and Ouachita River on August 9 and August 10, 2005. The samples were collected by Parsons' staff and analyzed by Albion Environmental (Albion), in College Station, Texas and the EPA Region 6 Laboratory (EPA Lab) in Houston, Texas.

A chemist at Parsons has reviewed the data submitted by both Albion and the EPA Lab. The data package included the following sample delivery groups (SDGs): H1123-9457-001, H1123-9457-002, H1123-9457-003, 0508013 and 0508014. The field quality control samples included in the SDGs are one field duplicate for the liquids and one for the solids, plus a field blank.

All samples were analyzed for the following parameters:

- PCBs by EPA Method 680
- Aroclors by EPA Method 8082
- Organochlorine Pesticides by EPA Method 8081A
- Toxaphene and Tech. Chlordane by EPA Method 8081A
- Nitrogen-Phosphorus Pesticides by EPA Method 8141A
- Semivolatiles by EPA Method 8270 (solids only)
- Metals by EPA Method 6020 (solids only)
- Metals by EPA 6010B (solids only)
- Mercury by 7470/7471A (solids only)
- Gain Size by SPO 160 (solids only)
- Total Organic Carbon (TOC) by EPA Method 415.2
- *Ceriodaphnia dubia* by EPA-821-R-02-013 (Oct 2002)
- *Pimephales promelas* by EPA-821-R-02-013 (Oct 2002)
- Ammonia Nitrogen by EPA Method 350.1 (liquid only)
- Chloride and Sulfate by EPA Method 300.0 (liquid only)
- Phosphate by EPA Method 365.4 (liquid only)

- Phosphorus by EPA Method 365.1 (liquid only)
- Nitrite and Nitrate by EPA Method 353.2 (liquid only)
- Total Kjeldahl Nitrogen by EPA Method 351.2 (liquid only)
- Total Dissolved Solids by EPA Method 160.1 (liquid only)
- Total Suspended Solids by EPA Method 160.2 (liquid only)
- Volatile Suspended Solids by EPA Method 160.4 (liquid only)
- Chlorophyll-A by Standard Method 10200H (liquid only)
- Pheophytin-A by Standard Method 10200H (liquid only)
- Biology Wet Chemistry (% dry weight, pH, Hardness, Alkalinity, Conductivity, Salinity, Total Ammonia and Chlorine)
- Clean Metals by EPA Methods 1631, 1632 (mod), 1638, 200.8.

Review Criteria

The data submitted by the laboratory has been reviewed and validated following the guidelines outlined in the Assessment of Coffee Creek, Mossy Lake, and the Ouachita River Quality Assurance Project Plan (QAPP), laboratory derived tolerances and the United States Environmental Protection Agency (USEPA) National Functional Guidelines (NFG) for Organic Data Review (October 1999) and the USEPA NFG for Inorganic Data Review (October 2004). Where the project QAPP and NFG did not offer specific instruction, the guidance presented in SW846 was used for evaluation. The data was also examined for compliance with laboratory derived criteria and the methodology presented in SW846. Information reviewed in the data package included sample results, laboratory quality control results, case narratives and chain-of-custody (COC) forms. The analyses and findings presented in this report are based on the reviewed information and whether the guidelines in the project QAPP, USEPA NFG, laboratory derived tolerances and SW846 were met.

Data Usability

No major problems were encountered by the laboratories during the analyses of the samples in this SDG. All concentrations were reported down to Reporting Limits (RLs) level and method blank (MB) were reported down to Method Detection Limits (MDLs). All data are usable.

Accuracy

Accuracy is determined by evaluating the percent recovery (%R) of the LCSs, MS, MSD and surrogate spikes. Data was qualified as estimated using "J" for detects

and "UJ" for non-detects if a non-compliant analyte was recovered below tolerance and using "J" for detects if a non-compliant analyte was recovered above tolerance. Analytes that failed in both the MS and the MSD were qualified as estimated. Analytes that failed on only the MS or the MSD were considered acceptable and the data was not qualified for these analytes. Sample concentrations that exceed the spike added concentrations by more than a factor of four were not calculated or flagged. In addition, only those samples from the same SDG and of similar matrix were qualified if the MS/MSD failed criteria. Samples with one or more surrogate failing criteria were re-extracted and re-analyzed. However, because the re-extractions occurred outside of hold time, the re-analyses were used only to confirm the original results.

All LCS recoveries met the laboratory derived tolerances, except for the following:

Sample ID	Matrix	Parameter	LCS %R	Criteria
B5H2203-BS1	Soil	Total PCBs	65.5	70-130%
B5H1905-BS1	Soil	Molinate	61.7	70-130%
B5H1905-BS1	Soil	Aldrin	57.8	70-130%
B5H1905-BS1	Soil	Heptachlor epoxide	68.7	70-130%
B5H3001-BS1	Soil	Calcium	160	75-125%
B5H3001-BS1	Soil	Iron	128	75-125%

Total PCBs were slightly below the acceptance criteria in the soil LCS. The MS and MSD were both acceptable and no target compounds were found in the associated samples. No corrective action was deemed necessary. Molinate was below the acceptance criteria. The MSD was also below criteria, although the MS was within criteria. Molinate was not found in any associated samples. Since the LCS was only slightly below criteria and the MS passed, no corrective action was deemed necessary.

Both Aldrin and heptachlor epoxide recovered low in the LCS, although both were within acceptance criteria in the MS and MSD. Neither Aldrin of heptachlor epoxide was found in any of the associated samples. No corrective action was deemed necessary.

Both calcium and iron recovered above acceptance criteria in the soil LCS. Neither metal was calculated in the MS nor MSD due to the large amount of these metals in the sample spiked. Since Calcium recovered significantly higher than acceptance criteria, all associated samples were flagged as estimated with a "J" flag. No corrective action was deemed necessary for iron since it recovered only slightly above acceptance criteria.

All MS and MSD recoveries met the laboratory derived tolerances, except for the following:

Parent Sample	Matrix	Parameter	MS %R	MSD %R	Criteria
Ouachita Up 02	Soil	4,4'-DDE	63.2	63.2	70-130%
Ouachita Up 02	Soil	Pendimethalin	145	141	70-130%
Coffee Up 02	Soil	Antimony	56.9	54.2	75-125%
Ouachita Up 02	Soil	Antimony	73.9	74.1	75-125%

4,4'-DDE was below acceptance criteria in both the MS and MSD. The parent sample, Ouachita Up 02, was therefore flagged with a "J" as estimated for 4,4'-DDE due to the possible low bias of the sample results. Since Pendimethalin recovered high in both the MS and MSD and there was no Pendimethalin found in the samples, no corrective action was required.

Antimony recovered low in the MS and MSD for Coffee Up 02. The parent sample was therefore flagged with a "J" as estimated for antimony due to the possible low bias of the sample result. Since Antimony recovered only slightly below acceptance criteria in Ouachita Up 02, no corrective action was deemed necessary.

All surrogate recoveries met the laboratory derived tolerances, except for the following:

Sample	Analysis	Surrogate	Surrogate % R	Criteria
Coffee Dn 01	Pesticides	tetrachloro-m-xylene	166	28-71%
Mossy 01	Pesticides	tetrachloro-m-xylene	91.8	28-71%
Coffee Up 02	SVOC	1,2-dichlorobenzene-d4	14.4	26-98%

A surrogate for samples Coffee Dn 01 and Mossy 01 recovered high due to coelution. No pesticides were detected in either sample and no flags were applied. A surrogate for sample Coffee Up 02 recovered low which indicates a low bias to recoveries for the more volatile (i.e. early eluters) were found greater than 1/5 the listed RL. Therefore the non-detects should be accurate.

Precision

Precision was determined by comparing the %RPD of the MS/MSD and parent and field duplicate analyses. There were no samples designated on the COC for the MS/MSD analyses, although the lab randomly chose samples from this data set for this QC evaluation.

The %RPD's for all MS/MSD met the laboratory tolerances, except for the following:

Parent Sample	Parameter	% RPD	Criteria
Ouachita Up 02	Arsenic	27.3	+/- 20%
Field Duplicate 01	Endrin aldehyde	31.9	+/- 30%

Arsenic in Ouachita Up 02 and Endrin aldehyde in Field Duplicate 01 were not detected in the samples; therefore no corrective action was deem necessary due to the non-compliant precision result.

The %RPD's for all field duplicates were either all non-detect or within laboratory tolerances.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing actual analytical procedures to those described in the COC;
- Evaluating holding times; and
- Examining laboratory blanks for possible contamination of samples during analysis.

All samples were prepared and analyzed following the COC. All samples were prepared and analyzed within the hold time required for the respective analyses, except for the following:

All liquid samples analyzed for PCBs by EPA Method 680 exceeded hold times due to the request for analysis being made after holding times were expired. Sample results were flagged "J" as estimated.

Sample Coffee Dn 02 (water sample) exceeded holding time for pesticides by EPA Method 8081A due to lab error. Sample results were flagged "J" as estimated.

Aroclor 1254 by EPA Method 8082 in sample Field Duplicate 02 exceeded holding time due to lab error. The sample result was flagged "J" as estimated.

All method blanks reported were reviewed and found to be free of target analytes above the RL, except for iron by EPA Method 6010B and Benzoic acid by EPA Method 8270. Iron was found in the method blank at a concentration of 2.3 mg/Kg. All associated soil samples were significantly higher that (greater than 10 times) the blank concentration; therefore no corrective action was required and no flags were applied. Benzoic acid was found in the method blank at 167 µg/kg. All associated soil samples were flagged as estimated.

Completeness

Completeness was evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

The completeness of these SDGs were 100%. All data are usable.

Data Verification Report
for samples collected from
Coffee Creek, Mossy Lake and Ouachita River
on
October 18 and October 19, 2005

Data Verifier: Sandra de las Fuentes
Parsons – Austin

The following data verification report covers water samples collected from Coffee Creek, Mossy Lake and Ouachita River on October 18 and October 19, 2005. The samples were collected by Parsons' staff and analyzed by Albion Environmental (Albion), in College Station, Texas and the EPA Region 6 Laboratory (EPA Lab) in Houston, Texas.

A chemist at Parsons has reviewed the data submitted by both Albion and the EPA Lab. The data package included the following sample delivery groups (SDGs): H1123-9457-001, H1123-9457-002, H1123-9457-003, 0510019 and 0510020. The field quality control samples included in the SDGs are one field duplicate for and one field blank.

All samples were analyzed for the following parameters:

- PCBs by EPA Method 680
- Aroclors by EPA Method 8082
- Organochlorine Pesticides by EPA Method 8081A
- Toxaphene and Tech. Chlordane by EPA Method 8081A
- Nitrogen-Phosphorus Pesticides by EPA Method 8141A
- Total Organic Carbon (TOC) by EPA Method 415.2
- *Ceriodaphnia dubia* by EPA-821-R-02-013 (Oct 2002)
- *Pimephales promelas* by EPA-821-R-02-013 (Oct 2002)
- Ammonia Nitrogen by EPA Method 350.1
- Chloride and Sulfate by EPA Method 300.0
- Phosphate by EPA Method 365.4
- Phosphorus by EPA Method 365.1
- Nitrite and Nitrate by EPA Method 353.2
- Total Kjeldahl Nitrogen by EPA Method 351.2
- Total Dissolved Solids by EPA Method 160.1
- Total Suspended Solids by EPA Method 160.2

- Volatile Suspended Solids by EPA Method 160.4
- Chlorophyll-A by Standard Method 10200H
- Pheophytin-A by Standard Method 10200H
- Biology Wet Chemistry: pH, Hardness, Alkalinity, Conductivity, Salinity, Total Ammonia and Chlorine)
- Clean Metals by EPA Methods 1631, 1632 (mod), 1638, 200.8.

Review Criteria

The data submitted by the laboratory has been reviewed and validated following the guidelines outlined in the Assessment of Coffee Creek, Mossy Lake, and the Ouachita River Quality Assurance Project Plan (QAPP), laboratory derived tolerances and the United States Environmental Protection Agency (USEPA) National Functional Guidelines (NFG) for Organic Data Review (October 1999) and the USEPA NFG for Inorganic Data Review (October 2004). Where the project QAPP and NFG did not offer specific instruction, the guidance presented in SW846 was used for evaluation. The data was also examined for compliance with laboratory derived criteria and the methodology presented in SW846. Information reviewed in the data package included sample results, laboratory quality control results, case narratives and chain-of-custody (COC) forms. The analyses and findings presented in this report are based on the reviewed information and whether the guidelines in the project QAPP, USEPA NFG, laboratory derived tolerances and SW846 were met.

Data Usability

No major problems were encountered by the laboratories during the analyses of the samples in this SDG. All concentrations were reported down to Reporting Limits (RLs) level and method blank (MB) were reported down to Method Detection Limits (MDLs). All data are usable.

Accuracy

Accuracy is determined by evaluating the percent recovery (%R) of the LCSs, MS, MSD and surrogate spikes. Data was qualified as estimated using "J" for detects and "UJ" for non-detects if a non-compliant analyte was recovered below tolerance and using "J" for detects if a non-compliant analyte was recovered above tolerance. Analytes that failed in both the MS and the MSD were qualified as estimated. Analytes that failed on only the MS or the MSD were considered acceptable and the data was not qualified for these analytes. Sample concentrations that exceed the spike added concentrations by more than a factor of four were not calculated or flagged. In addition, only those samples from the same SDG and of similar matrix were qualified if the MS/MSD failed criteria. Samples with one or more surrogate failing criteria were re-extracted and re-analyzed.

However, because the re-extractions occurred outside of hold time, the re-analyses were used only to confirm the original results.

All LCS recoveries met the laboratory derived tolerances, except for the following:

Sample ID	Parameter	LCS %R	Criteria
B5J2001-BS1	Total PCBs	55.7	70-130%
B5J1901-BS1	Total PCBs	63.0	70-130%

The internal standard areas in the samples and QC for PCBs by EPA Method 680 were high compared to the calibration curve which may indicate a low bias. All associated samples were flagged "J" as estimated. There were no total PCBs found in any of the associated samples.

All MS and MSD recoveries met the laboratory derived tolerances, except for the following:

Parent Sample	Parameter	MS %R	MSD %R	Criteria
Field Duplicate	Total PCBs	49.1	53.8	50-150

Total PCBs by EPA Method 680 recovered low in the MS likely due to the internal standard exceeding the control limits. All associated samples were previously flagged "J" as estimated; therefore no further corrective action was required.

All surrogate recoveries met the laboratory derived tolerances, except for the following:

Sample	Analysis	Surrogate	Surrogate % R	Criteria
Coffee Creek	PCBs	Tetrachloro-m-xylene	31.6	34-102%
Coffee Creek	Pesticides by 8081A	Tetrachloro-m-xylene	84.9	28-71%
Coffee Creek	Pesticides by 8141A	Tributyl phosphate	109	53-104%

One out of the two spiked surrogates for sample Coffee Creek recovered outside of acceptance criteria. No corrective action was required since one surrogate per analysis met criteria.

Precision

Precision was determined by comparing the %RPD of the MS/MSD and parent and field duplicate analyses. There were no samples designated on the COC for the MS/MSD analyses, although the lab randomly chose samples from this data set for this QC evaluation.

The %RPD's for all MS/MSD met the laboratory tolerances.

The %RPD's for all field duplicates were either all non-detect or within laboratory tolerances.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing actual analytical procedures to those described in the COC;
- Evaluating holding times; and
- Examining laboratory blanks for possible contamination of samples during analysis.

All samples were prepared and analyzed following the COC. All samples were prepared and analyzed within the hold time required for the respective analyses, except for the following:

All samples analyzed for Chlordane and Toxaphene by EPA Method 8081A exceeded hold times due to reanalysis. Neither compound was found in any of the associated samples. All samples were flagged "J" for estimated.

All *Ceriodaphnia dubia* by EPA-821-R-02-013 (Oct 2002) results were flagged "J" due to being analyzed outside of holding time. The test acceptability criteria of 15 young female was not met. The control had 12.9 young per female.

Mossy Creek was flagged "J" for PCBs by EPA Method 8082 due to being analyzed outside of holding time required by the method. There were no PCBs detected in Mossy Creek.

All method blanks reported were reviewed and found to be free of target analytes above the RL, except for clean metals Zinc. Zinc was found in the field blank at 2.3 µg/L. Coffee Creek Up, Ouachita Up and Ouachita Dn were flagged "J" as estimated since the Zinc concentration was less than 5 times the amount of zinc contamination in the field blank. All other samples contained high amounts of Zinc and they were not likely biased from the Zinc contamination found in the field blank.

Completeness

Completeness was evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

The completeness of these SDGs were 100%. All data are usable.

Data Verification Report
for samples collected from
Coffee Creek, Mossy Lake and Ouachita River
on
December 13 and December 14, 2005

Data Verifier: Sandra de las Fuentes
Parsons – Austin

The following data verification report covers water samples collected from Coffee Creek, Mossy Lake and Ouachita River on December 13 and December 14, 2005. The samples were collected by Parsons' staff and analyzed by Albion Environmental (Albion), in College Station, Texas and the EPA Region 6 Laboratory (EPA Lab) in Houston, Texas.

A chemist at Parsons has reviewed the data submitted by both Albion and the EPA Lab. The data package included the following sample delivery groups (SDGs): J0220-9457-001, J0220-9457-002, J0220-9457-003, 0512023 and 0512025. The field quality control samples included in the SDGs are one field duplicate for and one field blank.

All samples were analyzed for the following parameters:

- PCBs by EPA Method 680
- Aroclors by EPA Method 8082
- Organochlorine Pesticides by EPA Method 8081A
- Toxaphene and Tech. Chlordane by EPA Method 8081A
- Nitrogen-Phosphorus Pesticides by EPA Method 8141A
- Total Organic Carbon (TOC) by EPA Method 415.2
- *Ceriodaphnia dubia* by EPA-821-R-02-013 (Oct 2002)
- *Pimephales promelas* by EPA-821-R-02-013 (Oct 2002)
- Ammonia Nitrogen by EPA Method 350.1
- Chloride and Sulfate by EPA Method 300.0
- Phosphate by EPA Method 365.4
- Phosphorus by EPA Method 365.1
- Nitrite and Nitrate by EPA Method 353.2
- Total Kjeldahl Nitrogen by EPA Method 351.2
- Total Dissolved Solids by EPA Method 160.1
- Total Suspended Solids by EPA Method 160.2

- Volatile Suspended Solids by EPA Method 160.4
- Chlorophyll-A by Standard Method 10200H
- Pheophytin-A by Standard Method 10200H
- Biology Wet Chemistry: pH, Hardness, Alkalinity, Conductivity, Salinity, Total Ammonia and Chlorine)
- Clean Metals by EPA Methods 1631, 1632 (mod), 1638, 200.8.

Review Criteria

The data submitted by the laboratory has been reviewed and validated following the guidelines outlined in the Assessment of Coffee Creek, Mossy Lake, and the Ouachita River Quality Assurance Project Plan (QAPP), laboratory derived tolerances and the United States Environmental Protection Agency (USEPA) National Functional Guidelines (NFG) for Organic Data Review (October 1999) and the USEPA NFG for Inorganic Data Review (October 2004). Where the project QAPP and NFG did not offer specific instruction, the guidance presented in SW846 was used for evaluation. The data was also examined for compliance with laboratory derived criteria and the methodology presented in SW846. Information reviewed in the data package included sample results, laboratory quality control results, case narratives and chain-of-custody (COC) forms. The analyses and findings presented in this report are based on the reviewed information and whether the guidelines in the project QAPP, USEPA NFG, laboratory derived tolerances and SW846 were met.

Data Usability

There were major problems encountered by the EPA Lab during analysis of total chlorine and TKN. All total chlorine results were rejected because the samples were not blanked prior to analysis. A "R" flag was applied to all total chlorine results. Samples Mossy Lake, Coffee Creek and Ouachita Dn were not analyzed for TKN due to instrument failure. TKN results were flagged "R" as rejected.

All concentrations were reported down to Reporting Limits (RLs) level and method blank (MB) were reported down to Method Detection Limits (MDLs). All data except those listed above are usable.

Accuracy

Accuracy is determined by evaluating the percent recovery (%R) of the LCSs, MS, MSD and surrogate spikes. Data was qualified as estimated using "J" for detects and "UJ" for non-detects if a non-compliant analyte was recovered below tolerance and using "J" for detects if a non-compliant analyte was recovered above tolerance. Analytes that failed in both the MS and the MSD were qualified as estimated. Analytes that failed

on only the MS or the MSD were considered acceptable and the data was not qualified for these analytes. Sample concentrations that exceed the spike added concentrations by more than a factor of four were not calculated or flagged. In addition, only those samples from the same SDG and of similar matrix were qualified if the MS/MSD failed criteria. Samples with one or more surrogate failing criteria were re-extracted and re-analyzed. However, because the re-extractions occurred outside of hold time, the re-analyses were used only to confirm the original results.

All LCS recoveries met the laboratory derived tolerances, except for the following:

Sample ID	Parameter	LCS %R	Criteria
B5L1601-BS1	Aldrin	96.2	41-91%
B5L1601-BS1	Gamma-BHC (Lindane)	106	24-100%
B5L1601-BS1	4,4'-DDE	97.6	55-97%
B5L1601-BS1	Dieldrin	112	53-100%

The pesticides listed above recovered above acceptance criteria. No flags were applied since they recovered high and all of the associated samples were non-detect for these pesticides.

All MS and MSD recoveries met the laboratory derived tolerances.

All surrogate recoveries met the laboratory derived tolerances, except for the following:

Sample	Analysis	Surrogate	Surrogate % R	Criteria
B5L1601-BLK1	PCBs by 8082	Tetrachloro-m-xylene	80.6	28-71%
B5L1601-BLK1	Pesticides by 8081A	Tetrachloro-m-xylene	79.8	28-71%
B5L1601-BS1	Pesticides by 8081A	Tetrachloro-m-xylene	77.2	28-71%
B5L1601-MS1	Pesticides by 8081A	Tetrachloro-m-xylene	76.5	28-71%

One out of the two spiked surrogates for sample the above QC samples recovered above acceptance criteria. No corrective action was required since one surrogate per analysis met criteria.

Precision

Precision was determined by comparing the %RPD of the MS/MSD and parent and field duplicate analyses. There were no samples designated on the COC for the MS/MSD analyses, although the lab randomly chose samples from this data set for this QC evaluation.

The %RPD's for all MS/MSD met the laboratory tolerances, except for Carbofuran in the MS/MSD was 30.8%, which exceeded the 30% laboratory criteria. No flags were applied since all the samples were non-detect for this compound.

The %RPD's for all field duplicates were either all non-detect or within laboratory tolerances.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing actual analytical procedures to those described in the COC;
- Evaluating holding times; and
- Examining laboratory blanks for possible contamination of samples during analysis.

All samples were prepared and analyzed following the COC, except for the following:

All total chlorine results were rejected because the samples were not blanked prior to analysis. A "R" flag was applied to all total chlorine results.

Samples Mossy Lake, Coffee Creek and Ouachita Dn were not analyzed for TKN due to instrument failure. TKN results were flagged "R" as rejected.

All samples were prepared and analyzed within the hold time required for the respective analyses.

All method blanks reported were reviewed and found to be free of target analytes above the RL.

Completeness

Completeness was evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

The completeness of these SDGs were 99%.

Data Verification Report
for samples collected from
Coffee Creek, Mossy Lake and Ouachita River
on
May 16 and May 17, 2006

Data Verifier: Sandra de las Fuentes
Parsons – Austin

The following data verification report covers water and soil samples collected from Coffee Creek, Mossy Lake and Ouachita River on May 16 and May 17, 2006. The samples were collected by Parsons' staff and analyzed by Albion Environmental (Albion), in College Station, Texas and the EPA Region 6 Laboratory (EPA Lab) in Houston, Texas.

A chemist at Parsons has reviewed the data submitted by both Albion and the EPA Lab. The data package included the following sample delivery groups (SDGs): J0915-9457-002, J0915-9457-003, J0915-9457-004, 0605012 and 0605014. The field quality control samples included in the SDGs are one field duplicate for the liquids and one for the solids, plus a field blank.

All samples were analyzed for the following parameters:

- PCBs by EPA Method 680
- Aroclors by EPA Method 8082
- Organochlorine Pesticides by EPA Method 8081A
- Toxaphene and Tech. Chlordane by EPA Method 8081A
- Nitrogen-Phosphorus Pesticides by EPA Method 8141A
- Semivolatiles by EPA Method 8270 (solids only)
- Metals by EPA Method 6020 (solids only)
- Metals by EPA 6010B (solids only)
- Mercury by 7470/7471A (solids only)
- Gain Size by SPO 160 (solids only)
- Total Organic Carbon (TOC) by EPA Method 415.2
- *Ceriodaphnia dubia* by EPA-821-R-02-013 (Oct 2002)
- *Pimephales promelas* by EPA-821-R-02-013 (Oct 2002)
- Ammonia Nitrogen by EPA Method 350.1 (liquid only)
- Chloride and Sulfate by EPA Method 300.0 (liquid only)
- Phosphate by EPA Method 365.4 (liquid only)

- Phosphorus by EPA Method 365.1 (liquid only)
- Nitrite and Nitrate by EPA Method 353.2 (liquid only)
- Total Kjeldahl Nitrogen by EPA Method 351.2 (liquid only)
- Total Dissolved Solids by EPA Method 160.1 (liquid only)
- Total Suspended Solids by EPA Method 160.2 (liquid only)
- Volatile Suspended Solids by EPA Method 160.4 (liquid only)
- Chlorophyll-A by Standard Method 10200H (liquid only)
- Pheophytin-A by Standard Method 10200H (liquid only)
- Biology Wet Chemistry (% dry weight, pH, Hardness, Alkalinity, Conductivity, Salinity, Total Ammonia and Chlorine)
- Clean Metals by EPA Methods 1631, 1632 (mod), 1638, 200.8.

Review Criteria

The data submitted by the laboratory has been reviewed and validated following the guidelines outlined in the Assessment of Coffee Creek, Mossy Lake, and the Ouachita River Quality Assurance Project Plan (QAPP), laboratory derived tolerances and the United States Environmental Protection Agency (USEPA) National Functional Guidelines (NFG) for Organic Data Review (October 1999) and the USEPA NFG for Inorganic Data Review (October 2004). Where the project QAPP and NFG did not offer specific instruction, the guidance presented in SW846 was used for evaluation. The data was also examined for compliance with laboratory derived criteria and the methodology presented in SW846. Information reviewed in the data package included sample results, laboratory quality control results, case narratives and chain-of-custody (COC) forms. The analyses and findings presented in this report are based on the reviewed information and whether the guidelines in the project QAPP, USEPA NFG, laboratory derived tolerances and SW846 were met.

Data Usability

No major problems were encountered by the laboratories during the analyses of the samples in this SDG. All concentrations were reported down to Reporting Limits (RLs) level and method blank (MB) were reported down to Method Detection Limits (MDLs). All data are usable.

Accuracy

Accuracy is determined by evaluating the percent recovery (%R) of the LCSs, MS, MSD and surrogate spikes. Data was qualified as estimated using "J" for detects

and "UJ" for non-detects if a non-compliant analyte was recovered below tolerance and using "J" for detects if a non-compliant analyte was recovered above tolerance. Analytes that failed in both the MS and the MSD were qualified as estimated. Analytes that failed on only the MS or the MSD were considered acceptable and the data was not qualified for these analytes. Sample concentrations that exceed the spike added concentrations by more than a factor of four were not calculated or flagged. In addition, only those samples from the same SDG and of similar matrix were qualified if the MS/MSD failed criteria. Samples with one or more surrogate failing criteria were re-extracted and re-analyzed. However, because the re-extractions occurred outside of hold time, the re-analyses were used only to confirm the original results.

All LCS recoveries met the laboratory derived tolerances, except for the following:

Sample ID	Parameter	LCS %R	Criteria
B6E2405-BS1	Total PCBs	67.5	70-130%
B6F0602-BS1	Silver	70.4	75-125%
B6F0602-BS2	Potassium	NR	75-125%
B6F0602-BS2	Sodium	NR	75-125%
B6E2301-BS1	Diazinon	63.4	70-130%
B6E2301-BS1	Molinate	66.5	70-130%
B6F1618-BS1	Trifluralin	61.4	70-130%

NR=Not reported

Total PCBs recovered slightly low in the LCS; no flags were applied since the Total PCBs recovered within acceptance criteria in the MS and MSD. Silver, potassium, sodium, Diazinon, Molinate and Trifluralin all recovered low or not at all in the LCS. All associated soil samples were therefore flagged "J" as estimated.

All MS and MSD recoveries met the laboratory derived tolerances, except for the following:

Parent Sample	Parameter	MS %R	MSD %R	Criteria
Field Duplicate 5	Silver	69.5	71.2	75-125%
Field Duplicate 5	Antimony	33.1	32.5	75-125%
Reference 5	Diazinon	66.5	64.7	70-130%
Reference5	Molinate	62.5	62.2	70-130%

All associated soil samples were flagged "J" as estimated for the low recoveries Antimony. No further corrective actions were required for the low Silver, Diazinon and Molinate recoveries since all associated samples were previously flagged.

All soil samples in SDG 0605012 were flagged "J" as estimated for the following semivolatile compounds: 4-Chloroaniline, 3,3'-Dicholorobenzidine, Hexachlorocyclopentadiene, 3-Nitroaniline, 4-Nitroaniline. The listed compounds had little or no recovery in the matrix spikes.

All surrogate recoveries met the laboratory derived tolerances.

Precision

Precision was determined by comparing the %RPD of the MS/MSD and parent and field duplicate analyses. There were no samples designated on the COC for the MS/MSD analyses, although the lab randomly chose samples from this data set for this QC evaluation.

The %RPD's for all MS/MSD met the laboratory tolerances, except for the semivolatiles. All soil semi-volatiles were previously flagged "J" due to holding time exceedances. No further corrective action was required for precision exceedances.

The %RPD's for all field duplicates were either all non-detect or within laboratory tolerances.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing actual analytical procedures to those described in the COC;
- Evaluating holding times; and
- Examining laboratory blanks for possible contamination of samples during analysis.

All samples were prepared and analyzed following the COC. All samples were prepared and analyzed within the hold time required for the respective analyses, except for organochlorine pesticides by EPA Method 8081 in the soil samples.

All soil pesticides by EPA Method 8081 were re-extracted because initial extraction had significant problems in the QC; all soil samples were flagged "J" for exceeding the holding times required by the method.

Atrazine was flagged as estimated in Coffee Creek 5 (water) and Mossy Lake 5 (water) due to the difference in concentration on the two columns as well as non-symmetrical peak shape on the column that was reported.

Iron and Zinc are low in the standard Reference Material QC; all associated samples are flagged "J" as estimated.

All method blanks reported were reviewed and found to be free of target analytes above the RL, except for copper by EPA Method 6010B and Benzoic acid by EPA Method 8270. Copper was found in the method blank at a concentration of 2.0mg/Kg. All associated soil samples that were significantly higher than (greater than 5 times) the blank concentration or non-detected were not flagged as estimated. The only associated sample that was flagged as estimated were Ouachita Up 5 and Mossy Lake 5. A "J" flagged was applied to the copper results for the possible high bias. Benzoic acid was

found in the method blank at 177 µg/L. All soil samples were previously flagged "J" for their exceedances of holding times. No further corrective action was required.

Completeness

Completeness was evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

The completeness of these SDGs were 100%. All data are usable.

Data Verification Report
for samples collected from
Coffee Creek, Mossy Lake and Ouachita River
on
June 6 and June 7, 2006

Data Verifier: Sandra de las Fuentes
Parsons – Austin

The following data verification report covers water samples collected from Coffee Creek, Mossy Lake and Ouachita River on June 06 and June 07, 2006. The samples were collected by Parsons' staff and analyzed by Albion Environmental (Albion), in College Station, Texas and the EPA Region 6 Laboratory (EPA Lab) in Houston, Texas.

A chemist at Parsons has reviewed the data submitted by both Albion and the EPA Lab. The data package included the following sample delivery groups (SDGs): J0915-9457-005, J0915-9457-006, 0606003 and 0606006. The field quality control samples included in the SDGs are one field duplicate for and one field blank.

All samples were analyzed for the following parameters:

- PCBs by EPA Method 680
- Aroclors by EPA Method 8082
- Organochlorine Pesticides by EPA Method 8081A
- Toxaphene and Tech. Chlordane by EPA Method 8081A
- Nitrogen-Phosphorus Pesticides by EPA Method 8141A
- Total Organic Carbon (TOC) by EPA Method 415.2
- *Ceriodaphnia dubia* by EPA-821-R-02-013 (Oct 2002)
- *Pimephales promelas* by EPA-821-R-02-013 (Oct 2002)
- Ammonia Nitrogen by EPA Method 350.1
- Chloride and Sulfate by EPA Method 300.0
- Phosphate by EPA Method 365.4
- Phosphorus by EPA Method 365.1
- Nitrite and Nitrate by EPA Method 353.2
- Total Kjeldahl Nitrogen by EPA Method 351.2
- Total Dissolved Solids by EPA Method 160.1
- Total Suspended Solids by EPA Method 160.2
- Volatile Suspended Solids by EPA Method 160.4

- Chlorophyll-A by Standard Method 10200H
- Pheophytin-A by Standard Method 10200H
- Biology Wet Chemistry: pH, Hardness, Alkalinity, Conductivity, Salinity, Total Ammonia and Chlorine)
- Clean Metals by EPA Methods 1631, 1632 (mod), 1638, 200.8.

Review Criteria

The data submitted by the laboratory has been reviewed and validated following the guidelines outlined in the Assessment of Coffee Creek, Mossy Lake, and the Ouachita River Quality Assurance Project Plan (QAPP), laboratory derived tolerances and the United States Environmental Protection Agency (USEPA) National Functional Guidelines (NFG) for Organic Data Review (October 1999) and the USEPA NFG for Inorganic Data Review (October 2004). Where the project QAPP and NFG did not offer specific instruction, the guidance presented in SW846 was used for evaluation. The data was also examined for compliance with laboratory derived criteria and the methodology presented in SW846. Information reviewed in the data package included sample results, laboratory quality control results, case narratives and chain-of-custody (COC) forms. The analyses and findings presented in this report are based on the reviewed information and whether the guidelines in the project QAPP, USEPA NFG, laboratory derived tolerances and SW846 were met.

Data Usability

No major problems were encountered by the laboratories during the analyses of the samples in this SDG. All concentrations were reported down to Reporting Limits (RLs) level and method blank (MB) were reported down to Method Detection Limits (MDLs). All data are usable.

Accuracy

Accuracy is determined by evaluating the percent recovery (%R) of the LCSs, MS, MSD and surrogate spikes. Data was qualified as estimated using "J" for detects and "UJ" for non-detects if a non-compliant analyte was recovered below tolerance and using "J" for detects if a non-compliant analyte was recovered above tolerance. Analytes that failed in both the MS and the MSD were qualified as estimated. Analytes that failed on only the MS or the MSD were considered acceptable and the data was not qualified for these analytes. Sample concentrations that exceed the spike added concentrations by more than a factor of four were not calculated or flagged. In addition, only those samples from the same SDG and of similar matrix were qualified if the MS/MSD failed criteria. Samples with one or more surrogate failing criteria were re-extracted and re-analyzed. However, because the re-extractions occurred outside of hold time, the re-analyses were used only to confirm the original results.

All LCS recoveries met the laboratory derived tolerances.

All MS and MSD recoveries met the laboratory derived tolerances.

All surrogate recoveries met the laboratory derived tolerances.

Precision

Precision was determined by comparing the %RPD of the MS/MSD and parent and field duplicate analyses. There were no samples designated on the COC for the MS/MSD analyses, although the lab randomly chose samples from this data set for this QC evaluation.

The %RPD's for all MS/MSD met the laboratory tolerances.

The %RPD's for all field duplicates were either all non-detect or within laboratory tolerances.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing actual analytical procedures to those described in the COC;
- Evaluating holding times; and
- Examining laboratory blanks for possible contamination of samples during analysis.

All samples were prepared and analyzed following the COC.

All samples were prepared and analyzed within the hold time required for the respective analyses.

All method blanks reported were reviewed and found to be free of target analytes above the RL.

Completeness

Completeness was evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

The completeness of these SDGs were 100%. All data are usable.