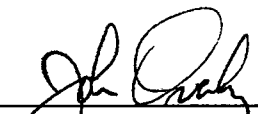


City of Fort Smith
ATTN: Mr. Lance McAvoy
3900 Kelley Highway
Fort Smith, AR 72904

This report contains the analytical results and supporting information for samples submitted on January 18, 2013. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.



John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: City of Fort Smith
ATTN: Mr. Jay Lor
jlor@fortsmithar.gov

City of Fort Smith
ATTN: Mr. Lance McAvoy
lmcavoy@fortsmithar.gov

City of Fort Smith
3900 Kelley Highway
Fort Smith, AR 72904

SAMPLE INFORMATION

Project Description:

Two (2) water and one (1) sludge sample(s) received on January 18, 2013
Massard Table III Priority Pollutants

Receipt Details:

A Chain of Custody was provided. The samples were delivered in one (1) ice chest.
Ice chest #1 was delivered with shipping documentation.

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Sampled Date/Time</u>	<u>Notes</u>
164210-1	Massard Influent 1/17/13 0835	17-Jan-2013 0835	
164210-2	Massard Effluent 1/17/13 1435	17-Jan-2013 1435	
164210-3	Massard Raw Biosolid 1/17/13 1430	17-Jan-2013 1430	

Qualifiers:

- D Result is from a secondary dilution factor
- X Spiking level is invalid due to the high concentration of analyte in the spiked sample

Case Narrative:

Analysis of soils/sludges are reported on a dry-weight basis unless otherwise specified.

References:

- "Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
- "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
- "Standard Methods for the Examination of Water and Wastewaters", 21st edition.
- "American Society for Testing and Materials" (ASTM).
- "Association of Analytical Chemists" (AOAC).

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 Fort Smith, AR 72904

ANALYTICAL RESULTS
AIC No. 164210-1
Sample Identification: Massard Influent 1/17/13 0835

<u>Analyte</u>	<u>Result</u>	<u>RL</u>	<u>Units</u>	<u>Qualifier</u>
Total Recoverable Phenolics EPA 420.1 Prep: 21-Jan-2013 0857 by 302	0.032 Analyzed: 23-Jan-2013 1000 by 302	0.005	mg/l Batch: W42302	
Total Cyanide SM 4500-CN C,E Prep: 21-Jan-2013 1352 by 302	< 0.01 Analyzed: 22-Jan-2013 1352 by 93	0.01	mg/l Batch: W42307	
Mercury, low level EPA 245.7 Prep: 23-Jan-2013 1405 by 271	0.17 Analyzed: 25-Jan-2013 1100 by 271	0.050	ug/l Batch: S33890	D Dil: 10
Total Recoverable Antimony EPA 200.8 Prep: 18-Jan-2013 1253 by 100	< 60 Analyzed: 21-Jan-2013 1346 by 270	60	ug/l Batch: S33871	
Total Recoverable Arsenic EPA 200.8 Prep: 18-Jan-2013 1253 by 100	0.69 Analyzed: 21-Jan-2013 1346 by 270	0.5	ug/l Batch: S33871	
Total Recoverable Beryllium EPA 200.8 Prep: 18-Jan-2013 1253 by 100	< 0.5 Analyzed: 21-Jan-2013 1346 by 270	0.5	ug/l Batch: S33871	
Total Recoverable Cadmium EPA 200.8 Prep: 18-Jan-2013 1253 by 100	< 0.5 Analyzed: 21-Jan-2013 1346 by 270	0.5	ug/l Batch: S33871	
Total Recoverable Chromium EPA 200.8 Prep: 18-Jan-2013 1253 by 100	< 10 Analyzed: 21-Jan-2013 1346 by 270	10	ug/l Batch: S33871	
Total Recoverable Copper EPA 200.8 Prep: 18-Jan-2013 1253 by 100	19 Analyzed: 21-Jan-2013 1346 by 270	0.5	ug/l Batch: S33871	
Total Recoverable Lead EPA 200.8 Prep: 18-Jan-2013 1253 by 100	3.3 Analyzed: 21-Jan-2013 1346 by 270	0.5	ug/l Batch: S33871	
Total Recoverable Molybdenum EPA 200.8 Prep: 18-Jan-2013 1253 by 100	8.6 Analyzed: 21-Jan-2013 1346 by 270	8	ug/l Batch: S33871	
Total Recoverable Nickel EPA 200.8 Prep: 18-Jan-2013 1253 by 100	4.4 Analyzed: 21-Jan-2013 1346 by 270	0.5	ug/l Batch: S33871	
Total Recoverable Selenium EPA 200.8 Prep: 18-Jan-2013 1253 by 100	< 5 Analyzed: 21-Jan-2013 1346 by 270	5	ug/l Batch: S33871	
Total Recoverable Silver EPA 200.8 Prep: 18-Jan-2013 1253 by 100	2.2 Analyzed: 21-Jan-2013 1346 by 270	0.5	ug/l Batch: S33871	
Total Recoverable Thallium EPA 200.8 Prep: 18-Jan-2013 1253 by 100	< 0.5 Analyzed: 21-Jan-2013 1346 by 270	0.5	ug/l Batch: S33871	
Total Recoverable Zinc EPA 200.8 Prep: 18-Jan-2013 1253 by 100	130 Analyzed: 21-Jan-2013 1346 by 270	20	ug/l Batch: S33871	

AIC No. 164210-2
Sample Identification: Massard Effluent 1/17/13 1435

<u>Analyte</u>	<u>Result</u>	<u>RL</u>	<u>Units</u>	<u>Qualifier</u>
Total Recoverable Phenolics EPA 420.1 Prep: 21-Jan-2013 0857 by 302	< 0.005 Analyzed: 23-Jan-2013 1000 by 302	0.005	mg/l Batch: W42302	
Total Cyanide SM 4500-CN C,E Prep: 21-Jan-2013 1352 by 302	< 0.01 Analyzed: 22-Jan-2013 1354 by 93	0.01	mg/l Batch: W42307	

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ANALYTICAL RESULTS

AIC No. 164210-2 (Continued)

Sample Identification: Massard Effluent 1/17/13 1435

Analyte	Result	RL	Units	Qualifier
Mercury, low level EPA 245.7	0.015	0.0050	ug/l	
Prep: 23-Jan-2013 1405 by 271	Analyzed: 25-Jan-2013 1009 by 271		Batch: S33890	
Total Recoverable Antimony EPA 200.8	< 60	60	ug/l	
Prep: 18-Jan-2013 1253 by 100	Analyzed: 21-Jan-2013 1351 by 270		Batch: S33871	
Total Recoverable Arsenic EPA 200.8	0.54	0.5	ug/l	
Prep: 18-Jan-2013 1253 by 100	Analyzed: 21-Jan-2013 1925 by 270		Batch: S33871	
Total Recoverable Beryllium EPA 200.8	< 0.5	0.5	ug/l	
Prep: 18-Jan-2013 1253 by 100	Analyzed: 21-Jan-2013 1351 by 270		Batch: S33871	
Total Recoverable Cadmium EPA 200.8	< 0.5	0.5	ug/l	
Prep: 18-Jan-2013 1253 by 100	Analyzed: 21-Jan-2013 1351 by 270		Batch: S33871	
Total Recoverable Chromium EPA 200.8	< 10	10	ug/l	
Prep: 18-Jan-2013 1253 by 100	Analyzed: 21-Jan-2013 1351 by 270		Batch: S33871	
Total Recoverable Copper EPA 200.8	7.3	0.5	ug/l	
Prep: 18-Jan-2013 1253 by 100	Analyzed: 21-Jan-2013 1351 by 270		Batch: S33871	
Total Recoverable Lead EPA 200.8	0.55	0.5	ug/l	
Prep: 18-Jan-2013 1253 by 100	Analyzed: 21-Jan-2013 1351 by 270		Batch: S33871	
Total Recoverable Molybdenum EPA 200.8	< 8	8	ug/l	
Prep: 18-Jan-2013 1253 by 100	Analyzed: 21-Jan-2013 1351 by 270		Batch: S33871	
Total Recoverable Nickel EPA 200.8	3.9	0.5	ug/l	
Prep: 18-Jan-2013 1253 by 100	Analyzed: 21-Jan-2013 1351 by 270		Batch: S33871	
Total Recoverable Selenium EPA 200.8	< 5	5	ug/l	
Prep: 18-Jan-2013 1253 by 100	Analyzed: 21-Jan-2013 1351 by 270		Batch: S33871	
Total Recoverable Silver EPA 200.8	< 0.5	0.5	ug/l	
Prep: 18-Jan-2013 1253 by 100	Analyzed: 21-Jan-2013 1351 by 270		Batch: S33871	
Total Recoverable Thallium EPA 200.8	< 0.5	0.5	ug/l	
Prep: 18-Jan-2013 1253 by 100	Analyzed: 21-Jan-2013 1351 by 270		Batch: S33871	
Total Recoverable Zinc EPA 200.8	35	20	ug/l	
Prep: 18-Jan-2013 1253 by 100	Analyzed: 21-Jan-2013 1351 by 270		Batch: S33871	

AIC No. 164210-3

Sample Identification: Massard Raw Biosolid 1/17/13 1430

Analyte	Result	RL	Units	Qualifier
Total Cyanide EPA 9010C, 9014	< 3	3	mg/Kg	
Prep: 23-Jan-2013 0842 by 302	Analyzed: 23-Jan-2013 1509 by 302		Batch: W42322	
Total Recoverable Phenolics EPA 9065	25	20	mg/Kg	
Prep: 23-Jan-2013 0828 by 302	Analyzed: 23-Jan-2013 1200 by 302		Batch: W42321	
Total Solids SM 2540 G	3.0	0.01	%	
Prep: 22-Jan-2013 1031 by 302	Analyzed: 22-Jan-2013 1611 by 302		Batch: W42312	
Antimony EPA 3051A, 6010C	< 3	3	mg/Kg	
Prep: 21-Jan-2013 1449 by 100	Analyzed: 21-Jan-2013 2002 by 305		Batch: S33878	

City of Fort Smith
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ANALYTICAL RESULTS

AIC No. 164210-3 (Continued)

Sample Identification: Massard Raw Biosolid 1/17/13 1430

Analyte	Result	RL	Units	Qualifier
Arsenic EPA 3051A, 6010C	5.5 Prep: 21-Jan-2013 1449 by 100 Analyzed: 21-Jan-2013 2002 by 305	5 Analyzed: 21-Jan-2013 2002 by 305	mg/Kg Batch: S33878	
Beryllium EPA 3051A, 6010C	0.16 Prep: 21-Jan-2013 1449 by 100 Analyzed: 21-Jan-2013 2002 by 305	0.03 Analyzed: 21-Jan-2013 2002 by 305	mg/Kg Batch: S33878	
Cadmium EPA 3051A, 6010C	< 0.4 Prep: 21-Jan-2013 1449 by 100 Analyzed: 21-Jan-2013 2002 by 305	0.4 Analyzed: 21-Jan-2013 2002 by 305	mg/Kg Batch: S33878	
Chromium EPA 3051A, 6010C	41 Prep: 21-Jan-2013 1449 by 100 Analyzed: 21-Jan-2013 2002 by 305	0.7 Analyzed: 21-Jan-2013 2002 by 305	mg/Kg Batch: S33878	
Copper EPA 3051A, 6010C	740 Prep: 21-Jan-2013 1449 by 100 Analyzed: 22-Jan-2013 1753 by 305	6 Analyzed: 22-Jan-2013 1753 by 305	mg/Kg Batch: S33878	
Lead EPA 3051A, 6010C	45 Prep: 21-Jan-2013 1449 by 100 Analyzed: 22-Jan-2013 1756 by 305	4 Analyzed: 22-Jan-2013 1756 by 305	mg/Kg Batch: S33878	
Molybdenum EPA 3051A, 6010C	11 Prep: 21-Jan-2013 1449 by 100 Analyzed: 21-Jan-2013 2002 by 305	0.8 Analyzed: 21-Jan-2013 2002 by 305	mg/Kg Batch: S33878	
Nickel EPA 3051A, 6010C	110 Prep: 21-Jan-2013 1449 by 100 Analyzed: 21-Jan-2013 2002 by 305	1 Analyzed: 21-Jan-2013 2002 by 305	mg/Kg Batch: S33878	
Selenium EPA 3051A, 6010C	14 Prep: 21-Jan-2013 1449 by 100 Analyzed: 21-Jan-2013 2002 by 305	7 Analyzed: 21-Jan-2013 2002 by 305	mg/Kg Batch: S33878	
Silver EPA 3051A, 6010C	10 Prep: 21-Jan-2013 1449 by 100 Analyzed: 22-Jan-2013 1753 by 305	7 Analyzed: 22-Jan-2013 1753 by 305	mg/Kg Batch: S33878	
Thallium EPA 3051A, 6010C	< 4 Prep: 21-Jan-2013 1449 by 100 Analyzed: 21-Jan-2013 2002 by 305	4 Analyzed: 21-Jan-2013 2002 by 305	mg/Kg Batch: S33878	
Zinc EPA 3051A, 6010C	1200 Prep: 21-Jan-2013 1449 by 100 Analyzed: 21-Jan-2013 2002 by 305	0.2 Analyzed: 21-Jan-2013 2002 by 305	mg/Kg Batch: S33878	
Mercury EPA 7471B	2.0 Prep: 21-Jan-2013 0914 by 271 Analyzed: 21-Jan-2013 1432 by 271	0.1 Analyzed: 21-Jan-2013 1432 by 271	mg/Kg Batch: S33875	

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DUPLICATE RESULTS

Analyte	AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Total Solids	164141-1	12 %			22Jan13 1031 by 302	22Jan13 1611 by 302		
	Batch: W42312 Duplicate	13 %	1.99	10.0	22Jan13 1031 by 302	22Jan13 1611 by 302		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Total Recoverable Phenolics	0.1 mg/l	86.0	85.0-115			W42302	21Jan13 0857 by 302	23Jan13 1000 by 302		
Total Cyanide	0.1 mg/l	101	85.0-115			W42307	21Jan13 1352 by 302	22Jan13 1330 by 93		
Mercury, low level	0.01 ug/l	108	76.0-113			S33890	23Jan13 1406 by 271	25Jan13 1105 by 271		
Total Recoverable Antimony	0.05 mg/l	107	85.0-115			S33871	18Jan13 1254 by 100	21Jan13 1135 by 270		
Total Recoverable Arsenic	0.05 mg/l	99.2	85.0-115			S33871	18Jan13 1254 by 100	21Jan13 1135 by 270		
Total Recoverable Beryllium	0.05 mg/l	103	85.0-115			S33871	18Jan13 1254 by 100	21Jan13 1135 by 270		
Total Recoverable Cadmium	0.05 mg/l	102	85.0-115			S33871	18Jan13 1254 by 100	21Jan13 1135 by 270		
Total Recoverable Chromium	0.05 mg/l	107	85.0-115			S33871	18Jan13 1254 by 100	21Jan13 1135 by 270		
Total Recoverable Copper	0.05 mg/l	98.8	85.0-115			S33871	18Jan13 1254 by 100	21Jan13 1135 by 270		
Total Recoverable Lead	0.05 mg/l	108	85.0-115			S33871	18Jan13 1254 by 100	21Jan13 1135 by 270		
Total Recoverable Molybdenum	0.05 mg/l	115	85.0-115			S33871	18Jan13 1254 by 100	21Jan13 1135 by 270		
Total Recoverable Nickel	0.05 mg/l	98.8	85.0-115			S33871	18Jan13 1254 by 100	21Jan13 1135 by 270		
Total Recoverable Selenium	0.05 mg/l	104	85.0-115			S33871	18Jan13 1254 by 100	21Jan13 1135 by 270		
Total Recoverable Silver	0.02 mg/l	99.7	85.0-115			S33871	18Jan13 1254 by 100	21Jan13 1135 by 270		
Total Recoverable Thallium	0.05 mg/l	114	85.0-115			S33871	18Jan13 1254 by 100	21Jan13 1135 by 270		
Total Recoverable Zinc	0.05 mg/l	98.8	85.0-115			S33871	18Jan13 1254 by 100	21Jan13 1135 by 270		
Total Cyanide	0.500 mg/Kg	104	85.0-115			W42322	23Jan13 0842 by 302	23Jan13 1507 by 302		
Total Recoverable Phenolics	10.0 mg/Kg	86.0	85.0-115			W42321	23Jan13 0829 by 302	23Jan13 1200 by 302		
Antimony	500 mg/Kg	103	85.0-115			S33878	21Jan13 1450 by 100	21Jan13 1944 by 305		
Arsenic	500 mg/Kg	105	85.0-115			S33878	21Jan13 1450 by 100	21Jan13 1944 by 305		
Beryllium	50.0 mg/Kg	101	85.0-115			S33878	21Jan13 1450 by 100	21Jan13 1944 by 305		
Cadmium	500 mg/Kg	101	85.0-115			S33878	21Jan13 1450 by 100	21Jan13 1944 by 305		
Chromium	50.0 mg/Kg	99.9	85.0-115			S33878	21Jan13 1450 by 100	21Jan13 1944 by 305		
Copper	50.0 mg/Kg	104	85.0-115			S33878	21Jan13 1450 by 100	21Jan13 1944 by 305		
Lead	500 mg/Kg	92.7	85.0-115			S33878	21Jan13 1450 by 100	21Jan13 1944 by 305		
Molybdenum	50.0 mg/Kg	107	85.0-115			S33878	21Jan13 1450 by 100	21Jan13 1944 by 305		
Nickel	50.0 mg/Kg	102	85.0-115			S33878	21Jan13 1450 by 100	21Jan13 1944 by 305		
Selenium	500 mg/Kg	103	85.0-115			S33878	21Jan13 1450 by 100	21Jan13 1944 by 305		
Silver	10.0 mg/Kg	95.9	85.0-115			S33878	21Jan13 1450 by 100	21Jan13 1944 by 305		
Thallium	500 mg/Kg	113	85.0-115			S33878	21Jan13 1450 by 100	21Jan13 1944 by 305		
Zinc	50.0 mg/Kg	97.9	85.0-115			S33878	21Jan13 1450 by 100	21Jan13 1944 by 305		
Mercury	1.25 mg/Kg	99.2	85.0-115			S33875	21Jan13 0915 by 271	21Jan13 1407 by 271		

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MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Total Recoverable Phenolics	164123-1	0.1 mg/l	90.5	80.0-120	W42302	21Jan13 0857 by 302	23Jan13 1000 by 302		
	164123-1	0.1 mg/l	89.8	80.0-120	W42302	21Jan13 0857 by 302	23Jan13 1000 by 302		
	Relative Percent Difference:		0.776	10.0	W42302				
Total Cyanide	164119-3	0.1 mg/l	109	75.0-125	W42307	21Jan13 1352 by 302	22Jan13 1333 by 93		
	164119-3	0.1 mg/l	101	75.0-125	W42307	21Jan13 1352 by 302	22Jan13 1335 by 93		
	Relative Percent Difference:		7.64	20.0	W42307				
Mercury, low level	164209-3	0.01 ug/l	88.4	63.0-111	S33890	23Jan13 1406 by 271	25Jan13 1426 by 271		
	164209-3	0.01 ug/l	88.6	63.0-111	S33890	23Jan13 1406 by 271	25Jan13 1431 by 271		
	Relative Percent Difference:		0.209	18.0	S33890				
Total Recoverable Antimony	164208-2	0.05 mg/l	103	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1140 by 270		
	164208-2	0.05 mg/l	103	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1145 by 270		
	Relative Percent Difference:		0.458	20.0	S33871				
Total Recoverable Arsenic	164208-2	0.05 mg/l	98.2	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1140 by 270		
	164208-2	0.05 mg/l	99.7	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1145 by 270		
	Relative Percent Difference:		1.53	20.0	S33871				
Total Recoverable Beryllium	164208-2	0.05 mg/l	102	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1140 by 270		
	164208-2	0.05 mg/l	103	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1145 by 270		
	Relative Percent Difference:		0.898	20.0	S33871				
Total Recoverable Cadmium	164208-2	0.05 mg/l	96.0	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1140 by 270		
	164208-2	0.05 mg/l	96.8	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1145 by 270		
	Relative Percent Difference:		0.842	20.0	S33871				
Total Recoverable Chromium	164208-2	0.05 mg/l	106	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1140 by 270		
	164208-2	0.05 mg/l	106	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1145 by 270		
	Relative Percent Difference:		0.237	20.0	S33871				
Total Recoverable Copper	164208-2	0.05 mg/l	94.9	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1140 by 270		
	164208-2	0.05 mg/l	96.6	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1145 by 270		
	Relative Percent Difference:		1.59	20.0	S33871				
Total Recoverable Lead	164208-2	0.05 mg/l	104	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1140 by 270		
	164208-2	0.05 mg/l	105	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1145 by 270		
	Relative Percent Difference:		0.403	20.0	S33871				
Total Recoverable Molybdenum	164208-2	0.05 mg/l	114	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1140 by 270		
	164208-2	0.05 mg/l	113	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1145 by 270		
	Relative Percent Difference:		0.584	20.0	S33871				
Total Recoverable Nickel	164208-2	0.05 mg/l	94.6	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1140 by 270		
	164208-2	0.05 mg/l	97.1	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1145 by 270		
	Relative Percent Difference:		2.54	20.0	S33871				
Total Recoverable Selenium	164208-2	0.05 mg/l	101	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1140 by 270		
	164208-2	0.05 mg/l	103	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1145 by 270		
	Relative Percent Difference:		2.65	20.0	S33871				
Total Recoverable Silver	164208-2	0.02 mg/l	86.2	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1140 by 270		
	164208-2	0.02 mg/l	87.7	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1145 by 270		
	Relative Percent Difference:		1.76	20.0	S33871				
Total Recoverable Thallium	164208-2	0.05 mg/l	111	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1140 by 270		
	164208-2	0.05 mg/l	112	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1145 by 270		
	Relative Percent Difference:		1.13	20.0	S33871				
Total Recoverable Zinc	164208-2	0.05 mg/l	85.3	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1140 by 270		
	164208-2	0.05 mg/l	83.3	75.0-125	S33871	18Jan13 1254 by 100	21Jan13 1145 by 270		
	Relative Percent Difference:		0.971	20.0	S33871				
Total Cyanide	164210-3	0.992 mg/Kg	86.7	75.0-125	W42322	23Jan13 0842 by 302	23Jan13 1511 by 302		
	164210-3	0.997 mg/Kg	90.4	75.0-125	W42322	23Jan13 0842 by 302	23Jan13 1512 by 302		
	Relative Percent Difference:		4.01	20.0	W42322				

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MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Total Recoverable Phenolics	164210-3	9.90 mg/Kg	93.6	80.0-120	W42321	23Jan13 0829 by 302	23Jan13 1200 by 302		
	164210-3	9.82 mg/Kg	88.9	80.0-120	W42321	23Jan13 0829 by 302	23Jan13 1200 by 302		
	Relative Percent Difference:		4.62	10.0	W42321				
Antimony	164210-3	500 mg/Kg	79.2	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1949 by 305		
	164210-3	499 mg/Kg	79.4	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1955 by 305		
	Relative Percent Difference:		0.269	20.0	S33878				
Arsenic	164210-3	500 mg/Kg	84.9	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1949 by 305		
	164210-3	499 mg/Kg	85.1	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1955 by 305		
	Relative Percent Difference:		0.340	20.0	S33878				
Beryllium	164210-3	50.0 mg/Kg	87.0	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1949 by 305		
	164210-3	49.9 mg/Kg	87.5	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1955 by 305		
	Relative Percent Difference:		0.613	20.0	S33878				
Cadmium	164210-3	500 mg/Kg	77.1	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1949 by 305		
	164210-3	499 mg/Kg	77.6	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1955 by 305		
	Relative Percent Difference:		0.733	20.0	S33878				
Chromium	164210-3	50.0 mg/Kg	81.5	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1949 by 305		
	164210-3	49.9 mg/Kg	82.0	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1955 by 305		
	Relative Percent Difference:		0.305	20.0	S33878				
Copper	164210-3	50.0 mg/Kg	-	75.0-125	S33878	21Jan13 1450 by 100	22Jan13 1744 by 305		X
	164210-3	49.9 mg/Kg	-	75.0-125	S33878	21Jan13 1450 by 100	22Jan13 1748 by 305		X
	Relative Percent Difference:		0.181	20.0	S33878				
Lead	164210-3	500 mg/Kg	94.0	75.0-125	S33878	21Jan13 1450 by 100	22Jan13 1747 by 305		
	164210-3	499 mg/Kg	93.9	75.0-125	S33878	21Jan13 1450 by 100	22Jan13 1752 by 305		
	Relative Percent Difference:		0.0692	20.0	S33878				
Molybdenum	164210-3	50.0 mg/Kg	86.0	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1949 by 305		
	164210-3	49.9 mg/Kg	86.4	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1955 by 305		
	Relative Percent Difference:		0.349	20.0	S33878				
Nickel	164210-3	50.0 mg/Kg	77.9	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1949 by 305		
	164210-3	49.9 mg/Kg	79.6	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1955 by 305		
	Relative Percent Difference:		0.550	20.0	S33878				
Selenium	164210-3	500 mg/Kg	75.6	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1949 by 305		
	164210-3	499 mg/Kg	75.4	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1955 by 305		
	Relative Percent Difference:		0.127	20.0	S33878				
Silver	164210-3	9.99 mg/Kg	108	75.0-125	S33878	21Jan13 1450 by 100	22Jan13 1744 by 305		
	164210-3	9.97 mg/Kg	107	75.0-125	S33878	21Jan13 1450 by 100	22Jan13 1748 by 305		
	Relative Percent Difference:		0.575	20.0	S33878				
Thallium	164210-3	500 mg/Kg	91.6	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1949 by 305		
	164210-3	499 mg/Kg	91.8	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1955 by 305		
	Relative Percent Difference:		0.222	20.0	S33878				
Zinc	164210-3	50.0 mg/Kg	-	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1949 by 305		X
	164210-3	49.9 mg/Kg	-	75.0-125	S33878	21Jan13 1450 by 100	21Jan13 1955 by 305		X
	Relative Percent Difference:		0.544	20.0	S33878				
Mercury	164141-1	1.22 mg/Kg	86.8	70.0-130	S33875	21Jan13 0915 by 271	21Jan13 1412 by 271		
	164141-1	1.23 mg/Kg	87.6	70.0-130	S33875	21Jan13 0915 by 271	21Jan13 1417 by 271		
	Relative Percent Difference:		0.821	20.0	S33875				

City of Fort Smith
3900 Kelley Highway
Fort Smith, AR 72904

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC		Qual
				Sample	Preparation Date	
Total Recoverable Phenolics	< 0.005 mg/l	0.005	0.005	W42302-1	21Jan13 0857 by 302	23Jan13 1000 by 302
Total Cyanide	< 0.01 mg/l	0.01	0.01	W42307-1	21Jan13 1352 by 302	22Jan13 1328 by 93
Mercury, low level	< 0.0018 ug/l	0.0018	0.0050	S33890-1	23Jan13 1406 by 271	25Jan13 0954 by 271
Total Recoverable Antimony	< 0.03 mg/l	0.03	0.03	S33871-1	18Jan13 1254 by 100	21Jan13 1130 by 270
Total Recoverable Arsenic	< 0.0005 mg/l	0.0005	0.0005	S33871-1	18Jan13 1254 by 100	21Jan13 1130 by 270
Total Recoverable Beryllium	< 0.0003 mg/l	0.0003	0.0003	S33871-1	18Jan13 1254 by 100	21Jan13 1130 by 270
Total Recoverable Cadmium	< 0.0001 mg/l	0.0001	0.0001	S33871-1	18Jan13 1254 by 100	21Jan13 1130 by 270
Total Recoverable Chromium	< 0.007 mg/l	0.007	0.007	S33871-1	18Jan13 1254 by 100	21Jan13 1130 by 270
Total Recoverable Copper	< 0.0005 mg/l	0.0005	0.0005	S33871-1	18Jan13 1254 by 100	21Jan13 1130 by 270
Total Recoverable Lead	< 0.0005 mg/l	0.0005	0.0005	S33871-1	18Jan13 1254 by 100	21Jan13 1130 by 270
Total Recoverable Molybdenum	< 0.008 mg/l	0.008	0.008	S33871-1	18Jan13 1254 by 100	21Jan13 1130 by 270
Total Recoverable Nickel	< 0.0005 mg/l	0.0005	0.0005	S33871-1	18Jan13 1254 by 100	21Jan13 1130 by 270
Total Recoverable Selenium	< 0.002 mg/l	0.002	0.002	S33871-1	18Jan13 1254 by 100	21Jan13 1130 by 270
Total Recoverable Silver	< 0.0002 mg/l	0.0002	0.0002	S33871-1	18Jan13 1254 by 100	21Jan13 1130 by 270
Total Recoverable Thallium	< 0.0005 mg/l	0.0005	0.0005	S33871-1	18Jan13 1254 by 100	21Jan13 1130 by 270
Total Recoverable Zinc	< 0.002 mg/l	0.002	0.002	S33871-1	18Jan13 1254 by 100	21Jan13 1130 by 270
Total Cyanide	< 0.1 mg/Kg	0.1	0.1	W42322-1	23Jan13 0842 by 302	23Jan13 1506 by 302
Total Recoverable Phenolics	< 0.5 mg/Kg	0.5	0.5	W42321-1	23Jan13 0829 by 302	23Jan13 1200 by 302
Total Solids	< 0.01 %	0.01	0.01	W42312-1	22Jan13 1031 by 302	22Jan13 1611 by 302
Antimony	< 3 mg/Kg	3	3	S33878-1	21Jan13 1450 by 100	21Jan13 1938 by 305
Arsenic	< 5 mg/Kg	5	5	S33878-1	21Jan13 1450 by 100	21Jan13 1938 by 305
Beryllium	< 0.03 mg/Kg	0.03	0.03	S33878-1	21Jan13 1450 by 100	21Jan13 1938 by 305
Cadmium	< 0.4 mg/Kg	0.4	0.4	S33878-1	21Jan13 1450 by 100	21Jan13 1938 by 305
Chromium	< 0.7 mg/Kg	0.7	0.7	S33878-1	21Jan13 1450 by 100	21Jan13 1938 by 305
Copper	< 0.6 mg/Kg	0.6	0.6	S33878-1	21Jan13 1450 by 100	21Jan13 1938 by 305
Lead	< 4 mg/Kg	4	4	S33878-1	21Jan13 1450 by 100	21Jan13 1938 by 305
Molybdenum	< 0.8 mg/Kg	0.8	0.8	S33878-1	21Jan13 1450 by 100	21Jan13 1938 by 305
Nickel	< 1 mg/Kg	1	1	S33878-1	21Jan13 1450 by 100	21Jan13 1938 by 305
Selenium	< 7 mg/Kg	7	7	S33878-1	21Jan13 1450 by 100	21Jan13 1938 by 305
Silver	< 0.7 mg/Kg	0.7	0.7	S33878-1	21Jan13 1450 by 100	21Jan13 1938 by 305
Thallium	< 4 mg/Kg	4	4	S33878-1	21Jan13 1450 by 100	21Jan13 1938 by 305
Zinc	< 0.2 mg/Kg	0.2	0.2	S33878-1	21Jan13 1450 by 100	21Jan13 1938 by 305
Mercury	< 0.1 mg/Kg	0.1	0.1	S33875-1	21Jan13 0915 by 271	21Jan13 1402 by 271

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

C P P P

Client: CITY OF FORT SMITH			PO No.		NO OF BOTTLES	ANALYSES REQUESTED ¹										AIC CONTROL NO: 164210							
Project Reference: MASSARD TABLE III Priority Pollutants			SAMPLE MATRIX			T. Cyanide	Phenolics	PP Metals	Table III: 13 PPM max CN.T., Phenolics, T. Solids	Mo	Mo							AIC PROPOSAL NO:					
Project Manager: Lance McAvoy			G R A B	C O M P	W A T E R	S O I L											Carrier/Tracking No. FedEx						
Sampled By: Kristy Cantu																	Received Temperature C 2						
AIC No.	Sample Identification	Date/Time Collected																Remarks					
1	MASSARD INFLUENT	1/17/13 0835	X		X			1	X														
1	MASSARD INFLUENT	1/17/13 0835	X		X			1		X													
1	MASSARD INFLUENT	1/17/13 0835	X		X			1			X		X										
2	MASSARD EFFLUENT	1/17/13 1435	X		X			1	X														
2	MASSARD EFFLUENT	1/17/13 1435	X		X			1		X													
2	MASSARD EFFLUENT	1/17/13 1435	X		X			1			X		X										
3	MASSARD RAW Biosolid	1/17/13 1430	X		X			1			X		X										
Container Type						P	G	P	G	P	G							Field pH calibration					
Preservative						B	S	N	NO	N	NO							on _____ @ _____					
G = Glass			P = Plastic			V = VOA vials			H = HCl to pH2			T = Sodium Thiosulfate											
NO = none			S = Sulfuric acid pH2			N = Nitric acid pH2			B = NaOH to pH12			Z = Zinc acetate											
Turnaround Time Requested: (Please circle) NORMAL or EXPEDITED IN _____ DAYS																							
Expedited results requested by: _____																							
Who should AIC contact with questions: Lance McAvoy																							
Phone: 479 7842337 Fax: _____																							
Report Attention to: _____																							
Report Address to: LANCE MCAVOY																							
Relinquished By: [Signature]						Date/Time: 1/17/13 1525						Received By: _____						Date/Time: _____					
Relinquished By: _____						Date/Time: _____						Received in Lab By: [Signature]						Date/Time: 1-18-13					
Comments: ¹ Required Reporting Limit for Metals must be identified on back of COC.																							
FedEx # 8013 6990 9560																							

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: <u>City of Fort Smith</u>			PO No.		NO OF BOTTLES <u>Hg: 11 (415.7)</u>	ANALYSES REQUESTED'										AIC CONTROL NO: <u>164210</u>			
Project Reference: <u>MASSARD TABLE III Priority Pollutants (Hg)</u>			SAMPLE MATRIX													AIC PROPOSAL NO:			
Project Manager: <u>LANCE McAVOY</u>			WATER SOIL													Carrier/Tracking No. <u>FedEx</u>			
Sampled By: <u>Kristy Cantu</u>			G R A B	C O M P	W A T E R	S O I L	NO OF BOTTLES											Received Temperature C <u>2</u>	
AIC No.	Sample Identification	Date/Time Collected																Remarks	
<u>1</u>	<u>MASSARD Influent</u>	<u>1/17/13 0835</u>	<u>X</u>		<u>X</u>		<u>X</u>												
<u>2</u>	<u>MASSARD EFFLUENT</u>	<u>1/17/13 1435</u>	<u>X</u>		<u>X</u>		<u>X</u>												
Container Type							<u>6</u>											Field pH calibration on _____ @ _____	
Preservative							<u>NO</u>											Buffer:	
G = Glass NO = none			P = Plastic S = Sulfuric acid pH2			V = VOA vials N = Nitric acid pH2			H = HCl to pH2 B = NaOH to pH12			T = Sodium Thiosulfate Z = Zinc acetate							
Turnaround Time Requested: (Please circle) <u>NORMAL</u> or EXPEDITED IN _____ DAYS							Relinquished By: <u>Kristy Cantu</u>		Date/Time: <u>1/17/13 1525</u>		Received By:		Date/Time:						
Expedited results requested by:							Relinquished By:		Date/Time:		Received in Lab By: <u>[Signature]</u>		Date/Time: <u>1-18-13 8:00am</u>						
Who should AIC contact with questions: <u>LANCE McAVOY</u>							Comments: Required Reporting Limit for Metals must be identified on back of COC.												
Phone: <u>4797842337</u> Fax:							<u>FedEx # 8013 6990 9560</u>												
Report Attention to:																			
Report Address to: <u>LANCE McAVOY</u>																			