3rd QTR EPA

AR0021750

AMERICAN INTERPLEX CORPORATION
LABORATORIES

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 July 22, 2014. 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. 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 July 22, 2014
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 a custody seal intact and signed 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:

Laboratory ID	Client Sample ID	Sampled Date/Time	Notes
180851-1	Massard Influent 7/21/14 0807	21-Jul-2014 0807	
180851-2	Massard Effluent 7/21/14 1306	21-Jul-2014 1306	
180851-3	Massard Raw Biosolid 7/21/14 1018	21-Jul-2014 1018	

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", (SM).
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

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

ANALYTICAL RESULTS

AIC No. 180851-1
Sample Identification: Massard Influent 7/21/14 0807

Analyte		Result	RL	Units	Qualifier
Total Recoverable Phenolics		**50**	5	**ug/l**	
EPA 420.1	Prep: 22-Jul-2014 1306 by 308	Analyzed: 22-Jul-2014 1520 by 308		Batch: W48546	
Total Cyanide		**< 10**	10	**ug/l**	
SM 4500-CN C,E 1999	Prep: 22-Jul-2014 1307 by 308	Analyzed: 23-Jul-2014 1320 by 308		Batch: W48549	
Mercury, low level		**< 0.0050**	0.0050	**ug/l**	
EPA 245.7	Prep: 24-Jul-2014 0910 by 311	Analyzed: 24-Jul-2014 1225 by 311		Batch: S37115	
Total Recoverable Antimony		**< 60**	60	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1354 by 305		Batch: S37106	
Total Recoverable Arsenic		**1.0**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1354 by 305		Batch: S37106	
Total Recoverable Beryllium		**< 0.5**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1354 by 305		Batch: S37106	
Total Recoverable Cadmium		**< 0.5**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1354 by 305		Batch: S37106	
Total Recoverable Chromium		**< 10**	10	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1354 by 305		Batch: S37106	
Total Recoverable Copper		**18**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1354 by 305		Batch: S37106	
Total Recoverable Lead		**2.8**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1354 by 305		Batch: S37106	
Total Recoverable Molybdenum		**14**	8	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1354 by 305		Batch: S37106	
Total Recoverable Nickel		**6.1**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1354 by 305		Batch: S37106	
Total Recoverable Selenium		**< 5**	5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1354 by 305		Batch: S37106	
Total Recoverable Silver		**< 0.5**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1354 by 305		Batch: S37106	
Total Recoverable Thallium		**< 0.5**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1354 by 305		Batch: S37106	
Total Recoverable Zinc		**160**	20	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1354 by 305		Batch: S37106	

AIC No. 180851-2
Sample Identification: Massard Effluent 7/21/14 1306

Analyte		Result	RL	Units	Qualifier
Total Recoverable Phenolics		**15**	5	**ug/l**	
EPA 420.1	Prep: 22-Jul-2014 1306 by 308	Analyzed: 22-Jul-2014 1520 by 308		Batch: W48546	
Total Cyanide		**< 10**	10	**ug/l**	
SM 4500-CN C,E 1999	Prep: 22-Jul-2014 1307 by 308	Analyzed: 23-Jul-2014 1315 by 308		Batch: W48549	

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

ANALYTICAL RESULTS

AIC No. 180851-2 (Continued)
Sample Identification: Massard Effluent 7/21/14 1306

Analyte		Result	RL	Units	Qualifier
Mercury, low level		**< 0.0050**	0.0050	**ug/l**	
EPA 245.7	Prep: 24-Jul-2014 0910 by 311	Analyzed: 24-Jul-2014 1230 by 311		Batch: S37115	
Total Recoverable Antimony		**< 60**	60	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1358 by 305		Batch: S37106	
Total Recoverable Arsenic		**0.84**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1358 by 305		Batch: S37106	
Total Recoverable Beryllium		**< 0.5**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1358 by 305		Batch: S37106	
Total Recoverable Cadmium		**< 0.5**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1358 by 305		Batch: S37106	
Total Recoverable Chromium		**< 10**	10	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1358 by 305		Batch: S37106	
Total Recoverable Copper		**6.1**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1358 by 305		Batch: S37106	
Total Recoverable Lead		**< 0.5**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1358 by 305		Batch: S37106	
Total Recoverable Molybdenum		**9.2**	8	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1358 by 305		Batch: S37106	
Total Recoverable Nickel		**4.8**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1358 by 305		Batch: S37106	
Total Recoverable Selenium		**< 5**	5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1358 by 305		Batch: S37106	
Total Recoverable Silver		**< 0.5**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1358 by 305		Batch: S37106	
Total Recoverable Thallium		**< 0.5**	0.5	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1358 by 305		Batch: S37106	
Total Recoverable Zinc		**51**	20	**ug/l**	
EPA 200.8	Prep: 22-Jul-2014 1329 by 305	Analyzed: 23-Jul-2014 1358 by 305		Batch: S37106	

AIC No. 180851-3
Sample Identification: Massard Raw Biosolid 7/21/14 1018

Analyte		Result	RL	Units	Qualifier
Total Cyanide		**< 4**	4	**mg/Kg**	
EPA 9010C, 9014	Prep: 23-Jul-2014 0810 by 308	Analyzed: 24-Jul-2014 1452 by 308		Batch: W48562	
Total Recoverable Phenolics		**110**	20	**mg/Kg**	
EPA 9065	Prep: 23-Jul-2014 0809 by 308	Analyzed: 23-Jul-2014 1140 by 308		Batch: W48561	
Total Solids		**2.7**	0.01	**wt %**	
SM 2540 G 1997	Prep: 22-Jul-2014 1423 by 271	Analyzed: 23-Jul-2014 1326 by 271		Batch: W48554	
Antimony		**< 3**	3	**mg/Kg**	
EPA 3051A, 6010C	Prep: 25-Jul-2014 1248 by 305	Analyzed: 25-Jul-2014 1518 by 305		Batch: S37127	

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

ANALYTICAL RESULTS

AIC No. 180851-3 (Continued)
Sample Identification: Massard Raw Biosolid 7/21/14 1018

Analyte		Result	RL	Units	Qualifier
Arsenic		**< 5**	5	**mg/Kg**	
EPA 3051A, 6010C	Prep: 25-Jul-2014 1248 by 305	Analyzed: 25-Jul-2014 1518 by 305		Batch: S37127	
Beryllium		**0.31**	0.03	**mg/Kg**	
EPA 3051A, 6010C	Prep: 25-Jul-2014 1248 by 305	Analyzed: 25-Jul-2014 1518 by 305		Batch: S37127	
Cadmium		**4.6**	0.4	**mg/Kg**	
EPA 3051A, 6010C	Prep: 25-Jul-2014 1248 by 305	Analyzed: 25-Jul-2014 1518 by 305		Batch: S37127	
Chromium		**28**	0.7	**mg/Kg**	
EPA 3051A, 6010C	Prep: 25-Jul-2014 1248 by 305	Analyzed: 25-Jul-2014 1518 by 305		Batch: S37127	
Copper		**850**	0.6	**mg/Kg**	
EPA 3051A, 6010C	Prep: 25-Jul-2014 1248 by 305	Analyzed: 25-Jul-2014 1518 by 305		Batch: S37127	
Lead		**95**	4	**mg/Kg**	
EPA 3051A, 6010C	Prep: 25-Jul-2014 1248 by 305	Analyzed: 25-Jul-2014 1518 by 305		Batch: S37127	
Molybdenum		**18**	0.8	**mg/Kg**	
EPA 3051A, 6010C	Prep: 25-Jul-2014 1248 by 305	Analyzed: 25-Jul-2014 1518 by 305		Batch: S37127	
Nickel		**340**	1	**mg/Kg**	
EPA 3051A, 6010C	Prep: 25-Jul-2014 1248 by 305	Analyzed: 25-Jul-2014 1518 by 305		Batch: S37127	
Selenium		**< 7**	7	**mg/Kg**	
EPA 3051A, 6010C	Prep: 25-Jul-2014 1248 by 305	Analyzed: 25-Jul-2014 1518 by 305		Batch: S37127	
Silver		**12**	0.7	**mg/Kg**	
EPA 3051A, 6010C	Prep: 25-Jul-2014 1248 by 305	Analyzed: 25-Jul-2014 1518 by 305		Batch: S37127	
Thallium		**< 4**	4	**mg/Kg**	
EPA 3051A, 6010C	Prep: 25-Jul-2014 1248 by 305	Analyzed: 25-Jul-2014 1518 by 305		Batch: S37127	
Zinc		**2100**	2	**mg/Kg**	
EPA 3051A, 6010C	Prep: 25-Jul-2014 1248 by 305	Analyzed: 25-Jul-2014 1612 by 305		Batch: S37127	
Mercury		**1.3**	0.1	**mg/Kg**	
EPA 7471B	Prep: 24-Jul-2014 1047 by 311	Analyzed: 24-Jul-2014 1353 by 311		Batch: S37119	

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

DUPLICATE RESULTS

Analyte		AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Total Solids		180851-3	2.7 wt %			22Jul14 1423 by 271	23Jul14 1326 by 271		
	Batch: W48554	Duplicate	2.7 wt %	2.26	10.0	22Jul14 1423 by 271	23Jul14 1326 by 271		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Total Recoverable Phenolics	0.1 mg/l	97.5	85.0-115			W48546	22Jul14 0812 by 308	22Jul14 1120 by 308		
Total Cyanide	0.1 mg/l	96.1	85.0-115			W48549	22Jul14 1307 by 308	23Jul14 1313 by 308		
Mercury, low level	0.01 ug/l	91.3	76.0-113			S37115	24Jul14 0911 by 311	24Jul14 1155 by 311		
Total Recoverable Antimony	0.05 mg/l	104	85.0-115			S37106	22Jul14 1329 by 305	23Jul14 1330 by 305		
Total Recoverable Arsenic	0.05 mg/l	101	85.0-115			S37106	22Jul14 1329 by 305	23Jul14 1330 by 305		
Total Recoverable Beryllium	0.05 mg/l	102	85.0-115			S37106	22Jul14 1329 by 305	23Jul14 1330 by 305		
Total Recoverable Cadmium	0.05 mg/l	101	85.0-115			S37106	22Jul14 1329 by 305	23Jul14 1330 by 305		
Total Recoverable Chromium	0.05 mg/l	100	85.0-115			S37106	22Jul14 1329 by 305	23Jul14 1330 by 305		
Total Recoverable Copper	0.05 mg/l	99.7	85.0-115			S37106	22Jul14 1329 by 305	23Jul14 1330 by 305		
Total Recoverable Lead	0.05 mg/l	99.7	85.0-115			S37106	22Jul14 1329 by 305	23Jul14 1330 by 305		
Total Recoverable Molybdenum	0.05 mg/l	101	85.0-115			S37106	22Jul14 1329 by 305	23Jul14 1330 by 305		
Total Recoverable Nickel	0.05 mg/l	101	85.0-115			S37106	22Jul14 1329 by 305	23Jul14 1330 by 305		
Total Recoverable Selenium	0.05 mg/l	100	85.0-115			S37106	22Jul14 1329 by 305	23Jul14 1330 by 305		
Total Recoverable Silver	0.02 mg/l	98.7	85.0-115			S37106	22Jul14 1329 by 305	23Jul14 1330 by 305		
Total Recoverable Thallium	0.05 mg/l	99.4	85.0-115			S37106	22Jul14 1329 by 305	23Jul14 1330 by 305		
Total Recoverable Zinc	0.05 mg/l	99.8	85.0-115			S37106	22Jul14 1329 by 305	23Jul14 1330 by 305		
Total Cyanide	0.500 mg/Kg	89.5	85.0-115			W48562	23Jul14 0810 by 308	24Jul14 1451 by 308		
Total Recoverable Phenolics	10.0 mg/Kg	90.8	85.0-115			W48561	23Jul14 0810 by 308	23Jul14 1140 by 308		
Antimony	500 mg/Kg	106	85.0-115			S37127	25Jul14 1248 by 305	25Jul14 1502 by 305		
Arsenic	500 mg/Kg	108	85.0-115			S37127	25Jul14 1248 by 305	25Jul14 1502 by 305		
Beryllium	50.0 mg/Kg	108	85.0-115			S37127	25Jul14 1248 by 305	25Jul14 1502 by 305		
Cadmium	500 mg/Kg	106	85.0-115			S37127	25Jul14 1248 by 305	25Jul14 1502 by 305		
Chromium	50.0 mg/Kg	107	85.0-115			S37127	25Jul14 1248 by 305	25Jul14 1502 by 305		
Copper	50.0 mg/Kg	108	85.0-115			S37127	25Jul14 1248 by 305	25Jul14 1502 by 305		
Lead	500 mg/Kg	107	85.0-115			S37127	25Jul14 1248 by 305	25Jul14 1502 by 305		
Molybdenum	50.0 mg/Kg	106	85.0-115			S37127	25Jul14 1248 by 305	25Jul14 1502 by 305		
Nickel	50.0 mg/Kg	107	85.0-115			S37127	25Jul14 1248 by 305	25Jul14 1502 by 305		
Selenium	500 mg/Kg	110	85.0-115			S37127	25Jul14 1248 by 305	25Jul14 1502 by 305		
Silver	10.0 mg/Kg	107	85.0-115			S37127	25Jul14 1248 by 305	25Jul14 1502 by 305		
Thallium	500 mg/Kg	109	85.0-115			S37127	25Jul14 1248 by 305	25Jul14 1502 by 305		
Zinc	50.0 mg/Kg	106	85.0-115			S37127	25Jul14 1248 by 305	25Jul14 1502 by 305		
Mercury	1.25 mg/Kg	98.5	85.0-115			S37119	24Jul14 1048 by 311	24Jul14 1338 by 311		

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

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Total Recoverable Phenolics	180761-3	0.1 mg/l	93.9	80.0-120	W48546	22Jul14 0812 by 308	22Jul14 1120 by 308		
	180761-3	0.1 mg/l	95.4	80.0-120	W48546	22Jul14 0812 by 308	22Jul14 1120 by 308		
	Relative Percent Difference:		1.34	10.0	W48546				
Total Cyanide	180851-2	0.1 mg/l	81.0	75.0-125	W48549	22Jul14 1307 by 308	23Jul14 1317 by 308		
	180851-2	0.1 mg/l	80.6	75.0-125	W48549	22Jul14 1307 by 308	23Jul14 1318 by 308		
	Relative Percent Difference:		0.495	20.0	W48549				
Mercury, low level	180923-1	0.01 ug/l	100	63.0-111	S37115	24Jul14 0911 by 311	24Jul14 1200 by 311		
	180923-1	0.01 ug/l	105	63.0-111	S37115	24Jul14 0911 by 311	24Jul14 1205 by 311		
	Relative Percent Difference:		3.58	18.0	S37115				
Total Recoverable Antimony	180775-1	0.05 mg/l	110	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1334 by 305		
	180775-1	0.05 mg/l	111	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1338 by 305		
	Relative Percent Difference:		0.350	20.0	S37106				
Total Recoverable Arsenic	180775-1	0.05 mg/l	103	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1334 by 305		
	180775-1	0.05 mg/l	100	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1338 by 305		
	Relative Percent Difference:		2.87	20.0	S37106				
Total Recoverable Beryllium	180775-1	0.05 mg/l	110	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1334 by 305		
	180775-1	0.05 mg/l	111	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1338 by 305		
	Relative Percent Difference:		0.879	20.0	S37106				
Total Recoverable Cadmium	180775-1	0.05 mg/l	107	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1334 by 305		
	180775-1	0.05 mg/l	107	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1338 by 305		
	Relative Percent Difference:		0.337	20.0	S37106				
Total Recoverable Chromium	180775-1	0.05 mg/l	107	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1334 by 305		
	180775-1	0.05 mg/l	107	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1338 by 305		
	Relative Percent Difference:		0.0688	20.0	S37106				
Total Recoverable Copper	180775-1	0.05 mg/l	101	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1334 by 305		
	180775-1	0.05 mg/l	102	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1338 by 305		
	Relative Percent Difference:		1.54	20.0	S37106				
Total Recoverable Lead	180775-1	0.05 mg/l	103	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1334 by 305		
	180775-1	0.05 mg/l	102	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1338 by 305		
	Relative Percent Difference:		0.703	20.0	S37106				
Total Recoverable Molybdenum	180775-1	0.05 mg/l	109	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1334 by 305		
	180775-1	0.05 mg/l	108	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1338 by 305		
	Relative Percent Difference:		0.686	20.0	S37106				
Total Recoverable Nickel	180775-1	0.05 mg/l	105	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1334 by 305		
	180775-1	0.05 mg/l	108	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1338 by 305		
	Relative Percent Difference:		2.70	20.0	S37106				
Total Recoverable Selenium	180775-1	0.05 mg/l	105	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1334 by 305		
	180775-1	0.05 mg/l	105	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1338 by 305		
	Relative Percent Difference:		0.154	20.0	S37106				
Total Recoverable Silver	180775-1	0.02 mg/l	97.1	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1334 by 305		
	180775-1	0.02 mg/l	97.1	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1338 by 305		
	Relative Percent Difference:		0.0704	20.0	S37106				
Total Recoverable Thallium	180775-1	0.05 mg/l	106	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1334 by 305		
	180775-1	0.05 mg/l	105	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1338 by 305		
	Relative Percent Difference:		1.14	20.0	S37106				
Total Recoverable Zinc	180775-1	0.05 mg/l	104	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1334 by 305		
	180775-1	0.05 mg/l	105	75.0-125	S37106	22Jul14 1329 by 305	23Jul14 1338 by 305		
	Relative Percent Difference:		1.20	20.0	S37106				
Total Cyanide	180851-3	0.978 mg/Kg	75.6	75.0-125	W48562	23Jul14 0810 by 308	24Jul14 1454 by 308		
	180851-3	0.983 mg/Kg	75.5	75.0-125	W48562	23Jul14 0810 by 308	24Jul14 1456 by 308		
	Relative Percent Difference:		0.289	20.0	W48562				

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

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Total Recoverable Phenolics	180851-3	9.38 mg/Kg	91.1	80.0-120	W48561	23Jul14 0810 by 308	23Jul14 1140 by 308		
	180851-3	9.96 mg/Kg	93.8	80.0-120	W48561	23Jul14 0810 by 308	23Jul14 1140 by 308		
	Relative Percent Difference:		1.81	10.0	W48561				
Antimony	180896-1	496 mg/Kg	92.9	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1506 by 305		
	180896-1	496 mg/Kg	94.5	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1509 by 305		
	Relative Percent Difference:		1.63	20.0	S37127				
Arsenic	180896-1	496 mg/Kg	96.5	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1506 by 305		
	180896-1	496 mg/Kg	97.6	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1509 by 305		
	Relative Percent Difference:		1.07	20.0	S37127				
Beryllium	180896-1	49.6 mg/Kg	96.2	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1506 by 305		
	180896-1	49.6 mg/Kg	98.1	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1509 by 305		
	Relative Percent Difference:		1.99	20.0	S37127				
Cadmium	180896-1	496 mg/Kg	90.8	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1506 by 305		
	180896-1	496 mg/Kg	91.3	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1509 by 305		
	Relative Percent Difference:		0.611	20.0	S37127				
Chromium	180896-1	49.6 mg/Kg	102	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1506 by 305		
	180896-1	49.6 mg/Kg	104	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1509 by 305		
	Relative Percent Difference:		1.32	20.0	S37127				
Copper	180896-1	49.6 mg/Kg	107	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1506 by 305		
	180896-1	49.6 mg/Kg	108	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1509 by 305		
	Relative Percent Difference:		0.960	20.0	S37127				
Lead	180896-1	496 mg/Kg	96.1	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1506 by 305		
	180896-1	496 mg/Kg	97.6	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1509 by 305		
	Relative Percent Difference:		1.62	20.0	S37127				
Molybdenum	180896-1	49.6 mg/Kg	97.1	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1506 by 305		
	180896-1	49.6 mg/Kg	98.6	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1509 by 305		
	Relative Percent Difference:		1.47	20.0	S37127				
Nickel	180896-1	49.6 mg/Kg	97.3	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1506 by 305		
	180896-1	49.6 mg/Kg	99.5	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1509 by 305		
	Relative Percent Difference:		2.05	20.0	S37127				
Selenium	180896-1	496 mg/Kg	88.4	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1506 by 305		
	180896-1	496 mg/Kg	89.3	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1509 by 305		
	Relative Percent Difference:		1.01	20.0	S37127				
Silver	180896-1	9.93 mg/Kg	98.4	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1506 by 305		
	180896-1	9.92 mg/Kg	101	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1509 by 305		
	Relative Percent Difference:		2.25	20.0	S37127				
Thallium	180896-1	496 mg/Kg	101	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1506 by 305		
	180896-1	496 mg/Kg	102	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1509 by 305		
	Relative Percent Difference:		0.720	20.0	S37127				
Zinc	180896-1	49.6 mg/Kg	88.0	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1506 by 305		
	180896-1	49.6 mg/Kg	90.8	75.0-125	S37127	25Jul14 1248 by 305	25Jul14 1509 by 305		
	Relative Percent Difference:		1.18	20.0	S37127				
Mercury	180899-1	2.48 mg/Kg	93.8	70.0-130	S37119	24Jul14 1048 by 311	24Jul14 1342 by 311		
	180899-1	2.48 mg/Kg	92.2	70.0-130	S37119	24Jul14 1048 by 311	24Jul14 1345 by 311		
	Relative Percent Difference:		1.63	20.0	S37119				

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

LABORATORY BLANK RESULTS

Analyte	Result	RL	PQL	QC Sample	Preparation Date	Analysis Date	Qual
Total Recoverable Phenolics	< 0.005 mg/l	0.005	0.005	W48546-1	22Jul14 0812 by 308	22Jul14 1120 by 308	
Total Cyanide	< 0.01 mg/l	0.01	0.01	W48549-1	22Jul14 1307 by 308	23Jul14 1311 by 308	
Mercury, low level	< 0.0018 ug/l	0.0018	0.0050	S37115-1	24Jul14 0911 by 311	24Jul14 1139 by 311	
Total Recoverable Antimony	< 0.03 mg/l	0.03	0.03	S37106-1	22Jul14 1329 by 305	23Jul14 1326 by 305	
Total Recoverable Arsenic	< 0.0005 mg/l	0.0005	0.0005	S37106-1	22Jul14 1329 by 305	23Jul14 1326 by 305	
Total Recoverable Beryllium	< 0.0003 mg/l	0.0003	0.0003	S37106-1	22Jul14 1329 by 305	23Jul14 1326 by 305	
Total Recoverable Cadmium	< 0.0001 mg/l	0.0001	0.0001	S37106-1	22Jul14 1329 by 305	23Jul14 1326 by 305	
Total Recoverable Chromium	< 0.007 mg/l	0.007	0.007	S37106-1	22Jul14 1329 by 305	23Jul14 1326 by 305	
Total Recoverable Copper	< 0.0005 mg/l	0.0005	0.0005	S37106-1	22Jul14 1329 by 305	23Jul14 1326 by 305	
Total Recoverable Lead	< 0.0005 mg/l	0.0005	0.0005	S37106-1	22Jul14 1329 by 305	23Jul14 1326 by 305	
Total Recoverable Molybdenum	< 0.008 mg/l	0.008	0.008	S37106-1	22Jul14 1329 by 305	23Jul14 1326 by 305	
Total Recoverable Nickel	< 0.0005 mg/l	0.0005	0.0005	S37106-1	22Jul14 1329 by 305	23Jul14 1326 by 305	
Total Recoverable Selenium	< 0.002 mg/l	0.002	0.002	S37106-1	22Jul14 1329 by 305	23Jul14 1326 by 305	
Total Recoverable Silver	< 0.0002 mg/l	0.0002	0.0002	S37106-1	22Jul14 1329 by 305	23Jul14 1326 by 305	
Total Recoverable Thallium	< 0.0005 mg/l	0.0005	0.0005	S37106-1	22Jul14 1329 by 305	23Jul14 1326 by 305	
Total Recoverable Zinc	< 0.002 mg/l	0.002	0.002	S37106-1	22Jul14 1329 by 305	23Jul14 1326 by 305	
Total Cyanide	< 0.1 mg/Kg	0.1	0.1	W48562-1	23Jul14 0810 by 308	24Jul14 1449 by 308	
Total Recoverable Phenolics	< 0.5 mg/Kg	0.5	0.5	W48561-1	23Jul14 0810 by 308	23Jul14 1140 by 308	
Total Solids	< 0.01 wt %	0.01	0.01	W48554-1	22Jul14 1423 by 271	23Jul14 1326 by 271	
Antimony	< 3 mg/Kg	3	3	S37127-1	25Jul14 1248 by 305	25Jul14 1416 by 305	
Arsenic	< 5 mg/Kg	5	5	S37127-1	25Jul14 1248 by 305	25Jul14 1416 by 305	
Beryllium	< 0.03 mg/Kg	0.03	0.03	S37127-1	25Jul14 1248 by 305	25Jul14 1416 by 305	
Cadmium	< 0.4 mg/Kg	0.4	0.4	S37127-1	25Jul14 1248 by 305	25Jul14 1416 by 305	
Chromium	< 0.7 mg/Kg	0.7	0.7	S37127-1	25Jul14 1248 by 305	25Jul14 1416 by 305	
Copper	< 0.6 mg/Kg	0.6	0.6	S37127-1	25Jul14 1248 by 305	25Jul14 1416 by 305	
Lead	< 4 mg/Kg	4	4	S37127-1	25Jul14 1248 by 305	25Jul14 1416 by 305	
Molybdenum	< 0.8 mg/Kg	0.8	0.8	S37127-1	25Jul14 1248 by 305	25Jul14 1416 by 305	
Nickel	< 1 mg/Kg	1	1	S37127-1	25Jul14 1248 by 305	25Jul14 1416 by 305	
Selenium	< 7 mg/Kg	7	7	S37127-1	25Jul14 1248 by 305	25Jul14 1416 by 305	
Silver	< 0.7 mg/Kg	0.7	0.7	S37127-1	25Jul14 1248 by 305	25Jul14 1416 by 305	
Thallium	< 4 mg/Kg	4	4	S37127-1	25Jul14 1248 by 305	25Jul14 1416 by 305	
Zinc	< 0.2 mg/Kg	0.2	0.2	S37127-1	25Jul14 1248 by 305	25Jul14 1416 by 305	
Mercury	< 0.1 mg/Kg	0.1	0.1	S37119-1	24Jul14 1048 by 311	24Jul14 1335 by 311	

AMERICAN INTERPLEX CORPORATION LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: City of Fort Smith
Project Reference: Massard Table III Priority Pollutants
Project Manager: Lance McAvoy
Sampled By: Chris Cooper

PO No.

AIC CONTROL NO: 180851
AIC PROPOSAL NO:
Carrier/Tracking No.
Received Temperature C: 0.9°C

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	T. Cyanide	Phenolics	PP Metals	Table III 13 PP Metals + T. Phenolics + T. Cyanide	Mo	Mo							Remarks
1	Massard Influent	7/21/14 0807	X		X			1	X												
1	Massard Influent	7/21/14 0807	X		X			1		X											
1	Massard Influent	7/21/14 0807	X		X			1			X		X								
2	Massard Effluent	7/21/14 1306	X		X			1	X												
2	Massard Effluent	7/21/14 1306	X		X			1		X											
2	Massard Effluent	7/21/14 1306	X		X			1			X		X								
3	Massard Raw Biosolid	7/21/14 1018	X		X			1				X		X							
		Container Type							P	G	P	G	P	G							
		Preservative							B	S	N	No	N	No							

Field pH calibration on _____ @ _____
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) (NORMAL) or EXPEDITED IN ____ DAYS
Expedited results requested by:
Who should AIC contact with questions: Lance McAvoy
Phone: 479-784-2337 Fax:
Report Attention to:
Report Address to: Lance McAvoy

Relinquished By:	Date/Time	Received By:	Date/Time
Chris Cooper	7/21/14 1430		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		[illegible]	7/22/14 0935

Comments: Fed Ex Tracking # 8024 7206 7358

19-Oct-09

FORM 0060

AMERICAN INTERPLEX CORPORATION LABORATORIES

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: City of Fort Smith
Project Reference: Massard Table III Priority Pollutants (Hg)
Project Manager: Lance McAvoy
Sampled By: Chris Cooper

PO No.

AIC CONTROL NO: 180851
AIC PROPOSAL NO:
Carrier:/Tracking No.
Received Temperature C: 0.9°C

	AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	SAMPLE MATRIX WATER	SAMPLE MATRIX SOIL		NO OF BOTTLES	ANALYSES REQUESTED[1]: Hg. U. (245.7)	Remarks
1		MASSARD Influent	7/21/14 0807	X		X			1	X	
2		Massard Effluent	7/21/14 1306	X		X			1	X	
			Container Type							G	
			Preservative							No	

Field pH calibration on _____ @ _____ Buffer:

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: 479-784-2337 Fax: _____
Report Attention to:
Report Address to: Lance McAvoy

Relinquished By	Date/Time	Received By	Date/Time
Chris Cooper	7/21/14 1430		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time

Comments: FedEx Tracking # 8024 7206 7358

19-Oct-09

FORM 0060