

From: Halbur, Kathy <halbur.kathy@epa.gov>
Sent: Friday, April 17, 2015 4:35 PM
To: Beggs, Tauren R - DNR
Subject: RE: 1504229 Aniwa Arsenic Site

Not unexpected. It was a composite of higher areas identified with XRF; generally in the area of the shed.

kch

From: Beggs, Tauren R - DNR [<mailto:Tauren.Beggs@wisconsin.gov>]
Sent: Friday, April 17, 2015 4:25 PM
To: Halbur, Kathy
Cc: Warren Hohn; Warren Hohn
Subject: RE: 1504229 Aniwa Arsenic Site

Hey Kathy,

Unfortunately, we were expecting that the most contaminated areas would likely exceed TCLP for arsenic, right? Whereabouts was this waste characterization sample collected?

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Tauren Beggs

Phone: (920) 662-5178

Tauren.Beggs@wisconsin.gov

From: Halbur, Kathy [<mailto:halbur.kathy@epa.gov>]
Sent: Friday, April 17, 2015 4:13 PM
To: Beggs, Tauren R - DNR
Cc: Warren Hohn; Warren Hohn
Subject: FW: 1504229 Aniwa Arsenic Site

FYI... Please see attached for results of the disposal profile sample we collected on April 1. Failed TCLP...
Kathy

Kathy Halbur
Federal On-Scene Coordinator
United States Environmental Protection Agency, Region 5
2984 Shawano Avenue
Green Bay, WI 54313

office: 920-662-5424

cell: 920-634-9072

email: halbur.kathy@epa.gov



Report spills to the National Response Center at:
-800-424-8802, or
-www.nrc.uscg.mil.



14-Apr-2015

Erik Corbin
Environmental Quality Management, Inc.
1800 Carillon Blvd
Cincinnati, OH 45240

Re: **Aniwa Arsenic Site**

Work Order: **1504229**

Dear Erik,

ALS Environmental received 1 sample on 03-Apr-2015 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 29.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Carey".

Electronically approved by: Bill Carey

Bill Carey
Project Manager



Certificate No: OH: CL 103

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

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Client: Environmental Quality Management, Inc.
Project: Aniwa Arsenic Site
Work Order: 1504229

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1504229-01	AA-SS-040115	Solid		4/1/2015 13:00	4/3/2015 09:00	<input type="checkbox"/>
1504229-02	AA-SS-040115	Tclp Extract		4/1/2015 13:00	4/3/2015 09:00	<input type="checkbox"/>

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
°F	Degrees Fahrenheit
µg/Kg-dry	Micrograms per Kilogram Dry Weight
µg/L	Micrograms per Liter
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter
s.u.	Standard Units

Client: Environmental Quality Management, Inc.
Project: Aniwa Arsenic Site
Work Order: 1504229

Case Narrative

Sample for the above noted Work Order were received on 4/3/2015. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:

No other deviations or anomalies were noted.

Extractable Organics :

No other deviations or anomalies were noted.

Metals:

No other deviations or anomalies were noted.

Wet Chemistry:

Batch 69716, Method S_9034_S, Sample 1504229-01A MS: The MS and/or MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte.

Batch 69716, Method S_9034_S, Sample 1504229-01A MSD: The MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte.

ALS Group USA, Corp

Date: 14-Apr-15

Client: Environmental Quality Management, Inc.

Project: Aniwa Arsenic Site

Work Order: 1504229

Sample ID: AA-SS-040115

Lab ID: 1504229-01

Collection Date: 4/1/2015 01:00 PM

Matrix: SOLID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			SW8082		Prep: SW3541 / 4/8/15	Analyst: BLM
Aroclor 1016	ND		98	µg/Kg-dry	1	4/8/2015 11:33 PM
Aroclor 1221	ND		98	µg/Kg-dry	1	4/8/2015 11:33 PM
Aroclor 1232	ND		98	µg/Kg-dry	1	4/8/2015 11:33 PM
Aroclor 1242	ND		98	µg/Kg-dry	1	4/8/2015 11:33 PM
Aroclor 1248	ND		98	µg/Kg-dry	1	4/8/2015 11:33 PM
Aroclor 1254	ND		98	µg/Kg-dry	1	4/8/2015 11:33 PM
Aroclor 1260	ND		98	µg/Kg-dry	1	4/8/2015 11:33 PM
PCBs, Total	ND		98	µg/Kg-dry	1	4/8/2015 11:33 PM
<i>Surr: Decachlorobiphenyl</i>	85.1		40-140	%REC	1	4/8/2015 11:33 PM
<i>Surr: Tetrachloro-m-xylene</i>	89.1		45-124	%REC	1	4/8/2015 11:33 PM
CYANIDE, TOTAL			SW9012B		Prep: SW9012B / 4/6/15	Analyst: JB
Cyanide, Total	ND		0.60	mg/Kg-dry	1	4/6/2015 05:02 PM
FLASHPOINT/IGNITABILITY ANALYSIS			SW1010A			Analyst: RLF
Flashpoint/Ignitability	>200			°F	1	4/10/2015 08:30 AM
MOISTURE			E160.3M			Analyst: EVB
Moisture	15		0.050	% of sample	1	4/9/2015 12:30 PM
PH			SW9045D		Prep: EXTRACT / 4/4/15	Analyst: JRF
pH	6.9			s.u.	1	4/4/2015 04:15 PM
SULFIDE			SW9034		Prep: SW9030 / 4/10/15	Analyst: EE
Sulfide (Acid Soluble)	ND		120	mg/Kg-dry	1	4/10/2015 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 14-Apr-15

Client: Environmental Quality Management, Inc.

Project: Aniwa Arsenic Site

Work Order: 1504229

Sample ID: AA-SS-040115

Lab ID: 1504229-02

Collection Date: 4/1/2015 01:00 PM

Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TCLP HERBICIDES			SW8151		Prep: SW8151M / 4/8/15	Analyst: KYM
2,4,5-TP (Silvex)	ND		5.0	µg/L	1	4/9/2015 04:35 PM
2,4-D	ND		5.0	µg/L	1	4/9/2015 04:35 PM
Surr: DCAA	114		30-150	%REC	1	4/9/2015 04:35 PM
TCLP PESTICIDES			SW8081		Prep: SW3510 / 4/8/15	Analyst: BLM
Chlordane, Technical	ND		5.0	µg/L	1	4/9/2015 02:05 PM
Endrin	ND		0.10	µg/L	1	4/9/2015 02:05 PM
gamma-BHC (Lindane)	ND		0.10	µg/L	1	4/9/2015 02:05 PM
Heptachlor	ND		0.10	µg/L	1	4/9/2015 02:05 PM
Heptachlor epoxide	ND		0.10	µg/L	1	4/9/2015 02:05 PM
Methoxychlor	ND		0.10	µg/L	1	4/9/2015 02:05 PM
Toxaphene	ND		20	µg/L	1	4/9/2015 02:05 PM
Surr: Decachlorobiphenyl	56.0		33-93	%REC	1	4/9/2015 02:05 PM
Surr: Tetrachloro-m-xylene	58.0		27-93	%REC	1	4/9/2015 02:05 PM
TCLP MERCURY BY CVAA			SW7470A		Prep: SW7470 / 4/7/15	Analyst: LR
Mercury	ND		0.0020	mg/L	1	4/7/2015 07:17 PM
TCLP METALS ANALYSIS BY ICP			SW846 6010C		Prep: SW3005A / 4/8/15	Analyst: JEC
Arsenic	20	*	0.010	mg/L	1	4/8/2015 03:30 PM
Barium	0.28		0.010	mg/L	1	4/8/2015 03:30 PM
Cadmium	0.027		0.020	mg/L	1	4/8/2015 03:30 PM
Chromium	0.017		0.010	mg/L	1	4/8/2015 03:30 PM
Lead	ND		0.010	mg/L	1	4/8/2015 03:30 PM
Selenium	ND		0.020	mg/L	1	4/8/2015 03:30 PM
Silver	ND		0.010	mg/L	1	4/8/2015 03:30 PM
TCLP SEMI-VOLATILE ORGANICS			SW8270		Prep: SW3510 / 4/9/15	Analyst: RS
1,4-Dichlorobenzene	ND		100	µg/L	1	4/9/2015 09:46 PM
2,4,5-Trichlorophenol	ND		100	µg/L	1	4/9/2015 09:46 PM
2,4,6-Trichlorophenol	ND		100	µg/L	1	4/9/2015 09:46 PM
2,4-Dinitrotoluene	ND		100	µg/L	1	4/9/2015 09:46 PM
Hexachloro-1,3-butadiene	ND		100	µg/L	1	4/9/2015 09:46 PM
Hexachlorobenzene	ND		100	µg/L	1	4/9/2015 09:46 PM
Hexachloroethane	ND		100	µg/L	1	4/9/2015 09:46 PM
m-Cresol	ND		100	µg/L	1	4/9/2015 09:46 PM
Nitrobenzene	ND		100	µg/L	1	4/9/2015 09:46 PM
o-Cresol	ND		100	µg/L	1	4/9/2015 09:46 PM
p-Cresol	ND		100	µg/L	1	4/9/2015 09:46 PM
Pentachlorophenol	ND		400	µg/L	1	4/9/2015 09:46 PM
Pyridine	ND		400	µg/L	1	4/9/2015 09:46 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 14-Apr-15

Client: Environmental Quality Management, Inc.

Project: Aniwa Arsenic Site

Work Order: 1504229

Sample ID: AA-SS-040115

Lab ID: 1504229-02

Collection Date: 4/1/2015 01:00 PM

Matrix: TCLP EXTRACT

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 2,4,6-Tribromophenol	61.2		38-115	%REC	1	4/9/2015 09:46 PM
Surr: 2-Fluorobiphenyl	52.3		32-100	%REC	1	4/9/2015 09:46 PM
Surr: 2-Fluorophenol	35.9		22-59	%REC	1	4/9/2015 09:46 PM
Surr: 4-Terphenyl-d14	86.8		23-112	%REC	1	4/9/2015 09:46 PM
Surr: Nitrobenzene-d5	54.2		31-93	%REC	1	4/9/2015 09:46 PM
Surr: Phenol-d6	22.9		13-36	%REC	1	4/9/2015 09:46 PM

TCLP VOLATILE ORGANICS

SW8260B

Leachate: SW1311 / 4/7/15 Analyst: **RS**

1,1-Dichloroethene	ND		20	µg/L	20	4/11/2015 08:40 AM
1,2-Dichloroethane	ND		20	µg/L	20	4/11/2015 08:40 AM
2-Butanone	ND		100	µg/L	20	4/11/2015 08:40 AM
Benzene	ND		20	µg/L	20	4/11/2015 08:40 AM
Carbon tetrachloride	ND		20	µg/L	20	4/11/2015 08:40 AM
Chlorobenzene	ND		20	µg/L	20	4/11/2015 08:40 AM
Chloroform	ND		20	µg/L	20	4/11/2015 08:40 AM
Tetrachloroethene	ND		20	µg/L	20	4/11/2015 08:40 AM
Trichloroethene	ND		20	µg/L	20	4/11/2015 08:40 AM
Vinyl chloride	ND		20	µg/L	20	4/11/2015 08:40 AM
Surr: 1,2-Dichloroethane-d4	91.2		70-130	%REC	20	4/11/2015 08:40 AM
Surr: 4-Bromofluorobenzene	99.0		70-130	%REC	20	4/11/2015 08:40 AM
Surr: Dibromofluoromethane	92.6		70-130	%REC	20	4/11/2015 08:40 AM
Surr: Toluene-d8	98.8		70-130	%REC	20	4/11/2015 08:40 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Environmental Quality Management, Inc.
Work Order: 1504229
Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **69563** Instrument ID **GC12** Method: **SW8081**

MBLK		Sample ID: PBLKW1-69563-69563				Units: µg/L		Analysis Date: 4/9/2015 12:43 PM		
Client ID:		Run ID: GC12_150409A		SeqNo: 3223216		Prep Date: 4/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chlordane, Technical	ND	1.0								
Endrin	ND	0.020								
gamma-BHC (Lindane)	ND	0.020								
Heptachlor	ND	0.020								
Heptachlor epoxide	ND	0.020								
Methoxychlor	ND	0.020								
Toxaphene	ND	4.0								
<i>Surr: Decachlorobiphenyl</i>	0.087	0	0.1	0	87	33-93	0			
<i>Surr: Tetrachloro-m-xylene</i>	0.084	0	0.1	0	84	27-93	0			

LCS		Sample ID: PLCSW1-69563-69563				Units: µg/L		Analysis Date: 4/9/2015 12:59 PM		
Client ID:		Run ID: GC12_150409A		SeqNo: 3223217		Prep Date: 4/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Endrin	0.107	0.020	0.1	0	107	39-123	0			
gamma-BHC (Lindane)	0.085	0.020	0.1	0	85	32-114	0			
Heptachlor	0.084	0.020	0.1	0	84	34-112	0			
Heptachlor epoxide	0.089	0.020	0.1	0	89	36-109	0			
Methoxychlor	0.1	0.020	0.1	0	100	44-133	0			
<i>Surr: Decachlorobiphenyl</i>	0.082	0	0.1	0	82	33-93	0			
<i>Surr: Tetrachloro-m-xylene</i>	0.069	0	0.1	0	69	27-93	0			

MS		Sample ID: 1504322-17B MS				Units: µg/L		Analysis Date: 4/9/2015 01:33 PM		
Client ID:		Run ID: GC12_150409A		SeqNo: 3223219		Prep Date: 4/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Endrin	1.09	0.20	1	0	109	39-123	0			
gamma-BHC (Lindane)	0.9	0.20	1	0	90	32-114	0			
Heptachlor	0.88	0.20	1	0	88	34-112	0			
Heptachlor epoxide	0.93	0.20	1	0	93	36-109	0			
Methoxychlor	1.07	0.20	1	0	107	44-133	0			
<i>Surr: Decachlorobiphenyl</i>	0.86	0	1	0	86	33-93	0			
<i>Surr: Tetrachloro-m-xylene</i>	0.74	0	1	0	74	27-93	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
Work Order: 1504229
Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **69563** Instrument ID **GC12** Method: **SW8081**

MSD		Sample ID: 1504322-17B MSD				Units: µg/L		Analysis Date: 4/9/2015 01:49 PM			
Client ID:		Run ID: GC12_150409A			SeqNo: 3223220		Prep Date: 4/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Endrin	1.25	0.20	1	0	125	39-123	1.09	13.7	35	S	
gamma-BHC (Lindane)	1.04	0.20	1	0	104	32-114	0.9	14.4	35		
Heptachlor	1.03	0.20	1	0	103	34-112	0.88	15.7	35		
Heptachlor epoxide	1.06	0.20	1	0	106	36-109	0.93	13.1	35		
Methoxychlor	1.17	0.20	1	0	117	44-133	1.07	8.93	35		
<i>Surr: Decachlorobiphenyl</i>	<i>0.93</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>93</i>	<i>33-93</i>	<i>0.86</i>	<i>7.82</i>	<i>35</i>		
<i>Surr: Tetrachloro-m-xylene</i>	<i>0.85</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>85</i>	<i>27-93</i>	<i>0.74</i>	<i>13.8</i>	<i>35</i>		

The following samples were analyzed in this batch:

1504229-02B

Client: Environmental Quality Management, Inc.

QC BATCH REPORT

Work Order: 1504229

Project: Aniwa Arsenic Site

Batch ID: 69570

Instrument ID GC14

Method: SW8082

MBLK		Sample ID: PBLKS1-69570-69570				Units: µg/Kg		Analysis Date: 4/8/2015 09:04 PM		
Client ID:		Run ID: GC14_150408A			SeqNo: 3218313		Prep Date: 4/8/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	ND	83								
Aroclor 1221	ND	83								
Aroclor 1232	ND	83								
Aroclor 1242	ND	83								
Aroclor 1248	ND	83								
Aroclor 1254	ND	83								
Aroclor 1260	ND	83								
PCBs, Total	ND	83								
<i>Surr: Decachlorobiphenyl</i>	29.33	0	33.3	0	88.1	40-140	0			
<i>Surr: Tetrachloro-m-xylene</i>	32.33	0	33.3	0	97.1	45-124	0			

LCS		Sample ID: PLCSS1-69570-69570				Units: µg/Kg		Analysis Date: 4/8/2015 09:26 PM		
Client ID:		Run ID: GC14_150408A			SeqNo: 3218314		Prep Date: 4/8/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	791.3	83	833	0	95	50-130	0			
Aroclor 1260	826	83	833	0	99.2	50-130	0			
<i>Surr: Decachlorobiphenyl</i>	28.67	0	33.3	0	86.1	40-140	0			
<i>Surr: Tetrachloro-m-xylene</i>	29.67	0	33.3	0	89.1	45-124	0			

MS		Sample ID: 1504322-19B MS				Units: µg/Kg		Analysis Date: 4/8/2015 10:51 PM		
Client ID:		Run ID: GC14_150408A			SeqNo: 3218316		Prep Date: 4/8/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	836.6	82	816.7	0	102	40-140	0			
Aroclor 1260	849.3	82	816.7	0	104	40-140	0			
<i>Surr: Decachlorobiphenyl</i>	29.08	0	32.65	0	89.1	40-140	0			
<i>Surr: Tetrachloro-m-xylene</i>	30.72	0	32.65	0	94.1	45-124	0			

MSD		Sample ID: 1504322-19B MSD				Units: µg/Kg		Analysis Date: 4/8/2015 11:12 PM		
Client ID:		Run ID: GC14_150408A			SeqNo: 3218317		Prep Date: 4/8/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	756.4	83	831.3	0	91	40-140	836.6	10.1	50	
Aroclor 1260	804.7	83	831.3	0	96.8	40-140	849.3	5.4	50	
<i>Surr: Decachlorobiphenyl</i>	27.61	0	33.23	0	83.1	40-140	29.08	5.2	50	
<i>Surr: Tetrachloro-m-xylene</i>	27.94	0	33.23	0	84.1	45-124	30.72	9.47	50	

The following samples were analyzed in this batch: 1504229-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
 Work Order: 1504229
 Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **69584** Instrument ID **GC7** Method: **SW8151**

MBLK		Sample ID: HBLKW1-69584-69584				Units: µg/L		Analysis Date: 4/9/2015 12:56 PM		
Client ID:		Run ID: GC7_150409A		SeqNo: 3217620		Prep Date: 4/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-TP (Silvex)	ND	2.0								
2,4-D	ND	2.0								
<i>Surr: DCAA</i>	47	0	46.9	0	100	23-142	0			

LCS		Sample ID: HLCSW1-69584-69584				Units: µg/L		Analysis Date: 4/9/2015 01:58 PM		
Client ID:		Run ID: GC7_150409A		SeqNo: 3217621		Prep Date: 4/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-TP (Silvex)	48.9	2.0	47.3	0	103	28-147	0			
2,4-D	42.2	2.0	47	0	89.8	24-154	0			
<i>Surr: DCAA</i>	44.6	0	46.9	0	95.1	23-142	0			

MS		Sample ID: 1504322-17B MS				Units: µg/L		Analysis Date: 4/9/2015 02:21 PM		
Client ID:		Run ID: GC7_150409A		SeqNo: 3217615		Prep Date: 4/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-TP (Silvex)	43.1	2.0	47.3	0	91.1	28-147	0			
2,4-D	38.1	2.0	47	0	81.1	24-154	0			
<i>Surr: DCAA</i>	49.6	0	46.9	0	106	23-142	0			

MSD		Sample ID: 1504322-17B MSD				Units: µg/L		Analysis Date: 4/9/2015 02:41 PM		
Client ID:		Run ID: GC7_150409A		SeqNo: 3217616		Prep Date: 4/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-TP (Silvex)	40	2.0	47.3	0	84.6	28-147	43.1	7.46	30	
2,4-D	34.7	2.0	47	0	73.8	24-154	38.1	9.34	30	
<i>Surr: DCAA</i>	46.9	0	46.9	0	100	23-142	49.6	5.6	30	

The following samples were analyzed in this batch: 1504229-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
 Work Order: 1504229
 Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **69527** Instrument ID **HG1** Method: **SW7470**

MBLK	Sample ID: MBLK-69527-69527		Units: mg/L		Analysis Date: 4/7/2015 06:15 PM					
Client ID:	Run ID: HG1_150407A		SeqNo: 3214948		Prep Date: 4/7/2015 DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.00020

LCS	Sample ID: LCS-69527-69527		Units: mg/L		Analysis Date: 4/7/2015 06:17 PM					
Client ID:	Run ID: HG1_150407A		SeqNo: 3214949		Prep Date: 4/7/2015 DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.001958 0.00020 0.002 0 97.9 80-120 0

MS	Sample ID: 1504045-08CMS		Units: mg/L		Analysis Date: 4/7/2015 06:40 PM					
Client ID:	Run ID: HG1_150407A		SeqNo: 3214959		Prep Date: 4/7/2015 DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.00151 0.00020 0.002 0.000019 74.6 75-125 0 S

MSD	Sample ID: 1504045-08CMSD		Units: mg/L		Analysis Date: 4/7/2015 06:42 PM					
Client ID:	Run ID: HG1_150407A		SeqNo: 3214960		Prep Date: 4/7/2015 DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.001476 0.00020 0.002 0.000019 72.8 75-125 0.00151 2.28 20 S

The following samples were analyzed in this batch: 1504229-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
 Work Order: 1504229
 Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **69580** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: MBLK-69580-69580				Units: mg/L		Analysis Date: 4/8/2015 03:02 PM		
Client ID:		Run ID: ICP2_150408A			SeqNo: 3217126		Prep Date: 4/8/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Cadmium	ND	0.010								
Chromium	ND	0.0050								
Lead	ND	0.0050								
Selenium	ND	0.010								
Silver	ND	0.0050								

LCS		Sample ID: LCS-69580-69580				Units: mg/L		Analysis Date: 4/8/2015 03:07 PM		
Client ID:		Run ID: ICP2_150408A			SeqNo: 3217127		Prep Date: 4/8/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.09432	0.0050	0.1	0	94.3	80-120	0			
Barium	0.09905	0.0050	0.1	0	99.1	80-120	0			
Cadmium	0.09551	0.010	0.1	0	95.5	80-120	0			
Chromium	0.09948	0.0050	0.1	0	99.5	80-120	0			
Lead	0.1003	0.0050	0.1	0	100	80-120	0			
Selenium	0.0967	0.010	0.1	0	96.7	80-120	0			
Silver	0.1063	0.0050	0.1	0	106	80-120	0			

MS		Sample ID: 1504359-01AMS				Units: mg/L		Analysis Date: 4/8/2015 03:42 PM		
Client ID:		Run ID: ICP2_150408A			SeqNo: 3217133		Prep Date: 4/8/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2244	0.010	0.2	0.002889	111	75-125	0			
Barium	0.5691	0.010	0.2	0.3685	100	75-125	0			
Cadmium	0.1975	0.020	0.2	-0.001259	99.4	75-125	0			
Chromium	0.2164	0.010	0.2	0.001198	108	75-125	0			
Lead	0.3546	0.010	0.2	0.1536	101	75-125	0			
Selenium	0.2479	0.020	0.2	0.01154	118	75-125	0			
Silver	0.2448	0.010	0.2	0.00005086	122	75-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
Work Order: 1504229
Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **69580** Instrument ID **ICP2** Method: **SW846 6010C**

MSD		Sample ID: 1504359-01AMSD				Units: mg/L		Analysis Date: 4/8/2015 04:04 PM		
Client ID:		Run ID: ICP2_150408A			SeqNo: 3217137		Prep Date: 4/8/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2221	0.010	0.2	0.002889	110	75-125	0.2244	1.04	20	
Barium	0.5276	0.010	0.2	0.3685	79.5	75-125	0.5691	7.56	20	
Cadmium	0.1948	0.020	0.2	-0.001259	98	75-125	0.1975	1.35	20	
Chromium	0.2149	0.010	0.2	0.001198	107	75-125	0.2164	0.698	20	
Lead	0.3384	0.010	0.2	0.1536	92.4	75-125	0.3546	4.68	20	
Selenium	0.2371	0.020	0.2	0.01154	113	75-125	0.2479	4.45	20	
Silver	0.2391	0.010	0.2	0.00005086	120	75-125	0.2448	2.37	20	

The following samples were analyzed in this batch:

1504229-02B

Client: Environmental Quality Management, Inc.
Work Order: 1504229
Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **69613** Instrument ID **SVMS5** Method: **SW8270**

MBLK		Sample ID: SBLKW1-69613-69613				Units: µg/L		Analysis Date: 4/9/2015 06:09 PM		
Client ID:		Run ID: SVMS5_150409A		SeqNo: 3220352		Prep Date: 4/9/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	ND	5.0								
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2,4-Dinitrotoluene	ND	5.0								
Hexachloro-1,3-butadiene	ND	5.0								
Hexachlorobenzene	ND	5.0								
Hexachloroethane	ND	5.0								
m-Cresol	ND	5.0								
Nitrobenzene	ND	5.0								
o-Cresol	ND	5.0								
p-Cresol	ND	5.0								
Pentachlorophenol	ND	20								
Pyridine	ND	20								
<i>Surr: 2,4,6-Tribromophenol</i>	29.2	0	50	0	58.4	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	29.9	0	50	0	59.8	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.19	0	50	0	38.4	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	51.64	0	50	0	103	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	31.66	0	50	0	63.3	31-93	0			
<i>Surr: Phenol-d6</i>	12.17	0	50	0	24.3	13-36	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
 Work Order: 1504229
 Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: 69613 Instrument ID SVMS5 Method: SW8270

LCS		Sample ID: SLCSW1-69613-69613				Units: µg/L		Analysis Date: 4/9/2015 06:32 PM		
Client ID:		Run ID: SVMS5_150409A			SeqNo: 3220353		Prep Date: 4/9/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	12.17	5.0	20	0	60.8	30-110	0			
2,4,5-Trichlorophenol	15.01	5.0	20	0	75	50-110	0			
2,4,6-Trichlorophenol	14.32	5.0	20	0	71.6	50-115	0			
2,4-Dinitrotoluene	16.42	5.0	20	0	82.1	50-120	0			
Hexachloro-1,3-butadiene	11.55	5.0	20	0	57.8	25-105	0			
Hexachlorobenzene	15.47	5.0	20	0	77.4	50-110	0			
Hexachloroethane	11.52	5.0	20	0	57.6	30-95	0			
m-Cresol	11.15	5.0	20	0	55.8	30-110	0			
Nitrobenzene	13.63	5.0	20	0	68.2	45-110	0			
o-Cresol	11.88	5.0	20	0	59.4	40-110	0			
p-Cresol	11.15	5.0	20	0	55.8	30-110	0			
Pentachlorophenol	12.14	20	20	0	60.7	40-115	0			J
Pyridine	8.56	20	20	0	42.8	10-71	0			J
<i>Surr: 2,4,6-Tribromophenol</i>	37.14	0	50	0	74.3	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	34.16	0	50	0	68.3	32-100	0			
<i>Surr: 2-Fluorophenol</i>	21.18	0	50	0	42.4	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	48.1	0	50	0	96.2	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	36.82	0	50	0	73.6	31-93	0			
<i>Surr: Phenol-d6</i>	13.03	0	50	0	26.1	13-36	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
 Work Order: 1504229
 Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: 69613 Instrument ID SVMS5 Method: SW8270

MS		Sample ID: 1504229-02B MS				Units: µg/L		Analysis Date: 4/9/2015 09:00 PM		
Client ID: AA-SS-040115		Run ID: SVMS5_150409A		SeqNo: 3220354		Prep Date: 4/9/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	262.4	100	400	0	65.6	30-110	0			
2,4,5-Trichlorophenol	325.8	100	400	0	81.4	50-110	0			
2,4,6-Trichlorophenol	324	100	400	0	81	50-115	0			
2,4-Dinitrotoluene	332.6	100	400	0	83.2	50-120	0			
Hexachloro-1,3-butadiene	241.6	100	400	0	60.4	25-105	0			
Hexachlorobenzene	304.8	100	400	0	76.2	50-110	0			
Hexachloroethane	244.8	100	400	0	61.2	30-95	0			
m-Cresol	217	100	400	0	54.2	30-110	0			
Nitrobenzene	278.4	100	400	0	69.6	45-110	0			
o-Cresol	239.6	100	400	0	59.9	40-110	0			
p-Cresol	217	100	400	0	54.2	30-110	0			
Pentachlorophenol	195.8	400	400	0	49	40-115	0			J
Pyridine	159.2	400	400	0	39.8	10-80	0			J
<i>Surr: 2,4,6-Tribromophenol</i>	763	0	1000	0	76.3	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	694.2	0	1000	0	69.4	32-100	0			
<i>Surr: 2-Fluorophenol</i>	411.4	0	1000	0	41.1	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	927.8	0	1000	0	92.8	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	768	0	1000	0	76.8	31-93	0			
<i>Surr: Phenol-d6</i>	245.6	0	1000	0	24.6	13-36	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
 Work Order: 1504229
 Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: 69613 Instrument ID SVMS5 Method: SW8270

MSD		Sample ID: 1504229-02B MSD				Units: µg/L		Analysis Date: 4/9/2015 09:23 PM		
Client ID: AA-SS-040115		Run ID: SVMS5_150409A				SeqNo: 3220356		Prep Date: 4/9/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dichlorobenzene	256.6	100	400	0	64.2	30-110	262.4	2.24	30	
2,4,5-Trichlorophenol	308.6	100	400	0	77.2	50-110	325.8	5.42	30	
2,4,6-Trichlorophenol	308	100	400	0	77	50-115	324	5.06	30	
2,4-Dinitrotoluene	329.2	100	400	0	82.3	50-120	332.6	1.03	30	
Hexachloro-1,3-butadiene	244.8	100	400	0	61.2	25-105	241.6	1.32	30	
Hexachlorobenzene	311.8	100	400	0	78	50-110	304.8	2.27	30	
Hexachloroethane	243.4	100	400	0	60.8	30-95	244.8	0.574	30	
m-Cresol	212	100	400	0	53	30-110	217	2.33	30	
Nitrobenzene	277	100	400	0	69.2	45-110	278.4	0.504	30	
o-Cresol	235.8	100	400	0	59	40-110	239.6	1.6	30	
p-Cresol	212	100	400	0	53	30-110	217	2.33	30	
Pentachlorophenol	253.2	400	400	0	63.3	40-115	195.8	0	30	J
Pyridine	101.8	400	400	0	25.4	10-80	159.2	0	30	J
Surr: 2,4,6-Tribromophenol	788.6	0	1000	0	78.9	38-115	763	3.3	0	
Surr: 2-Fluorobiphenyl	675.8	0	1000	0	67.6	32-100	694.2	2.69	0	
Surr: 2-Fluorophenol	415.6	0	1000	0	41.6	22-59	411.4	1.02	0	
Surr: 4-Terphenyl-d14	940.4	0	1000	0	94	23-112	927.8	1.35	0	
Surr: Nitrobenzene-d5	754	0	1000	0	75.4	31-93	768	1.84	0	
Surr: Phenol-d6	255	0	1000	0	25.5	13-36	245.6	3.76	0	

The following samples were analyzed in this batch: 1504229-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
 Work Order: 1504229
 Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **R161050** Instrument ID **VMS7** Method: **SW8260**

MBLK		Sample ID: VBLKW2-150410-R161050				Units: µg/L		Analysis Date: 4/11/2015 02:21 AM		
Client ID:		Run ID: VMS7_150410B		SeqNo: 3221217		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
2-Butanone	ND	5.0								
Benzene	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroform	ND	1.0								
Tetrachloroethene	ND	1.0								
Trichloroethene	ND	1.0								
Vinyl chloride	ND	1.0								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>18.61</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>93</i>	<i>75-120</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.93</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.6</i>	<i>80-110</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>19.16</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>95.8</i>	<i>85-115</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>19.68</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.4</i>	<i>85-110</i>	<i>0</i>			

LCS		Sample ID: VLCSW2-150410-R161050				Units: µg/L		Analysis Date: 4/11/2015 01:07 AM		
Client ID:		Run ID: VMS7_150410B		SeqNo: 3221216		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1-Dichloroethene	18.97	1.0	20	0	94.8	70-145	0			
1,2-Dichloroethane	19.98	1.0	20	0	99.9	78-125	0			
2-Butanone	23.1	5.0	20	0	116	55-150	0			
Benzene	20.9	1.0	20	0	104	85-125	0			
Carbon tetrachloride	19.18	1.0	20	0	95.9	65-140	0			
Chlorobenzene	20.15	1.0	20	0	101	80-120	0			
Chloroform	19.65	1.0	20	0	98.2	80-130	0			
Tetrachloroethene	19.97	1.0	20	0	99.8	77-138	0			
Trichloroethene	19.71	1.0	20	0	98.6	84-130	0			
Vinyl chloride	22.66	1.0	20	0	113	50-136	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>18.58</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>92.9</i>	<i>75-120</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.54</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>103</i>	<i>80-110</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>19.29</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.4</i>	<i>85-115</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>19.89</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.4</i>	<i>85-110</i>	<i>0</i>			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
 Work Order: 1504229
 Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **R161050** Instrument ID **VMS7** Method: **SW8260**

MS				Sample ID: 1504171-12A MS			Units: µg/L		Analysis Date: 4/11/2015 10:18 AM		
Client ID:				Run ID: VMS7_150410B			SeqNo: 3221228		Prep Date:		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	2031	100	2000	0	102	70-145	0				
1,2-Dichloroethane	1940	100	2000	0	97	78-125	0				
2-Butanone	2078	500	2000	0	104	55-150	0				
Benzene	2152	100	2000	0	108	85-125	0				
Carbon tetrachloride	1970	100	2000	0	98.5	65-140	0				
Chlorobenzene	1996	100	2000	0	99.8	80-120	0				
Chloroform	1944	100	2000	0	97.2	80-130	0				
Tetrachloroethene	2106	100	2000	0	105	77-138	0				
Trichloroethene	2046	100	2000	0	102	84-130	0				
Vinyl chloride	2236	100	2000	0	112	50-136	0				
Surr: 1,2-Dichloroethane-d4	1840	0	2000	0	92	75-120	0				
Surr: 4-Bromofluorobenzene	2049	0	2000	0	102	80-110	0				
Surr: Dibromofluoromethane	1937	0	2000	0	96.8	85-115	0				
Surr: Toluene-d8	1990	0	2000	0	99.5	85-110	0				

MSD				Sample ID: 1504171-12A MSD			Units: µg/L		Analysis Date: 4/11/2015 10:43 AM		
Client ID:				Run ID: VMS7_150410B			SeqNo: 3221229		Prep Date:		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1-Dichloroethene	2112	100	2000	0	106	70-145	2031	3.91	30		
1,2-Dichloroethane	2004	100	2000	0	100	78-125	1940	3.25	30		
2-Butanone	2160	500	2000	0	108	55-150	2078	3.87	30		
Benzene	2212	100	2000	0	111	85-125	2152	2.75	30		
Carbon tetrachloride	2057	100	2000	0	103	65-140	1970	4.32	30		
Chlorobenzene	2055	100	2000	0	103	80-120	1996	2.91	30		
Chloroform	2028	100	2000	0	101	80-130	1944	4.23	30		
Tetrachloroethene	2175	100	2000	0	109	77-138	2106	3.22	30		
Trichloroethene	2115	100	2000	0	106	84-130	2046	3.32	30		
Vinyl chloride	2305	100	2000	0	115	50-136	2236	3.04	30		
Surr: 1,2-Dichloroethane-d4	1842	0	2000	0	92.1	75-120	1840	0.109	30		
Surr: 4-Bromofluorobenzene	2031	0	2000	0	102	80-110	2049	0.882	30		
Surr: Dibromofluoromethane	1917	0	2000	0	95.8	85-115	1937	1.04	30		
Surr: Toluene-d8	1971	0	2000	0	98.6	85-110	1990	0.959	30		

The following samples were analyzed in this batch: 1504229-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
Work Order: 1504229
Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **69441** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-69441-69441				Units: s.u.		Analysis Date: 4/4/2015 04:15 PM		
Client ID:		Run ID: WETCHEM_150404B		SeqNo: 3210470		Prep Date: 4/4/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.96	0	4	0	99	90-110	0			

DUP		Sample ID: 1504229-01A DUP				Units: s.u.		Analysis Date: 4/4/2015 04:15 PM		
Client ID: AA-SS-040115		Run ID: WETCHEM_150404B		SeqNo: 3210477		Prep Date: 4/4/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.91	0	0	0	0	0-0	6.89	0.29	20	

DUP		Sample ID: 1504277-08B DUP				Units: s.u.		Analysis Date: 4/4/2015 04:15 PM		
Client ID:		Run ID: WETCHEM_150404B		SeqNo: 3210492		Prep Date: 4/4/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.18	0	0	0	0	0-0	8.21	0.366	20	

The following samples were analyzed in this batch: 1504229-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
Work Order: 1504229
Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **69473** Instrument ID **LACHAT** Method: **SW9012B**

MBLK		Sample ID: MBLK-69473-69473				Units: mg/Kg		Analysis Date: 4/6/2015 05:02 PM		
Client ID:		Run ID: LACHAT_150406C		SeqNo: 3212708		Prep Date: 4/6/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total ND 0.50

LCS		Sample ID: LCS-69473-69473				Units: mg/Kg		Analysis Date: 4/6/2015 05:02 PM		
Client ID:		Run ID: LACHAT_150406C		SeqNo: 3212709		Prep Date: 4/6/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.727 0.50 2.5 0 109 85-119 0

MS		Sample ID: 1504160-02C MS				Units: mg/Kg		Analysis Date: 4/6/2015 05:02 PM		
Client ID:		Run ID: LACHAT_150406C		SeqNo: 3212712		Prep Date: 4/6/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.885 0.51 2.541 0.147 108 70-130 0

MSD		Sample ID: 1504160-02C MSD				Units: mg/Kg		Analysis Date: 4/6/2015 05:02 PM		
Client ID:		Run ID: LACHAT_150406C		SeqNo: 3212713		Prep Date: 4/6/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.476 0.50 2.49 0.147 93.5 70-130 2.885 15.3 30

The following samples were analyzed in this batch: 1504229-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
 Work Order: 1504229
 Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **69716** Instrument ID **WETCHEM** Method: **SW9034**

MBLK	Sample ID: MBLK-69716-69716				Units: mg/Kg			Analysis Date: 4/10/2015 03:15 PM		
Client ID:	Run ID: WETCHEM_150410K			SeqNo: 3220608		Prep Date: 4/10/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfide (Acid Soluble) ND 100

LCS	Sample ID: LCS-69716-69716				Units: mg/Kg			Analysis Date: 4/10/2015 03:15 PM		
Client ID:	Run ID: WETCHEM_150410K			SeqNo: 3220609		Prep Date: 4/10/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfide (Acid Soluble) 684 100 1075 0 63.6 21-81 0

MS	Sample ID: 1504229-01A MS				Units: mg/Kg			Analysis Date: 4/10/2015 03:15 PM		
Client ID: AA-SS-040115	Run ID: WETCHEM_150410K			SeqNo: 3220611		Prep Date: 4/10/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfide (Acid Soluble) 142.6 99 1064 0 13.4 21-81 0 S

MSD	Sample ID: 1504229-01A MSD				Units: mg/Kg			Analysis Date: 4/10/2015 03:15 PM		
Client ID: AA-SS-040115	Run ID: WETCHEM_150410K			SeqNo: 3220612		Prep Date: 4/10/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfide (Acid Soluble) 167.3 100 1071 0 15.6 21-81 142.6 16 50 S

The following samples were analyzed in this batch: 1504229-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.
 Work Order: 1504229
 Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **R160989** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R160989				Units: % of sample			Analysis Date: 4/9/2015 12:30 PM		
Client ID:		Run ID: MOIST_150409A				SeqNo: 3219902		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture ND 0.050

LCS		Sample ID: LCS-R160989				Units: % of sample			Analysis Date: 4/9/2015 12:30 PM		
Client ID:		Run ID: MOIST_150409A				SeqNo: 3219900		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 1504258-01B DUP				Units: % of sample			Analysis Date: 4/9/2015 12:30 PM		
Client ID:		Run ID: MOIST_150409A				SeqNo: 3219876		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 11.11 0.050 0 0 0 11.5 3.45 20

DUP		Sample ID: 1504272-01A DUP				Units: % of sample			Analysis Date: 4/9/2015 12:30 PM		
Client ID:		Run ID: MOIST_150409A				SeqNo: 3219879		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 18.08 0.050 0 0 0 18.4 1.75 20

The following samples were analyzed in this batch:

1504229-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Environmental Quality Management, Inc.

Work Order: 1504229

Project: Aniwa Arsenic Site

QC BATCH REPORT

Batch ID: **R161010** Instrument ID **WETCHEM** Method: **SW1010A**

LCS	Sample ID: LCS-R161010-R161010	Units: °F	Analysis Date: 4/10/2015 08:30 AM							
Client ID:	Run ID: WETCHEM_150410E	SeqNo: 3220253	Prep Date:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Flashpoint/Ignitability	82	0	81	0	101	97-103	0			
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The following samples were analyzed in this batch:

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

WorkOrder: 1504229

SampID	Client Samp ID	Action	Date	Person	NewLocation
1504229-01A	AA-SS-040115	Login	4/3/2015 12:51:57 PM	DS	CLR3
1504229-02A	AA-SS-040115	Login		DS	CLR3
1504229-02B		Login		DS	CLR3
1504229-01B	AA-SS-040115	Login	4/3/2015 2:02:50 PM	DS	VR5
1504229-02A	AA-SS-040115	Transfer	4/6/2015 1:05:28 PM	RG	RG
1504229-02B		Transfer		RG	RG
1504229-02A		Transfer	4/6/2015 1:22:52 PM	RG	CLR3
1504229-02B		Transfer		RG	CLR3
1504229-01A	AA-SS-040115	Transfer	4/8/2015 10:17:12 AM	MEB	MEB
1504229-01A		Transfer	4/9/2015 8:38:01 AM	MEB	CLR3
1504229-01A		Transfer	4/9/2015 11:31:13 AM	EVB	EVB
1504229-01A		Return to Storang	4/9/2015 12:02:21 PM	EVB	CLR3
1504229-01A		Transfer	4/10/2015 9:09:47 AM	EE	WC
1504229-01A		Transfer	4/10/2015 3:43:13 PM	EE	CLR3



Environmental

Cincinnati, OH
+1 513 733 5336

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Fort Collins, CO
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Holland, MI
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Chain of Custody Form

Page 3 of

COC ID: 121146

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager:

ALS Work Order #: 504229

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name		A	TCLP (metal, VOA, SVOC, pest/Herb)											
Work Order		Project Number		B	pH											
Company Name	Environmental Quality Management, Inc	Bill To Company	Environmental Quality Management, Inc	C	PCB											
Send Report To		Invoice Attn	Accounts Payable	D	Sulfide											
Address	1800 Carillon Blvd	Address	1800 Carillon Blvd	E	Cyanide											
City/State/Zip	Cincinnati, OH 45240	City/State/Zip	Cincinnati, OH 45240	F	Flash pt											
Phone	(513) 825-7500	Phone	(513) 825-7500	G												
Fax	(513) 825-7495	Fax	(513) 825-7495	H												
e-Mail Address		e-Mail Address		I												
				J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	AA-55-040115	4-1-15	1300	Solid	8	3	X	X	X	X	X	X					
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Mark Douglas</i>		Shipment Method <i>Fedex</i>		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> Std 10 WK Days <input type="checkbox"/> 5 WK Days <input type="checkbox"/> 2 WK Days <input type="checkbox"/> 24 Hour				Results Due Date:	
Relinquished by: <i>[Signature]</i>	Date: <i>4-2-15</i>	Time: <i>1100</i>	Received by: <i>Fedex</i>		Notes:				
Relinquished by:	Date: <i>04/03/15</i>	Time: <i>0900</i>	Received by (Laboratory): <i>[Signature]</i>		Cooler ID:	Cooler Temp: <i>3°C</i>	QC Package: (Check One Box Below)		
Logged by (Laboratory): <i>DPS</i>	Date: <i>4/3/15</i>	Time: <i>1245</i>	Checked by (Laboratory): <i>[Signature]</i>		<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP CheckList			
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₈ 6-NaHSO ₄ 7-Other 8-4°C 9-5035					<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV			
					<input type="checkbox"/> Level IV BWS/CPLP				
					<input type="checkbox"/> Other				

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

RIGBY, JIM (616) 399-6070
ALS ENVIRONMENTAL HOLLAND LAB
3352 128TH AVE
HOLLAND, MI 494248263
UNITED STATES US

SHIP DATE: 02APR15
ACTWGT: 15.4 LB
CAD: /OFFC1522
DIMS: 12x10x11 IN
BILL SENDER

Part # 158287-8254-14

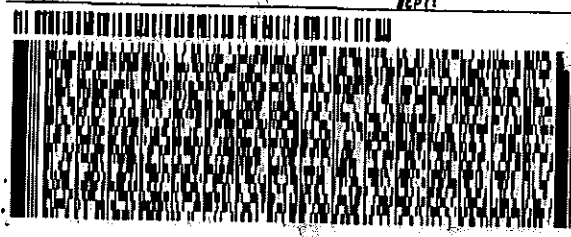
TO
ALS ENVIRONMENTAL HOLLAND LAB
3352 128TH AVE

HOLLAND MI 49424

(616) 399-6070
REF: 1
NO: 1
PO: 1

REF: 1

REF: 1



FedEx
Express

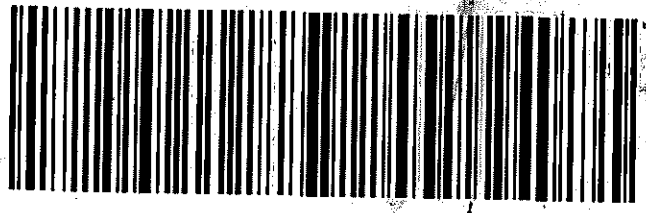


TRK# 8079 2644 8187
0215

FRI - 03 APR AA
STANDARD OVERNIGHT

NA HLMA

49424
MI-US GRR



Sample Receipt Checklist

Client Name: **EQM - CINCINNATI**

Date/Time Received: **03-Apr-15 09:00**

Work Order: **1504229**

Received by: **TBB**

Checklist completed by Diane Shaw 03-Apr-15
eSignature Date

Reviewed by: Bill Carey 06-Apr-15
eSignature Date

Matrices: **Solid**
 Carrier name: **FedEx**

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s):

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

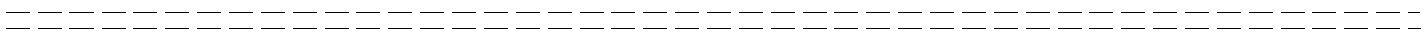
Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: