

LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 8 of 16

2011

Bate Stamp Numbers

00105298 – 00106289

Prepared for

**Department of the Army
Longhorn Army Ammunition Plant**

1976 – 2011

***LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
ADMINISTRATIVE RECORD – CHRONOLOGICAL INDEX***

VOLUME 8 of 16

2011

- A. Title: Report (continued)– Final Feasibility Study LHAAP-47, Plant 3 Area,
Group 4, Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): Shaw Environmental, Inc., Houston, Texas
Recipient: All Stakeholders
Date: July 27, 2011
Bate Stamp: 00105298 - 00106289

Validation Qualifier Data Entry Verification

Longhorn Army Ammunition Plc

Run Date: September 20, 2010

Page: 1 of 1

Sample Number:	Analytical/Extraction Method:	Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Val Qlfr Code:	Reason Codes 1 2 3 4	Lab Sample:	Analysis Time:
DUP-05-100827	D2216	NONE	N 0 1	PERCENT SOLIDS	83.7	Percent	Y Y			L10080793-01	08:29
	SW6850	NONE	N 0 1	PERCHLORATE	5.12	ug/kg	Y Y			L10080793-01	20:20
DUP-06-100827	D2216	NONE	N 0 1	PERCENT SOLIDS	81.9	Percent	Y Y			L10080793-02	08:29
	SW6850	NONE	N 0 100	PERCHLORATE	5590	ug/kg	Y Y			L10080793-02	17:03
DUP-07-100827	D2216	NONE	N 0 1	PERCENT SOLIDS	83.3	Percent	Y Y			L10080793-03	08:29
	SW6850	NONE	N 0 1	PERCHLORATE	4.12	ug/kg	Y Y			L10080793-03	21:13
DUP-08-100827	D2216	NONE	N 0 1	PERCENT SOLIDS	86.3	Percent	Y Y			L10080793-04	08:29
	SW6850	NONE	N 0 1	PERCHLORATE	1.14	ug/kg	U N Y	U		L10080793-04	21:39
DUP-09-100827	D2216	NONE	N 0 1	PERCENT SOLIDS	81.5	Percent	Y Y			L10080793-05	08:29
	SW6850	NONE	N 0 1	PERCHLORATE	1.21	ug/kg	U N Y	U		L10080793-05	22:06
DUP-10-100827	D2216	NONE	N 0 1	PERCENT SOLIDS	83.7	Percent	Y Y			L10080793-06	08:29
	SW6850	NONE	N 0 1	PERCHLORATE	1.85	ug/kg	J Y Y	J		L10080793-06	22:32

OK
09/20/10

DUP 05

06

07

08

-09

-10

47 SB - C09 (9-11)

- C11 (12.5-13.5)

- E09 (11-12)

- E07 (4-6)

- G07 (9-11)

- I05 (9-10)

00105299

Lab Name: Environmental Waste Solutions C/O Microbac
Address : 158 Starlite Drive, Marietta OH 45750
Contact : Stephanie Mossburg
Phone: 1-800-373-4071

[illegible]



COOLER INSPECTION



Received: 08/28/2010 10:18
Delivery Method: UPS
Opened By: Brenda Greenwalt
Comments:

Login(s): L10080793|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
001-000428	H	6.0	1Z66V7254498268335	LHAAP47-082010-2	

1	Yes	Were shipping coolers sealed?
2	Yes	Were custody seals intact?
3	Yes	Were cooler temperatures in range of 0-6?
4	Yes	Was ice present?
5	Yes	Were COC's received/information complete/signed and dated?
6	Yes	Were sample containers and labels intact and match COC?
7	Yes	Were the correct containers and volumes received?
8	Yes	Were samples received within EPA hold times?
9	NA	Were correct preservatives used? (water only)
10	NA	Were pH ranges acceptable? (voa's excluded)
11	NA	Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080793

Account: 2773

Project: 2773.025

Samples: 6

Due Date: 10-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080793-01	732118	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 12:01	JKT	
2	ANALYZ	W1	SEM	31-AUG-2010 10:53	WTD	RLK
3	STORE	SEM	W1	31-AUG-2010 11:41	JKT	WTD

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080793-02	732119	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 12:01	JKT	
2	ANALYZ	W1	SEM	31-AUG-2010 10:53	WTD	RLK
3	STORE	SEM	W1	31-AUG-2010 11:41	JKT	WTD

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080793-03	732120	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 12:01	JKT	
2	ANALYZ	W1	SEM	31-AUG-2010 10:53	WTD	RLK
3	STORE	SEM	W1	31-AUG-2010 11:41	JKT	WTD

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080793-04	732121	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 12:01	JKT	
2	ANALYZ	W1	SEM	31-AUG-2010 10:53	WTD	RLK
3	STORE	SEM	W1	31-AUG-2010 11:41	JKT	WTD

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080793

Account: 2773

Project: 2773.025

Samples: 6

Due Date: 10-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080793-05	732122	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 12:01	JKT	
2	ANALYZ	W1	SEM	31-AUG-2010 10:53	WTD	RLK
3	STORE	SEM	W1	31-AUG-2010 11:41	JKT	WTD

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080793-06	732123	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 12:01	JKT	
2	ANALYZ	W1	SEM	31-AUG-2010 10:53	WTD	RLK
3	STORE	SEM	W1	31-AUG-2010 11:41	JKT	WTD

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



NELAP Addendum - May 28, 2010**Non-NELAP LIMS Product and Description**

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄)
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Perchlorate (6850 – LCMS)
 Hexamethylphosphoramide (XMPA-LCMS)
 Thiodiglycol (TDG-LCMS)
 1,4-Dioxane – 8270C (827-DIOXANE)
 Phosphorus – 6010B
 Zirconium - 6010B

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER****OVL HPLC02/HPLC-UV**

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 2, 3, 4, 6-Tetrachlorophenol
 2-Chloronaphthalene
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene

Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnell
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropyl ether
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene

Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnol
Simazine
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropylether
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

2.1.1 LC/MS Data (6850)

2.1.1.1 Summary Data

LABORATORY REPORT

00105308

L10080793

09/15/10 08:09

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
DUP-05	L10080793-01	6850	1	28-AUG-10
DUP-06	L10080793-02	6850	100	28-AUG-10
DUP-07	L10080793-03	6850	1	28-AUG-10
DUP-08	L10080793-04	6850	1	28-AUG-10
DUP-09	L10080793-05	6850	1	28-AUG-10
DUP-10	L10080793-06	6850	1	28-AUG-10

L1_A_PROD - Modified 03/06/2008
PDF File ID: 1780891
Report generated: 09/15/2010 08:09

1 OF 1



Report Number: L10080793

Report Date : September 15, 2010

475B-C09 (9-10)

Sample Number: L10080793-01

Client ID: DUP-05

Matrix: Soil

Workgroup Number: WG341393

Collect Date: 08/27/2010 00:01

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 6850

Analytical Method: 6850

Analyst: WTD

Dilution: 1

Units: ug/kg

Instrument: LCMS1

Prep Date: 08/31/2010 13:40

Cal Date: 08/26/2010 21:10

Run Date: 09/03/2010 20:20

File ID: ILM.LM05262

Percent Solid: 83.7

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	5.12		2.38	1.19

292010



Report Number: L10080793

Report Date : September 15, 2010

4x5b-ck (12.5-13.5)

Sample Number: L10080793-02

Client ID: DUP-06

Matrix: Soil

Workgroup Number: WG341393

Collect Date: 08/27/2010 00:01

Sample Tag: DL01

PrePrep Method: NONE

Prep Method: 6850

Analytical Method: 6850

Analyst: WTD

Dilution: 100

Units: ug/kg

Instrument: LCMS1

Prep Date: 08/31/2010 13:40

Cal Date: 08/26/2010 21:10

Run Date: 09/07/2010 17:03

File ID: 11M.LM05348

Percent Solid: 81.9

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	5590		239	119

by 09/20/10

Report Number: L10080793

Report Date : September 15, 2010

475B.E09(11-12)

Sample Number: L10080793-03
Client ID: DUP-07
Matrix: Soil
Workgroup Number: WG341393
Collect Date: 08/27/2010 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 08/31/2010 13:40
Cal Date: 08/26/2010 21:10
Run Date: 09/03/2010 21:13
File ID: ILM.LM05264
Percent Solid: 83.3

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	4.12		2.32	1.16

E. 9/20/10



Report Number: L10080793

Report Date : September 15, 2010

475B-E07(4-b)

Sample Number: L10080793-04
Client ID: DUP-08
Matrix: Soil
Workgroup Number: WG341393
Collect Date: 08/27/2010 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 08/31/2010 13:40
Cal Date: 08/26/2010 21:10
Run Date: 09/03/2010 21:39
File ID: ILM.LM05265
Percent Solid: 86.3

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.27	1.14

U Not detected at or above adjusted sample detection limit

9/20/10



Report Number: L10080793

Report Date : September 15, 2010

425B-G07(9-11)

Sample Number: L10080793-05
Client ID: DUP-09
Matrix: Soil
Workgroup Number: WG341393
Collect Date: 08/27/2010 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 08/31/2010 13:40
Cal Date: 08/26/2010 21:10
Run Date: 09/03/2010 22:06
File ID: LLM.LM05266
Percent Solid: 81.5

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.41	1.21

U Not detected at or above adjusted sample detection limit

09/20/10



Report Number: L10080793

Report Date : September 15, 2010

475b-105(9-10)

Sample Number: L10080793-06
Client ID: DUP-10
Matrix: Soil
Workgroup Number: WG341393
Collect Date: 08/27/2010 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 08/31/2010 13:40
Cal Date: 08/26/2010 21:10
Run Date: 09/03/2010 22:32
File ID: ILM.LM05267
Percent Solid: 83.7

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	1.85	J	2.33	1.17

J The analyte was positively identified, but the quantitation was below the RL

J

w/ 9/20/10



2.1.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080793
Blank File ID: LLM.LM05259
Prep Date: 08/31/10 13:40
Analyzed Date: 09/03/10 19:01
Analyst: WTD

Work Group: WG341393
Blank Sample ID: WG341393-02
Instrument ID: LCMS1
Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG341393-05	1LM.LM05256	09/03/10 17:41	01
MCT	WG341393-01	1LM.LM05258	09/03/10 18:34	01
LCS	WG341393-03	1LM.LM05260	09/03/10 19:27	01
LCS2	WG341393-04	1LM.LM05261	09/03/10 19:54	01
DUP-05	L10080793-01	1LM.LM05262	09/03/10 20:20	01
DUP-07	L10080793-03	1LM.LM05264	09/03/10 21:13	01
DUP-08	L10080793-04	1LM.LM05265	09/03/10 21:39	01
DUP-09	L10080793-05	1LM.LM05266	09/03/10 22:06	01
DUP-10	L10080793-06	1LM.LM05267	09/03/10 22:32	01
QCMRL	WG341393-06	1LM.LM05269	09/03/10 23:25	01
QCMRL	WG341393-07	1LM.LM05275	09/04/10 02:04	01
QCMRL	WG341393-08	1LM.LM05347	09/07/10 16:33	01
DUP-06	L10080793-02	1LM.LM05348	09/07/10 17:03	DL01
QCMRL	WG341393-09	1LM.LM05355	09/07/10 20:09	01

Report Name: BLANK_SUMMARY
PDF File ID: 1773934
Report generated 09/09/2010 11:46



Microbac Laboratories Inc.
METHOD BLANK REPORT.

00105317

Login Number: L10080793 Prep Date: 08/31/10 13:40 Sample ID: WG341393-02
Instrument ID: LCMS1 Run Date: 09/03/10 19:01 Prep Method: 6850
File ID: ILM.LM05259 Analyst: WTD Method: 6850
Workgroup (AAB#): WG341393 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1-26-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	1.00	2.00	1.00	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1773935
09-SEP-2010 11:46



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10080793 Analyst: WTD Prep Method: 6850
Instrument ID: LCMS1 Matrix: Soil Method: 6850
Workgroup (AAB#): WG341393 Units: ug/kg
QC Key: STD Lot #: STD40906

Sample ID: WG341393-03 LCS File ID: 1LM.LM05260 Run Date: 09/03/2010 19:27
Sample ID: WG341393-04 LCS2 File ID: 1LM.LM05261 Run Date: 09/03/2010 19:54

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	1.98	1.75	88.0	1.99	1.68	84.5	3.98	80 - 120	15	



Conductivity Probe
Calibration Check:
1421 / 1410 μ S/cm

**Perchlorate
Conductivity Check**

Working MCT Level:
10,000 μ S/cm

Sample	Conductivity (μ S/cm)	Pretreatment or Dilution Needed
WG341393-01 MCT	10,320.6	
-02 BLK	9.8	
-03 LCS	13.0	
-04 LCS2	10.4	
L10080793-01	13.7	
-02	9.9	
-03	7.9	
-04	5.3	
-05	7.5	
-06	11.1	
801-01	64.6	
-02	115.0	
-03	90.8	

ADC

Analyst

9-1-10

Date/Time

DCN#84264



1 00000 00000 00000 00000 00000 00000 00000

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

00105322

L10080793

09/15/10 08:09

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
DUP-05	L10080793-01	D2216-90	1	28-AUG-10
DUP-06	L10080793-02	D2216-90	1	28-AUG-10
DUP-07	L10080793-03	D2216-90	1	28-AUG-10
DUP-08	L10080793-04	D2216-90	1	28-AUG-10
DUP-09	L10080793-05	D2216-90	1	28-AUG-10
DUP-10	L10080793-06	D2216-90	1	28-AUG-10

L1_A_PROD - Modified 03/06/2008
PDF File ID: 1780890
Report generated: 09/15/2010 08:09

1 OF 1



Report Number:L10080793

Report Date :September 15, 2010

Sample Number:L10080793-01	PrePrep Method:NONE	Instrument:BA1013
Client ID:DUP-05	Prep Method:D2216-90	Prep Date:09/01/2010 08:29
Matrix:Soil	Analytical Method:D2216-90	Cal Date:
Workgroup Number:WG341437	Analyst:JDH	Run Date:09/01/2010 08:29
Collect Date:08/27/2010 00:01	Dilution:1	File ID:B13.341437-0107
Sample Tag:01	Units:weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	83.7		1.00	1.00



Report Number: L10080793

Report Date : September 15, 2010

Sample Number: L10080793-02
Client ID: DUP-06
Matrix: Soil
Workgroup Number: WG341437
Collect Date: 08/27/2010 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDH
Dilution: 1
Units: weight %

Instrument: BAL013
Prep Date: 09/01/2010 08:29
Cal Date:
Run Date: 09/01/2010 08:29
File ID: B13.341437-0108

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	81.9		1.00	1.00



Report Number: L10080793

Report Date : September 15, 2010

Sample Number: L10080793-03
Client ID: DUP-07
Matrix: Soil
Workgroup Number: WG341437
Collect Date: 08/27/2010 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDH
Dilution: 1
Units: weight %

Instrument: BAL013
Prep Date: 09/01/2010 08:29
Cal Date:
Run Date: 09/01/2010 08:29
File ID: B13.341437-0109

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	83.3		1.00	1.00



Report Number: L10080793

Report Date : September 15, 2010

Sample Number: L10080793-04
Client ID: DUP-08
Matrix: Soil
Workgroup Number: WG341437
Collect Date: 08/27/2010 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDH
Dilution: 1
Units: weight %

Instrument: BAL013
Prep Date: 09/01/2010 08:29
Cal Date:
Run Date: 09/01/2010 08:29
File ID: B13.341437-0110

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	86.3		1.00	1.00



Report Number: L10080793

Report Date : September 15, 2010

Sample Number: L10080793-05	PrePrep Method: NONE	Instrument: BAL013
Client ID: DUP-09	Prep Method: D2216-90	Prep Date: 09/01/2010 08:29
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG341437	Analyst: JDH	Run Date: 09/01/2010 08:29
Collect Date: 08/27/2010 00:01	Dilution: 1	File ID: B13.341437-0111
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	81.5		1.00	1.00



Report Number: L10080793

Report Date : September 15, 2010

Sample Number: L10080793-06
Client ID: DUP-10
Matrix: Soil
Workgroup Number: WG341437
Collect Date: 08/27/2010 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDH
Dilution: 1
Units: weight %

Instrument: BAL013
Prep Date: 09/01/2010 08:29
Cal Date:
Run Date: 09/01/2010 08:29
File ID: B13.341437-0112

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	83.7		1.00	1.00

Validation Qualifier Data Entry Verification

Longhorn Army Ammunition Pl

Run Date: October 19, 2010

Page: 1 of 1

Sample Number:	Analytical/Extraction		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
	Method:										1	2	3	4		
47SB-C11(9-11)	D2216	NONE	N 0 1	PERCENT SOLIDS	90.8	Percent		Y Y							L10080794-01	08:42
	SW6850	NONE	N 0 1	PERCHLORATE	8.32	ug/kg		Y Y							L10080794-01	03:45
47SB-G05(9-11)	D2216	NONE	N 0 1	PERCENT SOLIDS	81.8	Percent		Y Y							L10080794-03	08:42
	SW6850	NONE	N 0 1	PERCHLORATE	1.12	ug/kg	U	N Y		U					L10080794-03	04:11
47SB-G07(9-11)	D2216	NONE	N 0 1	PERCENT SOLIDS	82.8	Percent		Y Y							L10080794-04	08:42
	SW6850	NONE	N 0 1	PERCHLORATE	1.20	ug/kg	U	N Y		U					L10080794-04	04:37
47SB-K05(9-11)	D2216	NONE	N 0 1	PERCENT SOLIDS	84.3	Percent		Y Y							L10080794-06	08:42
	SW6850	NONE	N 0 1	PERCHLORATE	43.7	ug/kg		Y Y							L10080794-06	05:04
47SB-K07(9-11)	D2216	NONE	N 0 1	PERCENT SOLIDS	86.3	Percent		Y Y							L10080794-07	08:42
	SW6850	NONE	N 0 1	PERCHLORATE	9.23	ug/kg		Y Y							L10080794-07	05:30


 10/19/10
 OK

61008079400105330

COC NO. LHAAP47-082010-2

Shaw Environmental & Infrastructure, Inc.
1401 Enclave Parkway, Suite 250
Houston, TX 77077
(281) 531-3100

Lab Name: Environmental Waste Solutions C/O Microbac
Address : 158 Starlite Drive, Marietta OH 45750
Contact : Stephanie Mossburg
Phone: 1-800-373-4071

[illegible]



COOLER INSPECTION



Received: 08/28/2010 10:32
 Delivery Method: UPS
 Opened By: Brenda Greenwalt
 Comments:

Login(s): L10080794|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0011156	H	6.0	1Z66V7254496289343	LHAAP47-082010-2	

- 1 Yes Were shipping coolers sealed?
- 2 Yes Were custody seals intact?
- 3 Yes Were cooler temperatures in range of 0-6?
- 4 Yes Was ice present?
- 5 Yes Were COC's received/information complete/signed and dated?
- 6 Yes Were sample containers and labels intact and match COC?
- 7 Yes Were the correct containers and volumes received?
- 8 Yes Were samples received within EPA hold times?
- 9 NA Were correct preservatives used? (water only)
- 10 NA Were pH ranges acceptable? (voa's excluded)
- 11 NA Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
 158 Starlite Drive
 Marietta, OH 45750
 Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.**Internal Chain of Custody Report**

Login: L10080794

Account: 2773

Project: 2773.025

Samples: 8

Due Date: 02-SEP-2010

Samplenum Container ID Products
 L10080794-01 732124

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 12:05	JKT	
2	ANALYZ	W1	SEM	01-SEP-2010 11:14	ADC	RLK

Comments: Products cancelled.

Samplenum Container ID Products
 L10080794-01 734102 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	SEM	01-SEP-2010 11:39	JKT	
2	STORE	SEM	W1	01-SEP-2010 13:17	JKT	WTD
3	STORE	WET	W1	02-SEP-2010 11:48	RLK	JDH
4	STORE	W1	A1	02-SEP-2010 13:13	RLK	JKT

Samplenum Container ID Products
 L10080794-02 732125 SPECIA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 12:05	JKT	

Samplenum Container ID Products
 L10080794-03 732126

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 12:05	JKT	
2	ANALYZ	W1	SEM	01-SEP-2010 11:15	ADC	RLK

Comments: Products cancelled.

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080794

Account: 2773

Project: 2773.025

Samples: 8

Due Date: 02-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080794-03	734103	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	SEM	01-SEP-2010 11:39	JKT	
2	STORE	SEM	W1	01-SEP-2010 13:17	JKT	WTD
3	STORE	WET	W1	02-SEP-2010 11:48	RLK	JDH
4	STORE	W1	A1	02-SEP-2010 13:13	RLK	JKT

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080794-04	732127	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 12:05	JKT	
2	ANALYZ	W1	SEM	01-SEP-2010 11:15	ADC	RLK

Comments: Products cancelled.

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080794-04	734104	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	SEM	01-SEP-2010 11:39	JKT	
2	STORE	SEM	W1	01-SEP-2010 13:17	JKT	WTD
3	STORE	WET	W1	02-SEP-2010 11:48	RLK	JDH
4	STORE	W1	A1	02-SEP-2010 13:13	RLK	JKT

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080794-05	732128	SPECIA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 12:05	JKT	

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.**Internal Chain of Custody Report**

Login: L10080794

Account: 2773

Project: 2773.025

Samples: 8

Due Date: 02-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080794-06	732129	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 12:05	JKT	
2	ANALYZ	W1	SEM	01-SEP-2010 11:15	ADC	RLK

Comments: Products cancelled.

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080794-06	734105	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	SEM	01-SEP-2010 11:39	JKT	
2	STORE	SEM	W1	01-SEP-2010 13:17	JKT	WTD
3	STORE	WET	W1	02-SEP-2010 11:48	RLK	JDH
4	STORE	W1	A1	02-SEP-2010 13:13	RLK	JKT

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080794-07	732130	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 12:05	JKT	
2	ANALYZ	W1	SEM	01-SEP-2010 11:16	ADC	RLK

Comments: Products cancelled.

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080794-07	734106	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	SEM	01-SEP-2010 11:39	JKT	
2	STORE	SEM	W1	01-SEP-2010 13:17	JKT	WTD
3	STORE	WET	W1	02-SEP-2010 11:48	RLK	JDH
4	STORE	W1	A1	02-SEP-2010 13:13	RLK	JKT

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080794

Account: 2773

Project: 2773.025

Samples: 8

Due Date: 02-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080794-08	732131	SPECIA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 12:05	JKT	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



NELAP Addendum - May 28, 2010**Non-NELAP LIMS Product and Description**

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄)
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Perchlorate (6850 – LCMS)
 Hexamethylphosphoramide (XMPA-LCMS)
 Thiodiglycol (TDG-LCMS)
 1,4-Dioxane – 8270C (827-DIOXANE)
 Phosphorus – 6010B
 Zirconium - 6010B

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER****OVL HPLC02/HPLC-UV**

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS**Nitrocellulose****OVL MSS01/GC-MS**

1,4-Phenylenediamine
 1-Methylnaphthalene
 2, 3, 4, 6-Tetrachlorophenol
 2-Chloronaphthalene
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene

Pentachloroethane

OVL MSSO4/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnol
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropyl ether
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene

Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnol
Simazine
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropylether
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

2.1.1 LC/MS Data (6850)

2.1.1.1 Summary Data

LABORATORY REPORT

00105341

L10080794

09/10/10 15:59

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-C11 (9-11)	L10080794-01	6850	1	30-AUG-10
47SB-G05 (9-11)	L10080794-03	6850	1	30-AUG-10
47SB-G07 (9-11)	L10080794-04	6850	1	30-AUG-10
47SB-K05 (9-11)	L10080794-06	6850	1	30-AUG-10
47SB-K07 (9-11)	L10080794-07	6850	1	30-AUG-10



Report Number: L10080794

Report Date : September 10, 2010

Sample Number: L10080794-01
Client ID: 47SB-C11 (9-11)
Matrix: Soil
Workgroup Number: WG341549
Collect Date: 08/26/2010 08:35
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: N/A
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/01/2010 15:24
Cal Date: 08/26/2010 21:10
Run Date: 09/02/2010 03:45
File ID: 11M.LM05184
Percent Solid: 90.8

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	8.32		2.22	1.11

✓
09/15/10



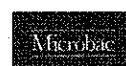
Report Number: L10080794

Report Date : September 10, 2010

Sample Number: L10080794-03	PrePrep Method: NONE	Instrument: LCMS1
Client ID: 47SB-G05 (9-11)	Prep Method: 6850	Prep Date: 09/01/2010 15:24
Matrix: Soil	Analytical Method: 6850	Cal Date: 08/26/2010 21:10
Workgroup Number: WG341549	Analyst: N/A	Run Date: 09/02/2010 04:11
Collect Date: 08/26/2010 12:40	Dilution: 1	File ID: 11M.LM05185
Sample Tag: 01	Units: ug/kg	Percent Solid: 81.8

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.24	1.12

U Not detected at or above adjusted sample detection limit

W 09/15/10

Report Number: L10080794

Report Date : September 10, 2010

Sample Number: L10080794-04	PrePrep Method: NONE	Instrument: LCMS1
Client ID: 47SB-G07 (9-11)	Prep Method: 6850	Prep Date: 09/01/2010 15:24
Matrix: Soil	Analytical Method: 6850	Cal Date: 08/26/2010 21:10
Workgroup Number: WG341549	Analyst: N/A	Run Date: 09/02/2010 04:37
Collect Date: 08/26/2010 10:10	Dilution: 1	File ID: 11M.LM05186
Sample Tag: 01	Units: ug/kg	Percent Solid: 82.8

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.39	1.20

U Not detected at or above adjusted sample detection limit

W 09/15/10

Report Number: L10080794

Report Date : September 10, 2010

Sample Number: L10080794-06
Client ID: 47SB-K05 (9-11)
Matrix: Soil
Workgroup Number: WG341549
Collect Date: 08/26/2010 15:20
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: N/A
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/01/2010 15:24
Cal Date: 08/26/2010 21:10
Run Date: 09/02/2010 05:04
File ID: 1LM.LM05187
Percent Solid: 84.3

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	43.7		2.51	1.26

6/9/10

Report Number: L10080794

Report Date : September 10, 2010

Sample Number: L10080794-07
Client ID: 47SB-R07 (9-11)
Matrix: Soil
Workgroup Number: WG341549
Collect Date: 08/26/2010 15:55
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: N/A
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/01/2010 15:24
Cal Date: 08/26/2010 21:10
Run Date: 09/02/2010 05:30
File ID: LLM.LM05188
Percent Solid: 86.3

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	9.23		2.46	1.23

W
09/15/10



2.1.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080794
Blank File ID: ILM.LM05181
Prep Date: 09/01/10 15:24
Analyzed Date: 09/02/10 02:25
Analyst: N/A

Work Group: WG341549
Blank Sample ID: WG341549-02
Instrument ID: LCMS1
Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG341549-05	ILM.LM05178	09/02/10 01:06	01
MCT	WG341549-01	ILM.LM05180	09/02/10 01:59	01
LCS	WG341549-03	ILM.LM05182	09/02/10 02:52	01
LCS2	WG341549-04	ILM.LM05183	09/02/10 03:18	01
47SB-C11 (9-11)	L10080794-01	ILM.LM05184	09/02/10 03:45	01
47SB-G05 (9-11)	L10080794-03	ILM.LM05185	09/02/10 04:11	01
47SB-G07 (9-11)	L10080794-04	ILM.LM05186	09/02/10 04:37	01
47SB-K05 (9-11)	L10080794-06	ILM.LM05187	09/02/10 05:04	01
47SB-K07 (9-11)	L10080794-07	ILM.LM05188	09/02/10 05:30	01
QCMRL	WG341549-06	ILM.LM05190	09/02/10 06:23	01
QCMRL	WG341549-07	ILM.LM05199	09/02/10 10:44	01

Report Name: BLANK SUMMARY
PDF File ID: 1771725
Report generated 09/03/2010 16:28



Microbac Laboratories Inc.
METHOD BLANK REPORT

00105349

Login Number: L10080794 Prep Date: 09/01/10 15:24 Sample ID: WG341549-02
Instrument ID: LCMS1 Run Date: 09/02/10 02:25 Prep Method: 6850
File ID: 1LM.LM05181 Analyst: N/A Method: 6850
Workgroup (AAB#): WG341549 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1-26-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.971	1.94	0.971	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1771726
03-SEP-2010 16:28



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105350

Login Number: L10080794 Analyst: N/A Prep Method: 6850
Instrument ID: LCMS1 Matrix: Soil Method: 6850
Workgroup (AAB#): WG341549 Units: ug/kg
QC Key: STD Lot #: STD40906

Sample ID: WG341549-03 LCS File ID: 1LM.LM05182 Run Date: 09/02/2010 02:52
Sample ID: WG341549-04 LCS2 File ID: 1LM.LM05183 Run Date: 09/02/2010 03:18

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	1.99	1.79	89.5	1.94	2.07	107	14.7	80 - 120	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1771727
Report generated: 09/03/2010 16:28



2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

00105353

L10080794

09/10/10 15:59

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E. & I., Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-C11 (9-11)	L10080794-01	D2216-90	1	30-AUG-10
47SB-G05 (9-11)	L10080794-03	D2216-90	1	30-AUG-10
47SB-G07 (9-11)	L10080794-04	D2216-90	1	30-AUG-10
47SB-K05 (9-11)	L10080794-06	D2216-90	1	30-AUG-10
47SB-K07 (9-11)	L10080794-07	D2216-90	1	30-AUG-10

LI_A_PROD - Modified 03/06/2008

PDF File ID: 1778008

Report generated: 09/10/2010 15:59

1 OF 1



Report Number: L10080794

Report Date : September 10, 2010

Sample Number: L10080794-01	PrePrep Method: NONE	Instrument: BAL001
Client ID: 47SB-C11 (9-11)	Prep Method: D2216-90	Prep Date: 09/02/2010 08:42
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG341594	Analyst: JDH	Run Date: 09/02/2010 08:42
Collect Date: 08/26/2010 08:35	Dilution: 1	File ID: B1.341594-0106
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	90.8		1.00	1.00



Report Number: L10080794

Report Date : September 10, 2010

Sample Number: L10080794-03	PrePrep Method: NONE	Instrument: BAL001
Client ID: 47SB-G05 (9-11)	Prep Method: D2216-90	Prep Date: 09/02/2010 08:42
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG341594	Analyst: JDB	Run Date: 09/02/2010 08:42
Collect Date: 08/26/2010 12:40	Dilution: 1	File ID: B1.341594-0107
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	81.8		1.00	1.00



Report Number: L10080794

Report Date : September 10, 2010

Sample Number: L10080794-04	PrePrep Method: NONE	Instrument: BAL001
Client ID: 47SB-G07 (9-11)	Prep Method: D2216-90	Prep Date: 09/02/2010 08:42
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG341594	Analyst: JDH	Run Date: 09/02/2010 08:42
Collect Date: 08/26/2010 10:10	Dilution: 1	File ID: B1.341594-0108
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	82.8		1.00	1.00



Report Number: L10080794

Report Date : September 10, 2010

Sample Number: L10080794-06	PrePrep Method: NONE	Instrument: BAL001
Client ID: 47SB-K05 (9-11)	Prep Method: D2216-90	Prep Date: 09/02/2010 08:42
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG341594	Analyst: JDB	Run Date: 09/02/2010 08:42
Collect Date: 08/26/2010 15:20	Dilution: 1	File ID: B1.341594-0109
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	84.3		1.00	1.00



Report Number: L10080794

Report Date : September 10, 2010

Sample Number: L10080794-07	PrePrep Method: NONE	Instrument: BAL001
Client ID: 47SB-R07 (9-11)	Prep Method: D2216-90	Prep Date: 09/02/2010 08:42
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG341594	Analyst: JDH	Run Date: 09/02/2010 08:42
Collect Date: 08/26/2010 15:55	Dilution: 1	File ID: B1.341594-0110
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	86.3		1.00	1.00

5 of 5



Validation Qualifier Data Entry Verification

Longhorn Army Ammunition Plant

Run Date: September 20, 2010

Page: 1 of 1

Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use	BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
												1	2	3	4		
47SB-C09(0-2)	D2216	NONE	N 0 1	PERCENT SOLIDS	93.6	Percent		Y	Y							L10080800-01	12:21
	SW6850	NONE	N 0 1	PERCHLORATE	1.08	ug/kg	U	N	Y		U					L10080800-01	20:35
47SB-C11(0-2)	D2216	NONE	N 0 1	PERCENT SOLIDS	91.4	Percent		Y	Y							L10080800-02	08:38
	SW6850	NONE	N 0 1	PERCHLORATE	1.32	ug/kg	J	Y	Y		J					L10080800-02	22:47
47SB-E07(0-2)	D2216	NONE	N 0 1	PERCENT SOLIDS	87.3	Percent		Y	Y							L10080800-03	08:42
	SW6850	NONE	N 0 1	PERCHLORATE	1.10	ug/kg	U	N	Y		U					L10080800-03	07:39
47SB-E09(0-2)	D2216	NONE	N 0 1	PERCENT SOLIDS	92.9	Percent		Y	Y							L10080800-04	12:21
	SW6850	NONE	N 0 1	PERCHLORATE	1.22	ug/kg	U	N	Y		U					L10080800-04	21:01
47SB-G05(0-2)	D2216	NONE	N 0 1	PERCENT SOLIDS	90.3	Percent		Y	Y							L10080800-05	08:38
	SW6850	NONE	N 0 1	PERCHLORATE	1.78	ug/kg	J	Y	Y		J					L10080800-05	23:14
47SB-G07(0-2)	D2216	NONE	N 0 1	PERCENT SOLIDS	87.1	Percent		Y	Y							L10080800-06	08:38
	SW6850	NONE	N 0 1	PERCHLORATE	1.11	ug/kg	U	N	Y		U					L10080800-06	23:40
47SB-I05(0-2)	D2216	NONE	N 0 1	PERCENT SOLIDS	86.9	Percent		Y	Y							L10080800-10	12:21
	SW6850	NONE	N 0 1	PERCHLORATE	1.11	ug/kg	U	N	Y		U					L10080800-10	21:27
47SB-I07(0-2)	D2216	NONE	N 0 1	PERCENT SOLIDS	91.2	Percent		Y	Y							L10080800-11	12:21
	SW6850	NONE	N 0 1	PERCHLORATE	1.04	ug/kg	U	N	Y		U					L10080800-11	21:54
47SB-K03(0-2)	D2216	NONE	N 0 1	PERCENT SOLIDS	92.0	Percent		Y	Y							L10080800-07	08:42
	SW6850	NONE	N 0 1	PERCHLORATE	36.7	ug/kg		Y	Y							L10080800-07	08:05
47SB-K05(0-2)	D2216	NONE	N 0 1	PERCENT SOLIDS	89.4	Percent		Y	Y							L10080800-08	08:38
	SW6850	NONE	N 0 1	PERCHLORATE	1.19	ug/kg	J	Y	Y		J					L10080800-08	00:07
47SB-K07(0-2)	D2216	NONE	N 0 1	PERCENT SOLIDS	94.6	Percent		Y	Y							L10080800-09	08:38
	SW6850	NONE	N 0 1	PERCHLORATE	2.30	ug/kg		Y	Y							L10080800-09	00:33

OK
 sh
 09/20/10

COC NO. LHAAP47-082010-4

Lab Name: Environmental Waste Solutions C/O Microbac
Address : 158 Starlite Drive, Marietta OH 45750
Contact : Stephanie Mossburg
Phone: 1-800-373-4071

[illegible]



COOLER INSPECTION



Received: 08/28/2010 10:18
 Delivery Method: UPS
 Opened By: Brenda Greenwalt
 Comments:

Login(s): L10080800}

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
001-000428	H	6.0	1Z66V7254498268335	LHAAP47-082010-4	

- 1 Yes Were shipping coolers sealed?
- 2 Yes Were custody seals intact?
- 3 Yes Were cooler temperatures in range of 0-6?
- 4 Yes Was ice present?
- 5 Yes Were COC's received/information complete/signed and dated?
- 6 Yes Were sample containers and labels intact and match COC?
- 7 Yes Were the correct containers and volumes received?
- 8 Yes Were samples received within EPA hold times?
- 9 NA Were correct preservatives used? (water only)
- 10 NA Were pH ranges acceptable? (voa's excluded)
- 11 NA Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

- 6 17SB-D02 (4-6) THE COC SAYS 1105 AND THE BOTTLE SAYS 1110 IDS MATCHES THE COC

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
 158 Starlite Drive
 Marietta, OH 45750
 Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080800

Account: 2773

Project: 2773.025

Samples: 12

Due Date: 08-SEP-2010

Samplenum Container ID Products
 L10080800-01 732171

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 12:48	ERP	

Samplenum Container ID Products
 L10080800-01 735883 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	03-SEP-2010 10:18	JKT	
2	ANALYZ	W1	SEM	03-SEP-2010 11:17	ADC	JKT

Samplenum Container ID Products
 L10080800-02 732172

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 12:48	ERP	

Samplenum Container ID Products
 L10080800-02 736479 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	07-SEP-2010 12:38	RLK	
2	ANALYZ	W1	SEM	07-SEP-2010 13:38	WTD	JKT
3	STORE	SEM	W1	07-SEP-2010 14:22	JKT	WTD
4	STORE	WET	W1	08-SEP-2010 08:21	RLK	JDH

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080800

Account: 2773

Project: 2773.025

Samples: 12

Due Date: 08-SEP-2010

Samplenum Container ID Products
 L10080800-03 732173

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 12:48	ERP	
2	ANALYZ	W1	SEM	01-SEP-2010 11:15	ADC	RLK
Comments: Products cancelled.						
3	STORE	SEM	W1	01-SEP-2010 13:17	JKT	WTD
Comments: Products cancelled.						
4	STORE	WET	W1	02-SEP-2010 11:48	RLK	JDH
Comments: Products cancelled.						
5	STORE	W1	A1	02-SEP-2010 13:13	RLK	JKT
Comments: Products cancelled.						

Samplenum Container ID Products
 L10080800-03 734107 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	01-SEP-2010 11:40	JKT	

Samplenum Container ID Products
 L10080800-04 732174

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 12:48	ERP	

Samplenum Container ID Products
 L10080800-04 735884 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	03-SEP-2010 10:18	JKT	
2	ANALYZ	W1	SEM	03-SEP-2010 11:17	ADC	JKT

Samplenum Container ID Products
 L10080800-05 732175

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 12:48	ERP	

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080800

Account: 2773

Project: 2773.025

Samples: 12

Due Date: 08-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-05	736480	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	07-SEP-2010 12:38	RLK	
2	ANALYZ	W1	SEM	07-SEP-2010 13:38	WTD	JKT
3	STORE	SEM	W1	07-SEP-2010 14:22	JKT	WTD
4	STORE	WET	W1	08-SEP-2010 08:21	RLK	JDH

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-06	732176	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 12:48	ERP	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-06	736481	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	07-SEP-2010 12:38	RLK	
2	ANALYZ	W1	SEM	07-SEP-2010 13:38	WTD	JKT
3	STORE	SEM	W1	07-SEP-2010 14:22	JKT	WTD
4	STORE	WET	W1	08-SEP-2010 08:21	RLK	JDH

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-07	732177	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 12:48	ERP	
2	ANALYZ	W1	SEM	01-SEP-2010 11:17	ADC	RLK

Comments: Products cancelled.

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080800

Account: 2773

Project: 2773.025

Samples: 12

Due Date: 08-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-07	734108	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	SEM	01-SEP-2010 11:40	JKT	
2	STORE	SEM	W1	01-SEP-2010 13:17	JKT	WTD
3	STORE	WET	W1	02-SEP-2010 11:48	RLK	JDH
4	STORE	W1	A1	02-SEP-2010 13:13	RLK	JKT

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-08	732178	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 12:48	ERP	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-08	736482	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	07-SEP-2010 12:38	RLK	
2	ANALYZ	W1	SEM	07-SEP-2010 13:39	WTD	JKT
3	STORE	SEM	W1	07-SEP-2010 14:22	JKT	WTD
4	STORE	WET	W1	08-SEP-2010 08:21	RLK	JDH

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-09	732179	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 12:48	ERP	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-09	736483	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	07-SEP-2010 12:38	RLK	
2	ANALYZ	W1	SEM	07-SEP-2010 13:38	WTD	JKT
3	STORE	SEM	W1	07-SEP-2010 14:22	JKT	WTD
4	STORE	WET	W1	08-SEP-2010 08:21	RLK	JDH

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080800

Account: 2773

Project: 2773.025

Samples: 12

Due Date: 08-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-10	732180	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 12:48	ERP	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-10	735885	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	03-SEP-2010 10:18	JKT	
2	ANALYZ	W1	SEM	03-SEP-2010 11:17	ADC	JKT
3	STORE	WET	A1	07-SEP-2010 08:03	RLK	JDH

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-11	732181	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 12:48	ERP	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-11	735886	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	03-SEP-2010 10:18	JKT	
2	ANALYZ	W1	SEM	03-SEP-2010 11:17	ADC	JKT
3	STORE	WET	A1	07-SEP-2010 08:03	RLK	JDH

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080800-12	732182	SPECIA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 12:48	ERP	

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



NELAP Addendum - May 28, 2010**Non-NELAP LIMS Product and Description**

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄)
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Perchlorate (6850 – LCMS)
 Hexamethylphosphoramide (XMPA-LCMS)
 Thiodiglycol (TDG-LCMS)
 1,4-Dioxane – 8270C (827-DIOXANE)
 Phosphorus – 6010B
 Zirconium – 6010B

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER****OVL HPLC02/HPLC-UV**

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 2, 3, 4, 6-Tetrachlorophenol
 2-Chloronaphthalene
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene

Pentachloroethane**OVL MSSO4/GC-MS**

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnol
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropyl ether
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

SOLID AND HAZARDOUS CHEMICALS**OVL HPLCOS-HPLC-UV ****

Nitroguanidine

OVL KNITRO-C-S/UV-VIS****OVL MSS01/GC-MS**

1,4-Phenylenediamine
1-Methylnaphthalene

Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnol
Simazine
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropylether
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

2.1.1 LC/MS Data (6850)

2.1.1.1 Summary Data

LABORATORY REPORT

00105372

L10080800

09/15/10 08:09

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-C09 (0-2)	L10080800-01	6850	1	30-AUG-10
47SB-C11 (0-2)	L10080800-02	6850	1	30-AUG-10
47SB-E07 (0-2)	L10080800-03	6850	1	30-AUG-10
47SB-E09 (0-2)	L10080800-04	6850	1	30-AUG-10
47SB-G05 (0-2)	L10080800-05	6850	1	30-AUG-10
47SB-G07 (0-2)	L10080800-06	6850	1	30-AUG-10
47SB-K03 (0-2)	L10080800-07	6850	1	30-AUG-10
47SB-K05 (0-2)	L10080800-08	6850	1	30-AUG-10
47SB-K07 (0-2)	L10080800-09	6850	1	30-AUG-10
47SB-I05 (0-2)	L10080800-10	6850	1	30-AUG-10
47SB-I07 (0-2)	L10080800-11	6850	1	30-AUG-10

Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-01
Client ID: 47SB-C09 (0-2)
Matrix: Soil
Workgroup Number: WG341866
Collect Date: 08/26/2010 07:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/03/2010 11:53
Cal Date: 08/26/2010 21:10
Run Date: 09/04/2010 20:35
File ID: 11M.LM05317
Percent Solid: 93.6

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.17	1.08

U Not detected at or above adjusted sample detection limit

W
09/20/10



Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-02
Client ID: 47SB-C11 (0-2)
Matrix: Soil
Workgroup Number: WG342087
Collect Date: 08/26/2010 08:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/07/2010 15:40
Cal Date: 08/26/2010 21:10
Run Date: 09/07/2010 22:47
File ID: 11M.LM05361
Percent Solid: 91.4

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	1.32	J	2.18	1.09

J The analyte was positively identified, but the quantitation was below the RL

WTD
09/20/10

Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-03
Client ID: 47SB-E07 (0-2)
Matrix: Soil
Workgroup Number: WG341549
Collect Date: 08/26/2010 09:40
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: N/A
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/01/2010 15:24
Cal Date: 08/26/2010 21:10
Run Date: 09/02/2010 07:39
File ID: ILM.LM05192
Percent Solid: 87.3

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.21	1.10

U Not detected at or above adjusted sample detection limit

h
09/20/10



Report Number: L10080800

Report Date : September 15, 2010

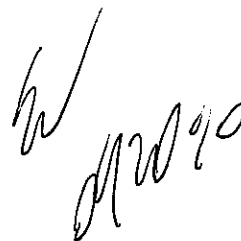
Sample Number: L10080800-04
Client ID: 47SB-E09 (0-2)
Matrix: Soil
Workgroup Number: WG341866
Collect Date: 08/26/2010 09:10
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/03/2010 11:53
Cal Date: 08/26/2010 21:10
Run Date: 09/04/2010 21:01
File ID: LLM.LM05318
Percent Solid: 92.9

Analyte	CAS Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.44	1.22

U Not detected at or above adjusted sample detection limit



Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-05
Client ID: 478B-G05 (0-2)
Matrix: Soil
Workgroup Number: WG342087
Collect Date: 08/26/2010 12:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/07/2010 15:40
Cal Date: 08/26/2010 21:10
Run Date: 09/07/2010 23:14
File ID: 1LM.LM05362
Percent Solid: 90.3

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	1.78	J	2.14	1.07

J The analyte was positively identified, but the quantitation was below the RL

Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-06	PrePrep Method: NONE	Instrument: LCMS1
Client ID: 47SB-G07 (0-2)	Prep Method: 6850	Prep Date: 09/07/2010 15:40
Matrix: Soil	Analytical Method: 6850	Cal Date: 08/26/2010 21:10
Workgroup Number: WG342087	Analyst: WTD	Run Date: 09/07/2010 23:40
Collect Date: 08/26/2010 10:00	Dilution: 1	File ID: 1LM.LM05363
Sample Tag: 01	Units: ug/kg	Percent Solid: 87.1

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.23	1.11

U Not detected at or above adjusted sample detection limit



Report Number: L10080800

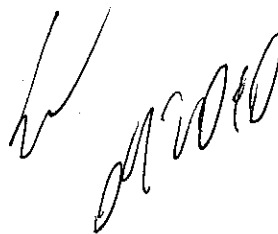
Report Date : September 15, 2010

Sample Number: L10080800-07
Client ID: 47SB-K03 (0-2)
Matrix: Soil
Workgroup Number: WG341549
Collect Date: 08/26/2010 14:20
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: N/A
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/01/2010 15:24
Cal Date: 08/26/2010 21:10
Run Date: 09/02/2010 08:05
File ID: 11M.LM05193
Percent Solid: 92.0

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	36.7		2.07	1.04



Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-08
Client ID: 47SB-R05 (0-2)
Matrix: Soil
Workgroup Number: WG342087
Collect Date: 08/26/2010 15:10
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/07/2010 15:40
Cal Date: 08/26/2010 21:10
Run Date: 09/08/2010 00:07
File ID: 11M.LM05364
Percent Solid: 89.4

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	1.19	J	2.23	1.12

J The analyte was positively identified, but the quantitation was below the RL

Handwritten signature

Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-09
Client ID: 47SB-K07 (0-2)
Matrix: Soil
Workgroup Number: WG342087
Collect Date: 08/26/2010 15:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/07/2010 15:40
Cal Date: 08/26/2010 21:10
Run Date: 09/08/2010 00:33
File ID: 1LM.LM05365
Percent Solid: 94.6

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	2.30		2.02	1.01

Report Number: L10080800

Report Date : September 15, 2010

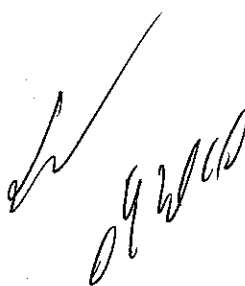
Sample Number: L10080800-10
Client ID: 47SE-I05 (0-2)
Matrix: Soil
Workgroup Number: WG341866
Collect Date: 08/26/2010 13:15
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/03/2010 11:53
Cal Date: 08/26/2010 21:10
Run Date: 09/04/2010 21:27
File ID: 1LM.LM05319
Percent Solid: 86.9

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.23	1.11

U Not detected at or above adjusted sample detection limit



Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-11
Client ID: 47SB-I07 (0-2)
Matrix: Soil
Workgroup Number: WG341866
Collect Date: 08/26/2010 10:55
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/03/2010 11:53
Cal Date: 08/26/2010 21:10
Run Date: 09/04/2010 21:54
File ID: 11M.LM05320
Percent Solid: 91.2

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		0	2.07	1.04

0 Not detected at or above adjusted sample detection limit



2.1.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080800 Work Group: WG341549
Blank File ID: 1LM.LM05181 Blank Sample ID: WG341549-02
Prep Date: 09/01/10 15:24 Instrument ID: LCMS1
Analyzed Date: 09/02/10 02:25 Method: 6850
Analyst: N/A

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG341549-05	1LM.LM05178	09/02/10 01:06	01
MCT	WG341549-01	1LM.LM05180	09/02/10 01:59	01
LCS	WG341549-03	1LM.LM05182	09/02/10 02:52	01
LCS2	WG341549-04	1LM.LM05183	09/02/10 03:18	01
QCMRL	WG341549-06	1LM.LM05190	09/02/10 06:23	01
47SB-E07 (0-2)	L10080800-03	1LM.LM05192	09/02/10 07:39	01
47SB-K03 (0-2)	L10080800-07	1LM.LM05193	09/02/10 08:05	01
QCMRL	WG341549-07	1LM.LM05199	09/02/10 10:44	01
QCMRL	WG341549-08	1LM.LM05337	09/05/10 05:23	01
QCMRL	WG341549-09	1LM.LM05343	09/05/10 08:02	01



METHOD BLANK SUMMARY

Login Number: L10080800
Blank File ID: 1LM.LM05314
Prep Date: 09/03/10 11:53
Analyzed Date: 09/04/10 19:15
Analyst: WTD

Work Group: WG341866
Blank Sample ID: WG341866-02
Instrument ID: LCMS1
Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG341866-05	1LM.LM05311	09/04/10 17:56	01
LCS	WG341866-03	1LM.LM05315	09/04/10 19:42	01
LCS2	WG341866-04	1LM.LM05316	09/04/10 20:08	01
47SB-C09 (0-2)	L10080800-01	1LM.LM05317	09/04/10 20:35	01
47SB-E09 (0-2)	L10080800-04	1LM.LM05318	09/04/10 21:01	01
47SB-I05 (0-2)	L10080800-10	1LM.LM05319	09/04/10 21:27	01
47SB-I07 (0-2)	L10080800-11	1LM.LM05320	09/04/10 21:54	01
QCMRL	WG341866-06	1LM.LM05324	09/04/10 23:40	01
QCMRL	WG341866-07	1LM.LM05337	09/05/10 05:23	01
QCMRL	WG341866-08	1LM.LM05343	09/05/10 08:02	01



METHOD BLANK SUMMARY

Login Number: L10080800 Work Group: WG342087
Blank File ID: 1LM.LM05358 Blank Sample ID: WG342087-02
Prep Date: 09/07/10 15:40 Instrument ID: LCMS1
Analyzed Date: 09/07/10 21:28 Method: 6850
Analyst: WTD

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG342087-05	1LM.LM05355	09/07/10 20:09	01
MCT	WG342087-01	1LM.LM05357	09/07/10 21:02	01
LCS	WG342087-03	1LM.LM05359	09/07/10 21:54	01
LCS2	WG342087-04	1LM.LM05360	09/07/10 22:21	01
47SB-C11 (0-2)	L10080800-02	1LM.LM05361	09/07/10 22:47	01
47SB-G05 (0-2)	L10080800-05	1LM.LM05362	09/07/10 23:14	01
47SB-G07 (0-2)	L10080800-06	1LM.LM05363	09/07/10 23:40	01
47SB-K05 (0-2)	L10080800-08	1LM.LM05364	09/08/10 00:07	01
47SB-K07 (0-2)	L10080800-09	1LM.LM05365	09/08/10 00:33	01
QCMRL	WG342087-06	1LM.LM05368	09/08/10 01:53	01
QCMRL	WG342087-07	1LM.LM05376	09/08/10 05:24	01



METHOD BLANK REPORT

Login Number: L10080800 Prep Date: 09/01/10 15:24 Sample ID: WG341549-02
Instrument ID: LCMS1 Run Date: 09/02/10 02:25 Prep Method: 6850
File ID: 1LM.LM05181 Analyst: N/A Method: 6850
Workgroup (AAB#): WG341549 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1-26-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.971	1.94	0.971	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1771733

09-SEP-2010 10:03



METHOD BLANK REPORT

Login Number: L10080800 Prep Date: 09/03/10 11:53 Sample ID: WG341866-02
Instrument ID: LCMS1 Run Date: 09/04/10 19:15 Prep Method: 6850
File ID: 1LM.LM05314 Analyst: WTD Method: 6850
Workgroup (AAB#): WG341866 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1-26-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	1.02	2.05	1.02	1	U

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1771733

09-SEP-2010 10:03



METHOD BLANK REPORT

Login Number: L10080800 Prep Date: 09/07/10 15:40 Sample ID: WG342087-02
Instrument ID: LCMS1 Run Date: 09/07/10 21:28 Prep Method: 6850
File ID: 1LM.LM05358 Analyst: WTD Method: 6850
Workgroup (AAB#): WG342087 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1-26-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.996	1.99	0.996	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1771733

09-SEP-2010 10:03



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10080800 Analyst: N/A Prep Method: 6850
Instrument ID: LCMS1 Matrix: Soil Method: 6850
Workgroup (AAB#): WG341549 Units: ug/kg
QC Key: STD Lot #: STD40906

Sample ID: WG341549-03 LCS File ID: ILM.LM05182 Run Date: 09/02/2010 02:52
Sample ID: WG341549-04 LCS2 File ID: ILM.LM05183 Run Date: 09/02/2010 03:18

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	1.99	1.79	89.5	1.94	2.07	107	14.7	80 - 120	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1771734
Report generated: 09/09/2010 10:03



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10080800 Analyst: WTD Prep Method: 6850
Instrument ID: LCMS1 Matrix: Soil Method: 6850
Workgroup (AAB#): WG341866 Units: ug/kg
QC Key: STD Lot #: STD40906

Sample ID: WG341866-03 LCS File ID: 1LM.LM05315 Run Date: 09/04/2010 19:42
Sample ID: WG341866-04 LCS2 File ID: 1LM.LM05316 Run Date: 09/04/2010 20:08

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	1.96	1.63	83.0	1.97	1.95	99.0	17.7	80 - 120	15	#

OK
60-140
RPD = 40%



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10080800 Analyst: WTD Prep Method: 6850
Instrument ID: LCMS1 Matrix: Soil Method: 6850
Workgroup (AAB#): WG342087 Units: ug/kg
QC Key: STD Lot #: STD40906

Sample ID: WG342087-03 LCS File ID: 1LM.LM05359 Run Date: 09/07/2010 21:54
Sample ID: WG342087-04 LCS2 File ID: 1LM.LM05360 Run Date: 09/07/2010 22:21

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	1.97	2.04	104	2.00	1.70	85.0	18.3	80 - 120	15	#

OK
40% RPD -



Conductivity Probe
Calibration Check:
1401 /1410 $\mu\text{S}/\text{cm}$

**Perchlorate
Conductivity Check**

Working MCT Level:
10,000 $\mu\text{S}/\text{cm}$

Sample	Conductivity ($\mu\text{S}/\text{cm}$)	Pretreatment or Dilution Needed
WG341866-01 MCT	10,170	NA
-02 B/K	22.2	↓
-03 LCS	19.2	
-04 LCS2	18.3	
L10080575-02	9.8	
-03	23.4	
-04	11.3	
-05	15.0	
-06	6.4	
-07	11.3	
-08	9.5	
L10080800-01	5.8	
-04	5.8	
-10	10.2	
-11	4.5	
L10080803-02	10.2	
-04	8.5	
-05	10.9	
-07	3.7	
-08	4.8	

Wade T. DeLy
Analyst

9-8-10 / 10:00
Date/Time

DCN#84340



1 000000 000000 000000 000000 000000 000000

Conductivity Probe
Calibration Check:
1401 /1410 $\mu\text{S}/\text{cm}$

Perchlorate Conductivity Check

Working MCT Level:
10,000 $\mu\text{S}/\text{cm}$

Sample	Conductivity ($\mu\text{S}/\text{cm}$)	Pretreatment or Dilution Needed
WG-342087-01 met	10,300	NA
-02 B/K	9.8	↓
-03 LCS	12.7	
-04 LCS2	14.0	
L10080800-02	9.8	
-05	22.3	
-06	5.8	
-08	6.9	
-09	5.1	
L10080879-01	215	
-02	57.9	
-04	191	↓
-05	17.9	
-09	139	
-10	7.0	

Wade T. DeLy
Analyst

9-8-10 / 10:10
Date/Time

DCN#84341



1 000000 000000 000000 000000 000000

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

00105399

L10080800

09/15/10 08:09

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-C09 (0-2)	L10080800-01	D2216-90	1	30-AUG-10
47SB-C11 (0-2)	L10080800-02	D2216-90	1	30-AUG-10
47SB-E07 (0-2)	L10080800-03	D2216-90	1	30-AUG-10
47SB-E09 (0-2)	L10080800-04	D2216-90	1	30-AUG-10
47SB-G05 (0-2)	L10080800-05	D2216-90	1	30-AUG-10
47SB-G07 (0-2)	L10080800-06	D2216-90	1	30-AUG-10
47SB-K03 (0-2)	L10080800-07	D2216-90	1	30-AUG-10
47SB-K05 (0-2)	L10080800-08	D2216-90	1	30-AUG-10
47SB-K07 (0-2)	L10080800-09	D2216-90	1	30-AUG-10
47SB-I05 (0-2)	L10080800-10	D2216-90	1	30-AUG-10
47SB-I07 (0-2)	L10080800-11	D2216-90	1	30-AUG-10



Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-01
Client ID: 47SB-C09 (0-2)
Matrix: Soil
Workgroup Number: WG341936
Collect Date: 08/26/2010 07:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDE
Dilution: 1
Units: weight %

Instrument: BAL001
Prep Date: 09/04/2010 12:21
Cal Date:
Run Date: 09/04/2010 12:21
File ID: B1.341936-0114

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	93.6		1.00	1.00



Report Number:L10080800

Report Date :September 15, 2010

Sample Number:L10080800-02	PrePrep Method:NONE	Instrument:BAI001
Client ID:47SE-C11 (0-2)	Prep Method:D2216-90	Prep Date:09/08/2010 08:38
Matrix:Soil	Analytical Method:D2216-90	Cal Date:
Workgroup Number:WG342103	Analyst:JDB	Run Date:09/08/2010 08:38
Collect Date:08/26/2010 08:25	Dilution:1	File ID:B1.342103-0136
Sample Tag:01	Units:weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	91.4		1.00	1.00



Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-03	PrePrep Method: NONE	Instrument: BAL001
Client ID: 47SB-E07 (0-2)	Prep Method: D2216-90	Prep Date: 09/02/2010 08:42
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG341594	Analyst: JDH	Run Date: 09/02/2010 08:42
Collect Date: 08/26/2010 09:40	Dilution: 1	File ID: B1.341594-0111
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	87.3		1.00	1.00

Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-04
Client ID: 47SB-E09 (0-2)
Matrix: Soil
Workgroup Number: WG341936
Collect Date: 08/26/2010 09:10
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDH
Dilution: 1
Units: weight %

Instrument: BAL001
Prep Date: 09/04/2010 12:21
Cal Date:
Run Date: 09/04/2010 12:21
File ID: B1.341936-0115

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	92.9		1.00	1.00



Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-05
Client ID: 47SB-G05 (0-2)
Matrix: Soil
Workgroup Number: WG342103
Collect Date: 08/26/2010 12:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDE
Dilution: 1
Units: weight %

Instrument: BAL001
Prep Date: 09/08/2010 08:38
Cal Date:
Run Date: 09/08/2010 08:38
File ID: B1.342103-0137

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	90.3		1.00	1.00



Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-06	PrePrep Method: NONE	Instrument: BAL001
Client ID: 47SB-G07 (0-2)	Prep Method: D2216-90	Prep Date: 09/08/2010 08:38
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG342103	Analyst: JDH	Run Date: 09/08/2010 08:38
Collect Date: 08/26/2010 10:00	Dilution: 1	File ID: B1.342103-0138
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	87.1		1.00	1.00



Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-07	PrePrep Method: NONE	Instrument: BAL001
Client ID: 47SB-K03 (0-2)	Prep Method: D2216-90	Prep Date: 09/02/2010 08:42
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG341594	Analyst: JDH	Run Date: 09/02/2010 08:42
Collect Date: 08/26/2010 14:20	Dilution: 1	File ID: B1.341594-0112
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	92.0		1.00	1.00



Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-08	PrePrep Method: NONE	Instrument: BAL001
Client ID: 47SB-R05 (0-2)	Prep Method: D2216-90	Prep Date: 09/08/2010 08:38
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG342103	Analyst: JDH	Run Date: 09/08/2010 08:38
Collect Date: 08/26/2010 15:10	Dilution: 1	File ID: B1.342103-0139
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	89.4		1.00	1.00

8 of 11



Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-09	PrePrep Method: NONE	Instrument: BAL001
Client ID: 47SB-K07 (0-2)	Prep Method: D2216-90	Prep Date: 09/08/2010 08:38
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG342103	Analyst: JDH	Run Date: 09/08/2010 08:38
Collect Date: 08/26/2010 15:45	Dilution: 1	File ID: B1.342103-0140
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	94.6		1.00	1.00



Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-10	PrePrep Method: NONE	Instrument: BAL001
Client ID: 47SB-I05 (0-2)	Prep Method: D2216-90	Prep Date: 09/04/2010 12:21
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG341936	Analyst: JDH	Run Date: 09/04/2010 12:21
Collect Date: 08/25/2010 13:15	Dilution: 1	File ID: B1.341936-0116
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	85.9		1.00	1.00



Report Number: L10080800

Report Date : September 15, 2010

Sample Number: L10080800-11
Client ID: 47SB-I07 (0-2)
Matrix: Soil
Workgroup Number: WG341936
Collect Date: 08/26/2010 10:55
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDH
Dilution: 1
Units: weight %

Instrument: BAL001
Prep Date: 09/04/2010 12:21
Cal Date:
Run Date: 09/04/2010 12:21
File ID: B1.341936-0117

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	91.2		1.00	1.00

11 of 11



Validation Qualifier Data Entry Verification

Longhorn Army Ammunition Pl

Run Date: September 21, 2010

Page: 1 of 1

Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
											1	2	3	4		
47SB-C09(4-6)	D2216	NONE	N 0 1	PERCENT SOLIDS	94.7	Percent		Y Y							L10080803-01	08:42
	SW6850	NONE	N 0 1	PERCHLORATE	2.01	ug/kg		Y Y							L10080803-01	08:32
47SB-C11(4-6)	D2216	NONE	N 0 1	PERCENT SOLIDS	90.7	Percent		Y Y							L10080803-02	12:21
	SW6850	NONE	N 0 1	PERCHLORATE	1.04	ug/kg	U	N Y		U					L10080803-02	22:20
47SB-E09(4-6)	D2216	NONE	N 0 1	PERCENT SOLIDS	89.3	Percent		Y Y							L10080803-03	08:42
	SW6850	NONE	N 0 1	PERCHLORATE	1.09	ug/kg	U	N Y		U					L10080803-03	08:58
47SB-G05(4-6)	D2216	NONE	N 0 1	PERCENT SOLIDS	86.9	Percent		Y Y							L10080803-04	12:21
	SW6850	NONE	N 0 1	PERCHLORATE	2.20	ug/kg		Y Y							L10080803-04	22:47
47SB-G07(4-6)	D2216	NONE	N 0 1	PERCENT SOLIDS	79.1	Percent		Y Y							L10080803-05	12:21
	SW6850	NONE	N 0 1	PERCHLORATE	1.19	ug/kg	U	N Y		U					L10080803-05	00:33
47SB-I05(4-6)	D2216	NONE	N 0 1	PERCENT SOLIDS	90.4	Percent		Y Y							L10080803-09	08:42
	SW6850	NONE	N 0 1	PERCHLORATE	1.05	ug/kg	U	N Y		U					L10080803-09	09:25
47SB-I07(4-6)	D2216	NONE	N 0 1	PERCENT SOLIDS	84.8	Percent		Y Y							L10080803-10	08:42
	SW6850	NONE	N 0 10	PERCHLORATE	202	ug/kg		Y Y							L10080803-10	06:43
47SB-K05(4-6)	D2216	NONE	N 0 1	PERCENT SOLIDS	85.0	Percent		Y Y							L10080803-07	12:21
	SW6850	NONE	N 0 1	PERCHLORATE	1.18	ug/kg	U	N Y		U					L10080803-07	00:59
47SB-K07(4-6)	D2216	NONE	N 0 1	PERCENT SOLIDS	87.1	Percent		Y Y							L10080803-08	12:21
	SW6850	NONE	N 0 1	PERCHLORATE	6.13	ug/kg		Y Y							L10080803-08	01:25

OK
 092110

COC NO. LHAAP47-082010-3

Lab Name: Environmental Waste Solutions C/O Microbac
Address : 158 Starlite Drive, Marietta OH 45750
Contact : Stephanie Mossburg
Phone: 1-800-373-4071

[illegible]



COOLER INSPECTION



Received: 08/28/2010 10:18
Delivery Method: UPS
Opened By: Brenda Greenwalt
Comments:

Login(s): L10080803|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
001-000428	H	6.0	1Z66V7254498268335	LHAAP47-082010-3	

- 1 Yes Were shipping coolers sealed?
- 2 Yes Were custody seals intact?
- 3 Yes Were cooler temperatures in range of 0-6?
- 4 Yes Was ice present?
- 5 Yes Were COC's received/information complete/signed and dated?
- 6 Yes Were sample containers and labels intact and match COC?
- 7 Yes Were the correct containers and volumes received?
- 8 Yes Were samples received within EPA hold times?
- 9 NA Were correct preservatives used? (water only)
- 10 NA Were pH ranges acceptable? (voa's excluded)
- 11 NA Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080803

Account: 2773

Project: 2773.025

Samples: 11

Due Date: 02-SEP-2010

Samplenum Container ID Products
 L10080803-01 732199

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 13:03	ERP	
2	ANALYZ	W1	SEM	01-SEP-2010 11:15	ADC	RLK

Comments: Products cancelled.

Samplenum Container ID Products
 L10080803-01 734109 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	SEM	01-SEP-2010 11:41	JKT	
2	STORE	SEM	W1	01-SEP-2010 13:17	JKT	WTD
3	STORE	WET	W1	02-SEP-2010 11:48	RLK	JDH
4	STORE	W1	A1	02-SEP-2010 13:13	RLK	JKT

Samplenum Container ID Products
 L10080803-02 732200

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 13:03	ERP	

Samplenum Container ID Products
 L10080803-02 735348 6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	03-SEP-2010 06:49	JKT	
2	ANALYZ	W1	SEM	03-SEP-2010 11:17	ADC	JKT
3	STORE	WET	A1	07-SEP-2010 08:02	RLK	JDH

Samplenum Container ID Products
 L10080803-03 732201

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 13:03	ERP	
2	ANALYZ	W1	SEM	01-SEP-2010 11:15	ADC	RLK

Comments: Products cancelled.

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.**Internal Chain of Custody Report**

Login: L10080803

Account: 2773

Project: 2773.025

Samples: 11

Due Date: 02-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080803-03	734110	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	SEM	01-SEP-2010 11:41	JKT	
2	STORE	SEM	W1	01-SEP-2010 13:17	JKT	WTD
3	STORE	WET	W1	02-SEP-2010 11:48	RLK	JDH
4	STORE	W1	A1	02-SEP-2010 13:13	RLK	JKT

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080803-04	732202	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 13:03	ERP	
2	ANALYZ	W1	SEM	03-SEP-2010 11:17	ADC	JKT
Comments: Products cancelled.						
3	STORE	WET	A1	07-SEP-2010 08:02	RLK	JDH
Comments: Products cancelled.						

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080803-04	735349	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	03-SEP-2010 06:49	JKT	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080803-05	732203	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 13:03	ERP	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080803-05	735350	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	03-SEP-2010 06:49	JKT	
2	ANALYZ	W1	SEM	03-SEP-2010 11:17	ADC	JKT
3	STORE	WET	A1	07-SEP-2010 08:02	RLK	JDH

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.**Internal Chain of Custody Report****Login:** L10080803**Account:** 2773**Project:** 2773.025**Samples:** 11**Due Date:** 02-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080803-06	732204	SPECIA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 13:03	ERP	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080803-07	732205	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 13:03	ERP	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080803-07	735351	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	03-SEP-2010 06:49	JKT	
2	ANALYZ	W1	SEM	03-SEP-2010 11:17	ADC	JKT
3	STORE	WET	A1	07-SEP-2010 08:02	RLK	JDH

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080803-08	732206	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 13:03	ERP	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080803-08	735352	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	03-SEP-2010 06:49	JKT	
2	ANALYZ	W1	SEM	03-SEP-2010 11:17	ADC	JKT
3	STORE	WET	A1	07-SEP-2010 08:02	RLK	JDH

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080803

Account: 2773

Project: 2773.025

Samples: 11

Due Date: 02-SEP-2010

Samplenum Container ID Products
 L10080803-09 732207

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 13:03	ERP	
2	ANALYZ	W1	SEM	01-SEP-2010 11:15	ADC	RLK

Comments: Products cancelled.

Samplenum Container ID Products
 L10080803-09 734111 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	SEM	01-SEP-2010 11:41	JKT	
2	STORE	SEM	W1	01-SEP-2010 13:17	JKT	WTD
3	STORE	WET	W1	02-SEP-2010 11:48	RLK	JDH
4	STORE	W1	A1	02-SEP-2010 13:13	RLK	JKT

Samplenum Container ID Products
 L10080803-10 732208

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	30-AUG-2010 13:03	ERP	
2	ANALYZ	W1	SEM	01-SEP-2010 11:15	ADC	RLK

Comments: Products cancelled.

Samplenum Container ID Products
 L10080803-10 734112 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	SEM	01-SEP-2010 11:41	JKT	
2	STORE	SEM	W1	01-SEP-2010 13:17	JKT	WTD
3	STORE	WET	W1	02-SEP-2010 11:48	RLK	JDH
4	STORE	W1	A1	02-SEP-2010 13:13	RLK	JKT

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080803

Account: 2773

Project: 2773.025

Samples: 11

Due Date: 02-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080803-11	732209	SPECIA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		30-AUG-2010 13:03	ERP	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



NELAP Addendum - May 28, 2010**Non-NELAP LIMS Product and Description**

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Sulfate (SO₄)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO₃)
Perchlorate (6850 – LCMS)
Hexamethylphosphoramide (XMPA-LCMS)
Thiodiglycol (TDG-LCMS)
1,4-Dioxane – 8270C (827-DIOXANE)
Phosphorus – 6010B
Zirconium - 6010B

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER****OVL HPLC02/HPLC-UV**

Nitroglycerin
Nitroguanidine
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVL KNITRO-C-WUV-VIS**Nitrocellulose****OVL MSS01/GC-MS**

1,4-Phenylenediamine
1-Methylnaphthalene
2, 3, 4, 6-Tetrachlorophenol
2-Chloronaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene

Pentachloroethane

OVL MSSO4/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnell
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropyl ether
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene

Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnell
Simazine
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropylether
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

2.1.1 LC/MS Data (6850)

2.1.1.1 Summary Data

LABORATORY REPORT

00105424

L10080803

09/15/10 08:10

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-C09(4-6)	L10080803-01	6850	1	30-AUG-10
47SB-C11(4-6)	L10080803-02	6850	1	30-AUG-10
47SB-E09(4-6)	L10080803-03	6850	1	30-AUG-10
47SB-G05(4-6)	L10080803-04	6850	1	30-AUG-10
47SB-G07(4-6)	L10080803-05	6850	1	30-AUG-10
47SB-K05(4-6)	L10080803-07	6850	1	30-AUG-10
47SB-K07(4-6)	L10080803-08	6850	1	30-AUG-10
47SB-I05(4-6)	L10080803-09	6850	1	30-AUG-10
47SB-I07(4-6)	L10080803-10	6850	10	30-AUG-10

L1_A_PROD - Modified 03/06/2008

PDF File ID: 1780904

Report generated: 09/15/2010 08:10

1 OF 1

Microbac

Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-01
Client ID: 478B-C09 (4-6)
Matrix: Soil
Workgroup Number: WG341549
Collect Date: 08/26/2010 07:50
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/01/2010 15:24
Cal Date: 08/26/2010 21:10
Run Date: 09/02/2010 08:32
File ID: 1LM.LM05194
Percent Solid: 94.7

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	2.01		1.94	0.969



Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-02
Client ID: 47SB-C11(4-6)
Matrix: Soil
Workgroup Number: WG341866
Collect Date: 08/26/2010 08:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/03/2010 11:53
Cal Date: 08/26/2010 21:10
Run Date: 09/04/2010 22:20
File ID: 1LM.LM05321
Percent Solid: 90.7

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.08	1.04

U Not detected at or above adjusted sample detection limit



Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-03	PrePrep Method: NONE	Instrument: LCMS1
Client ID: 478B-E09(4-6)	Prep Method: 6850	Prep Date: 09/01/2010 15:24
Matrix: Soil	Analytical Method: 6850	Cal Date: 08/26/2010 21:10
Workgroup Number: WG341549	Analyst: WTD	Run Date: 09/02/2010 08:58
Collect Date: 08/26/2010 09:15	Dilution: 1	File ID: 1LM.LM05195
Sample Tag: 01	Units: ug/kg	Percent Solid: 89.3

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.17	1.09

U Not detected at or above adjusted sample detection limit



Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-04
Client ID: 47SB-G05 (4-6)
Matrix: Soil
Workgroup Number: WG341866
Collect Date: 08/26/2010 12:35
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/03/2010 11:53
Cal Date: 08/26/2010 21:10
Run Date: 09/04/2010 22:47
File ID: 1LM.LM05322
Percent Solid: 86.9

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	2.20		2.14	1.07



Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-05
Client ID: 47SB-G07(4-6)
Matrix: Soil
Workgroup Number: WG341866
Collect Date: 08/26/2010 10:05
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/03/2010 11:53
Cal Date: 08/26/2010 21:10
Run Date: 09/05/2010 00:33
File ID: 11M.LM05326
Percent Solid: 79.1

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.37	1.19

U Not detected at or above adjusted sample detection limit

*h
092010*

Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-07	PrePrep Method: NONE	Instrument: LCMS1
Client ID: 47SB-R05 (4-6)	Prep Method: 6850	Prep Date: 09/03/2010 11:53
Matrix: Soil	Analytical Method: 6850	Cal Date: 08/26/2010 21:10
Workgroup Number: WG341866	Analyst: WTD	Run Date: 09/05/2010 00:59
Collect Date: 08/26/2010 15:15	Dilution: 1	File ID: 11M.LM05327
Sample Tag: 01	Units: ug/kg	Percent Solid: 85.0

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.35	1.18

U Not detected at or above adjusted sample detection limit

W 09/20/10

Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-08
Client ID: 47SB-K07(4-6)
Matrix: Soil
Workgroup Number: WG341866
Collect Date: 08/26/2010 15:50
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/03/2010 11:53
Cal Date: 08/26/2010 21:10
Run Date: 09/05/2010 01:25
File ID: 11M.LM05328
Percent Solid: 87.1

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	6.13		2.22	1.11

WTD



Report Number: L10080803

Report Date : September 15, 2010

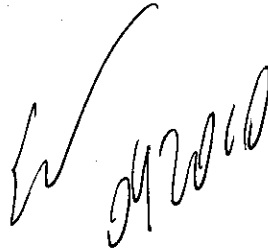
Sample Number: L10080803-09
Client ID: 475B-I05(4-6)
Matrix: Soil
Workgroup Number: WG341549
Collect Date: 08/26/2010 15:20
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/01/2010 15:24
Cal Date: 08/26/2010 21:10
Run Date: 09/02/2010 09:25
File ID: 1LM.LM05196
Percent Solid: 90.4

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.11	1.05

U Not detected at or above adjusted sample detection limit



Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-10
Client ID: 478B-I07(4-6)
Matrix: Soil
Workgroup Number: WG341549
Collect Date: 08/26/2010 11:00
Sample Tag: DL01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 10
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/01/2010 15:24
Cal Date: 08/26/2010 21:10
Run Date: 09/05/2010 06:43
File ID: 1LN.LM05340
Percent Solid: 84.8

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	202		22.7	11.4

WTD



2.1.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080803 Work Group: WG341549
Blank File ID: LLM.LM05181 Blank Sample ID: WG341549-02
Prep Date: 09/01/10 15:24 Instrument ID: LCMS1
Analyzed Date: 09/02/10 02:25 Method: 6850
Analyst: N/A

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG341549-05	LLM.LM05178	09/02/10 01:06	01
MCT	WG341549-01	LLM.LM05180	09/02/10 01:59	01
LCS	WG341549-03	LLM.LM05182	09/02/10 02:52	01
LCS2	WG341549-04	LLM.LM05183	09/02/10 03:18	01
QCMRL	WG341549-06	LLM.LM05190	09/02/10 06:23	01
47SB-C09 (4-6)	L10080803-01	LLM.LM05194	09/02/10 08:32	01
47SB-E09 (4-6)	L10080803-03	LLM.LM05195	09/02/10 08:58	01
47SB-I05 (4-6)	L10080803-09	LLM.LM05196	09/02/10 09:25	01
QCMRL	WG341549-07	LLM.LM05199	09/02/10 10:44	01
QCMRL	WG341549-08	LLM.LM05337	09/05/10 05:23	01
47SB-I07 (4-6)	L10080803-10	LLM.LM05340	09/05/10 06:43	DL01
QCMRL	WG341549-09	LLM.LM05343	09/05/10 08:02	01

Report Name: BLANK SUMMARY
PDF File ID: 1771739
Report generated 09/09/2010 09:04



METHOD BLANK SUMMARY

Login Number: L10080803 Work Group: WG341866
Blank File ID: 1LM.LM05314 Blank Sample ID: WG341866-02
Prep Date: 09/03/10 11:53 Instrument ID: LCMS1
Analyzed Date: 09/04/10 19:15 Method: 6850
Analyst: WTD

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG341866-05	1LM.LM05311	09/04/10 17:56	01
LCS	WG341866-03	1LM.LM05315	09/04/10 19:42	01
LCS2	WG341866-04	1LM.LM05316	09/04/10 20:08	01
47SB-C11 (4-6)	L10080803-02	1LM.LM05321	09/04/10 22:20	01
47SB-G05 (4-6)	L10080803-04	1LM.LM05322	09/04/10 22:47	01
QCMRL	WG341866-06	1LM.LM05324	09/04/10 23:40	01
47SB-G07 (4-6)	L10080803-05	1LM.LM05326	09/05/10 00:33	01
47SB-K05 (4-6)	L10080803-07	1LM.LM05327	09/05/10 00:59	01
47SB-K07 (4-6)	L10080803-08	1LM.LM05328	09/05/10 01:25	01
QCMRL	WG341866-07	1LM.LM05337	09/05/10 05:23	01
QCMRL	WG341866-08	1LM.LM05343	09/05/10 08:02	01

Report Name: BLANK_SUMMARY
PDF File ID: 1771739
Report generated 09/09/2010 09:04

Microbac

Microbac Laboratories Inc.
METHOD BLANK REPORT

00105437

Login Number: L10080803 Prep Date: 09/01/10 15:24 Sample ID: WG341549-02
Instrument ID: LCMS1 Run Date: 09/02/10 02:25 Prep Method: 6850
File ID: LLM.LM05181 Analyst: N/A Method: 6850
Workgroup (AAB#): WG341549 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1-26-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.971	1.94	0.971	1	U

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1771740
09-SEP-2010 09:04



METHOD BLANK REPORT

Login Number: L10080803 Prep Date: 09/03/10 11:53 Sample ID: WG341866-02
Instrument ID: LCMS1 Run Date: 09/04/10 19:15 Prep Method: 6850
File ID: 1LM.LM05314 Analyst: WTD Method: 6850
Workgroup (AAB#): WG341866 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1-26-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	1.02	2.05	1.02	1	U

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* [Analyte concentration] > RL

Report Name: BLANK

PDF ID: 1771740

09-SEP-2010 09:04



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10080803 Analyst: WTD Prep Method: 6850
Instrument ID: LCMS1 Matrix: Soil Method: 6850
Workgroup (AAB#): WG341866 Units: ug/kg
QC Key: STD Lot #: STD40906

Sample ID: WG341866-03 LCS File ID: 1LM.LM05315 Run Date: 09/04/2010 19:42
Sample ID: WG341866-04 LCS2 File ID: 1LM.LM05316 Run Date: 09/04/2010 20:08

Analytes	LCS			LCS2			RPD	%Rec Limits	RPD	
	Known	Found	% REC	Known	Found	% REC			Lmt	Q
Perchlorate	1.96	1.63	83.0	1.97	1.95	99.0	17.7	80 - 120	15	#

60-140
+ 40ip
ok



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105440

Login Number: L10080803 Analyst: N/A Prep Method: 6850
Instrument ID: LCMS1 Matrix: Soil Method: 6850
Workgroup (AAB#): WG341549 Units: ug/kg
QC Key: STD Lot #: STD40906

Sample ID: WG341549-03 LCS File ID: 1LM.LM05182 Run Date: 09/02/2010 02:52
Sample ID: WG341549-04 LCS2 File ID: 1LM.LM05183 Run Date: 09/02/2010 03:18

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	1.99	1.79	89.5	1.94	2.07	107	14.7	80 - 120	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1771741
Report generated: 09/09/2010 09:04



Conductivity Probe
Calibration Check:
1404 / 1410 $\mu\text{S}/\text{cm}$

**Perchlorate
Conductivity Check**

Working MCT Level:
10,000 $\mu\text{S}/\text{cm}$

Sample	Conductivity ($\mu\text{S}/\text{cm}$)	Pretreatment or Dilution Needed
WG 341549-01 MCT	10,230	NA
-02 R/L	10.2	
-03 L/S	9.4	
-04 L/S	8.6	
L10080794-01	2.9	
-03	3.7	
-04	3.2	
-06	8.3	
-07	4.5	
L10080800-03	14.9	
-07	19.6	
L10080803-01	7.2	
-03	3.7	
-09	4.0	
-10	4.2	

Wade T. Doty
Analyst

9-2-10 / 11:15
Date/Time

DCN#84274



Conductivity Probe
Calibration Check:
1401 /1410 $\mu\text{S}/\text{cm}$

Perchlorate Conductivity Check

Working MCT Level:
10,000 $\mu\text{S}/\text{cm}$

Sample	Conductivity ($\mu\text{S}/\text{cm}$)	Pretreatment or Dilution Needed
IN 6341806-01 MCT	10,170	NA
-02 B/L	22.2	↓
-03 LCS	19.2	
-04 LCS2	18.3	
L10080575-02	9.8	
-03	23.4	
-04	11.3	
-05	15.0	
-06	6.4	
-07	11.3	
-08	9.5	
L10080800-01	5.8	
-04	5.8	
-10	10.2	
-11	4.5	
L10080803-02	10.2	
-04	8.5	
-05	10.9	
-07	3.7	
-08	4.8	

Wade T. DeLy
Analyst

9-8-10 / 10:00
Date/Time

DCN#84340



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

00105445

L10080803

09/15/10 08:10

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX
P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-C09(4-6)	L10080803-01	D2216-90	1	30-AUG-10
47SB-C11(4-6)	L10080803-02	D2216-90	1	30-AUG-10
47SB-E09(4-6)	L10080803-03	D2216-90	1	30-AUG-10
47SB-G05(4-6)	L10080803-04	D2216-90	1	30-AUG-10
47SB-G07(4-6)	L10080803-05	D2216-90	1	30-AUG-10
47SB-K05(4-6)	L10080803-07	D2216-90	1	30-AUG-10
47SB-K07(4-6)	L10080803-08	D2216-90	1	30-AUG-10
47SB-I05(4-6)	L10080803-09	D2216-90	1	30-AUG-10
47SB-I07(4-6)	L10080803-10	D2216-90	1	30-AUG-10



Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-01
Client ID: 47SB-C09(4-6)
Matrix: Soil
Workgroup Number: WG341594
Collect Date: 08/26/2010 07:50
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDH
Dilution: 1
Units: weight %

Instrument: BAL001
Prep Date: 09/02/2010 08:42
Cal Date:
Run Date: 09/02/2010 08:42
File ID: B1.341594-0113

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	94.7		1.00	1.00



Report Number:L10080803

Report Date :September 15, 2010

Sample Number:L10080803-02	PrePrep Method:NONE	Instrument:BAI001
Client ID:47SB-C11(4-6)	Prep Method:D2216-90	Prep Date:09/04/2010 12:21
Matrix:Soil	Analytical Method:D2216-90	Cal Date:
Workgroup Number:WG341936	Analyst:JDM	Run Date:09/04/2010 12:21
Collect Date:08/26/2010 08:30	Dilution:1	File ID:B1.341936-0101
Sample Tag:01	Units:weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	90.7		1.00	1.00



Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-03
Client ID: 47SB-E09 (4-6)
Matrix: Soil
Workgroup Number: WG341594
Collect Date: 08/26/2010 09:15
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDH
Dilution: 1
Units: weight %

Instrument: BAI001
Prep Date: 09/02/2010 08:42
Cal Date:
Run Date: 09/02/2010 08:42
File ID: B1.341594-0114

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	89.3		1.00	1.00



Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-04
Client ID: 47SB-G05(4-6)
Matrix: Soil
Workgroup Number: WG341936
Collect Date: 08/26/2010 12:35
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDH
Dilution: 1
Units: weight %

Instrument: BAL001
Prep Date: 09/04/2010 12:21
Cal Date:
Run Date: 09/04/2010 12:21
File ID: B1.341936-0102

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	86.9		1.00	1.00



Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-05
Client ID: 47SB-G07(4-6)
Matrix: Soil
Workgroup Number: WG341936
Collect Date: 08/26/2010 10:05
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDH
Dilution: 1
Units: weight %

Instrument: BAL001
Prep Date: 09/04/2010 12:21
Cal Date:
Run Date: 09/04/2010 12:21
File ID: B1.341936-0103

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	79.1		1.00	1.00



Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-07
Client ID: 47SB-K05(4-6)
Matrix: Soil
Workgroup Number: WG341936
Collect Date: 08/26/2010 15:15
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDH
Dilution: 1
Units: weight %

Instrument: BAL001
Prep Date: 09/04/2010 12:21
Cal Date:
Run Date: 09/04/2010 12:21
File ID: B1.341936-0104

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	85.0		1.00	1.00



Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-08	PrePrep Method: NONE	Instrument: BAL001
Client ID: 47SB-K07 (4-6)	Prep Method: D2216-90	Prep Date: 09/04/2010 12:21
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG341936	Analyst: JDH	Run Date: 09/04/2010 12:21
Collect Date: 08/26/2010 15:50	Dilution: 1	File ID: B1.341936-0105
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	87.1		1.00	1.00



Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-09
Client ID: 47SB-I05(4-6)
Matrix: Soil
Workgroup Number: WG341594
Collect Date: 08/26/2010 15:20
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDN
Dilution: 1
Units: weight %

Instrument: BAL001
Prep Date: 09/02/2010 08:42
Cal Date:
Run Date: 09/02/2010 08:42
File ID: B1.341594-0115

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	90.4		1.00	1.00



Report Number: L10080803

Report Date : September 15, 2010

Sample Number: L10080803-10
Client ID: 47SB-I07(4-6)
Matrix: Soil
Workgroup Number: WG341594
Collect Date: 08/26/2010 11:00
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDH
Dilution: 1
Units: weight %

Instrument: BAL001
Prep Date: 09/02/2010 08:42
Cal Date:
Run Date: 09/02/2010 08:42
File ID: B1.341594-0116

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	84.8		1.00	1.00



Validation Qualifier Data Entry Verification

Longhorn Army Ammunition Pla

Run Date: September 21, 2010

Page: 1 of 1

Sample Number:	Analytical/Extraction Method:	Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use	BCF	Val	Val	Reason Codes				Lab Sample:	Analysis Time:
									Qlfr	Code:	1	2	3	4		
LHSMW60- 100830	SW6850	NONE	N 0 10000	PERCHLORATE	56600	ug/L			Y	Y					L10080844-01	16:49

OK
092160

[Signature]

210080844

00105456



Shaw® Shaw Environmental & Infrastructure, Inc.
3010 Briarpark Drive, Suite 400
Houston, TX 77042
(713) 996-4400

Chain of Custody

NO. 6015

Laboratory Name: Environmental Waste Solutions C/O MicroBac		Address: 158 StarLife Dr. Marietta, OH 45750		Contact: Stephanie Mossburg													
Project Name: LHAAP		Project Location: KARNACK, TX.		Analysis and Method Desired (Indicate separate containers)													
Project No.: 117591.0009A139		Project Contact: Jen Hoang		Project Telephone No.: 281-531-3108													
Point of Contact: Scott Beesinger		Project Manager/Supervisor: PRAVEEN SRIVASTAVA		Number of Containers: 1													
Telephone: 903-679-3448				PERCHLORATE method 6850													
Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location										
1	LH5mw60-100830	8/30/10	13:30		✓	W	Site 47	1	1								
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
Transfers Relinquished By (signature): Scott Beesinger		Date/Time: 8/30/10 3:00		Transfers Accepted By (signature):		Date/Time:		Special Instructions: 48 HR. TAT									
								FedEx Airbill No.:									
								Sampler's Signature: Scott Beesinger									
								Condition: ☐ Y ☐ N ☐ Cold									



Microbac OVD

221000008582

Received: 08/31/2010 10:19
By: JANE THOMPSON

Jane Thompson

TAT: ☐ Standard ☐ Rush Date



COOLER INSPECTION



Received: 08/31/2010 10:19
Delivery Method: UPS
Opened By: Jane Thompson
Comments:

Login(s): L10080844|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0015043	H	3.0	1Z66V7250198185362	6015	

- 1 Yes Were shipping coolers sealed?
- 2 Yes Were custody seals intact?
- 3 Yes Were cooler temperatures in range of 0-6?
- 4 Yes Was ice present?
- 5 Yes Were COC's received/information complete/signed and dated?
- 6 Yes Were sample containers and labels intact and match COC?
- 7 Yes Were the correct containers and volumes received?
- 8 Yes Were samples received within EPA hold times?
- 9 Yes Were correct preservatives used? (water only)
- 10 NA Were pH ranges acceptable? (voa's excluded)
- 11 NA Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080844

Account: 2773

Project: 2773.025

Samples: 1

Due Date: 02-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080844-01	733177	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	31-AUG-2010 11:37	JKT	
2	ANALYZ	W1	SEM	31-AUG-2010 11:43	WTD	JKT
3	STORE	SEM	A1	01-SEP-2010 13:16	JKT	WTD

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



NELAP Addendum - May 28, 2010**Non-NELAP LIMS Product and Description**

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄)
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Perchlorate (6850 – LCMS)
 Hexamethylphosphoramide (XMPA-LCMS)
 Thiodiglycol (TDG-LCMS)
 1,4-Dioxane – 8270C (827-DIOXANE)
 Phosphorus – 6010B
 Zirconium – 6010B

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER****OVL HPLC02/HPLC-UV**

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 2, 3, 4, 6-Tetrachlorophenol
 2-Chloronaphthalene
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene

Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnell
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropyl ether
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene

Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnal
Simazine
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropylether
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

2.1.1 LC/MS Data (6850)

2.1.1.1 Summary Data

LABORATORY REPORT

00105464

L10080844

09/15/10 08:10

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
LHSMW60-100830	L10080844-01	6850	100000	31-AUG-10

Report Number: L10080844

Report Date : September 15, 2010

Sample Number: L10080844-01
Client ID: LHSMW60-100830
Matrix: Water
Workgroup Number: WG341394
Collect Date: 08/30/2010 13:30
Sample Tag: DL01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 100000
Units: ug/L

Instrument: LCMS1
Prep Date: 09/03/2010 15:24
Cal Date: 08/26/2010 21:10
Run Date: 09/03/2010 16:49
File ID: 11M.LM05254

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	56600		20000	10000

W
09/20/10

2.1.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080844 Work Group: WG341394
Blank File ID: 1LM.LM05247 Blank Sample ID: WG341394-02
Prep Date: 09/03/10 15:24 Instrument ID: LCMS1
Analyzed Date: 09/03/10 13:44 Method: 6850
Analyst: WTD

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG341394-05	1LM.LM05245	09/03/10 12:46	01
MCT	WG341394-01	1LM.LM05246	09/03/10 13:17	01
LCS	WG341394-03	1LM.LM05248	09/03/10 14:10	01
LCS2	WG341394-04	1LM.LM05249	09/03/10 14:36	01
LHSMW60-100830	L10080844-01	1LM.LM05254	09/03/10 16:49	DL01
QCMRL	WG341394-06	1LM.LM05256	09/03/10 17:41	01
QCMRL	WG341394-07	1LM.LM05337	09/05/10 05:23	01
QCMRL	WG341394-08	1LM.LM05343	09/05/10 08:02	01

Report Name: BLANK_SUMMARY
PDF File ID: 1773896
Report generated 09/09/2010 11:41

Microbac

METHOD BLANK REPORT

Login Number: L10080844 Prep Date: 09/03/10 15:24 Sample ID: WG341394-02
Instrument ID: LCMS1 Run Date: 09/03/10 13:44 Prep Method: 6850
File ID: 1LM.LM05247 Analyst: WTD Method: 6850
Workgroup (AAB#): WG341394 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: LCMS1-26-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.100	0.200	0.100	1	U

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1773897

09-SEP-2010 11:41



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105469

Login Number: L10080844 Analyst: WTD Prep Method: 6850
Instrument ID: LCMS1 Matrix: Water Method: 6850
Workgroup (AAB#): WG341394 Units: ug/L
QC Key: STD Lot #: STD40906

Sample ID: WG341394-03 LCS File ID: 1LM.LM05248 Run Date: 09/03/2010 14:10
Sample ID: WG341394-04 LCS2 File ID: 1LM.LM05249 Run Date: 09/03/2010 14:36

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	0.200	0.234	117	0.200	0.213	107	9.40	80 - 120	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1773898
Report generated: 09/09/2010 11:41



Validation Qualifier Data Entry Verification

Longhorn Army Ammunition Pl

Run Date: September 23, 2010

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Sample Number:	Analytical/Extraction Method:	Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes 1 2 3 4	Lab Sample:	Analysis Time:
LHSMW60-100830	E300	NONE	N 0 2	CHLORIDE	122	mg/L	E	Y N	R		L10080846-01	16:03
				FLUORIDE	0.280	mg/L	J	Y Y	J		L10080846-01	16:03
				NITRATE	0.570	mg/L	J	Y Y	J		L10080846-01	16:03
				NITRITE	0.200	mg/L	U	N Y	U		L10080846-01	16:03
				SULFATE	257	mg/L		Y Y			L10080846-01	16:03
	E300	NONE	N 1 5	CHLORIDE	128	mg/L		Y Y			L10080846-01	16:59
				FLUORIDE	0.500	mg/L	U	N N	R		L10080846-01	16:59
				NITRATE	0.595	mg/L	J	Y N	R		L10080846-01	16:59
				NITRITE	0.500	mg/L	U	N N	R		L10080846-01	16:59
				SULFATE	254	mg/L		Y N	R		L10080846-01	16:59
	E310.2	NONE	N 0 1	ALKALINITY, TOTAL (AS CaCO3)	109	mg/L		Y Y			L10080846-01	10:47
	E353.2	NONE	N 0 1	NITRATE-NITRITE (AS N)	0.567	mg/L		Y Y			L10080846-01	12:52
	E415.1	NONE	N 0 2	TOTAL ORGANIC CARBON	5.85	mg/L		Y Y			L10080846-01	18:07
	RSK175	SW5021	N 0 1	ETHANE	1.00	ug/L	U	N Y	U		L10080846-01	10:43
				ETHENE	1.00	ug/L	U	N Y	U		L10080846-01	10:43
				METHANE	1.00	ug/L	U	N Y	U		L10080846-01	10:43
	SW6010B	TOTREC	N 0 2	SODIUM, TOTAL	213	mg/L		Y Y			L10080846-01	11:40
	SW6010B	TOTREC	N 1 1	ALUMINUM, TOTAL	0.0634	mg/L	J	Y Y	J		L10080846-01	16:01
				BERYLLIUM, TOTAL	0.000500	mg/L	U	N Y	U		L10080846-01	16:01
				CALCIUM, TOTAL	26.2	mg/L		Y Y			L10080846-01	16:01
				COBALT, TOTAL	0.00250	mg/L	U	N Y	U		L10080846-01	16:01
				IRON, TOTAL	0.144	mg/L		Y Y			L10080846-01	16:01
				MAGNESIUM, TOTAL	16.7	mg/L		Y Y			L10080846-01	16:01
				POTASSIUM, TOTAL	0.856	mg/L	J	Y Y	J		L10080846-01	16:01
				VANADIUM, TOTAL	0.00500	mg/L	U	N Y	U		L10080846-01	16:01
				ZINC, TOTAL	0.00500	mg/L	U	N Y	U		L10080846-01	16:01
	SW6020	SW3015	N 0 5	ANTIMONY, TOTAL	0.00162	mg/L	J	Y Y	J		L10080846-01	10:39
				ARSENIC, TOTAL	0.00125	mg/L	U	N Y	U		L10080846-01	10:39
				BARIUM, TOTAL	0.0184	mg/L		Y Y			L10080846-01	10:39
				CADMIUM, TOTAL	0.000625	mg/L	U	N Y	U		L10080846-01	10:39
				CHROMIUM, TOTAL	0.00597	mg/L	J	Y Y	J		L10080846-01	10:39
				COPPER, TOTAL	0.00250	mg/L	U	N Y	U		L10080846-01	10:39
				LEAD, TOTAL	0.00125	mg/L	U	N Y	U		L10080846-01	10:39
				MANGANESE, TOTAL	0.00579	mg/L	J	Y Y	J		L10080846-01	10:39
				NICKEL, TOTAL	0.0371	mg/L		Y Y			L10080846-01	10:39
				SELENIUM, TOTAL	0.00296	mg/L	J	Y Y	J		L10080846-01	10:39
				SILVER, TOTAL	0.00125	mg/L	U	N Y	U		L10080846-01	10:39
				THALLIUM, TOTAL	0.000250	mg/L	U	N Y	U		L10080846-01	10:39
SW6850	NONE	N 0 10000		PERCHLORATE	56600	ug/L		Y Y			L10080844-01	16:49
SW7470A	METHOD	N 0 1		MERCURY	0.000100	mg/L	U	N Y	U		L10080846-01	13:08
SW8260B	SW5030	N 0 1		1,1,1,2-TETRACHLOROETHANE	0.250	ug/L	U	N Y	U		L10080846-01	19:36
				1,1,1-TRICHLOROETHANE	0.250	ug/L	U	N Y	U		L10080846-01	19:36

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Validation Qualifier Data Entry Verification

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Run Date: September 23, 2010

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
											1	2	3	4		
LHSMW60-100830	SW8260B	SW5030	N 0 1	1,1,2,2-TETRACHLOROETHANE	0.200	ug/L	U	N Y	U						L10080846-01	19:36
				1,1,2-TRICHLOROETHANE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				1,1-DICHLOROETHANE	0.125	ug/L	U	N Y	U						L10080846-01	19:36
				1,1-DICHLOROETHENE	0.500	ug/L	U	N Y	U						L10080846-01	19:36
				1,1-DICHLOROPROPENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				1,2,3-TRICHLOROBENZENE	0.150	ug/L	U	N Y	U						L10080846-01	19:36
				1,2,3-TRICHLOROPROPANE	0.500	ug/L	U	N Y	U						L10080846-01	19:36
				1,2,4-TRICHLOROBENZENE	0.200	ug/L	U	N Y	U						L10080846-01	19:36
				1,2,4-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				1,2-DIBROMO-3-CHLOROPROPANE	1.00	ug/L	U	N Y	U						L10080846-01	19:36
				1,2-DIBROMOETHANE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				1,2-DICHLOROBENZENE	0.125	ug/L	U	N Y	U						L10080846-01	19:36
				1,2-DICHLOROETHANE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				1,2-DICHLOROPROPANE	0.200	ug/L	U	N Y	U						L10080846-01	19:36
				1,3,5-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				1,3-DICHLOROBENZENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				1,3-DICHLOROPROPANE	0.200	ug/L	U	N Y	U						L10080846-01	19:36
				1,4-DICHLOROBENZENE	0.125	ug/L	U	N Y	U						L10080846-01	19:36
				2,2-DICHLOROPROPANE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				2-BUTANONE	2.50	ug/L	U	N Y	U						L10080846-01	19:36
				2-CHLOROETHYL VINYL ETHER	2.00	ug/L	U	N Y	U						L10080846-01	19:36
				2-CHLOROTOLUENE	0.125	ug/L	U	N Y	U						L10080846-01	19:36
				2-HEXANONE	2.50	ug/L	U	N Y	U						L10080846-01	19:36
				4-CHLOROTOLUENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				4-METHYL-2-PENTANONE	2.50	ug/L	U	N Y	U						L10080846-01	19:36
				ACETONE	2.50	ug/L	U	N Y	U						L10080846-01	19:36
				BENZENE	0.125	ug/L	U	N Y	U						L10080846-01	19:36
				BROMOBENZENE	0.125	ug/L	U	N Y	U						L10080846-01	19:36
				BROMOCHLOROMETHANE	0.200	ug/L	U	N Y	U						L10080846-01	19:36
				BROMODICHLOROMETHANE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				BROMOFORM	0.500	ug/L	U	N Y	U						L10080846-01	19:36
				BROMOMETHANE	0.500	ug/L	U	N Y	U						L10080846-01	19:36
				CARBON DISULFIDE	0.500	ug/L	U	N Y	U						L10080846-01	19:36
				CARBON TETRACHLORIDE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				CHLOROBENZENE	0.125	ug/L	U	N Y	U						L10080846-01	19:36
				CHLORODIBROMOMETHANE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				CHLOROETHANE	0.500	ug/L	U	N Y	U						L10080846-01	19:36
				CHLOROFORM	0.125	ug/L	U	N Y	U						L10080846-01	19:36
				CHLOROMETHANE	0.500	ug/L	U	N Y	U						L10080846-01	19:36
				CIS-1,2-DICHLOROETHENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				CIS-1,3-DICHLOROPROPENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				DIBROMOMETHANE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				DICHLORODIFLUOROMETHANE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				ETHYLBENZENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
											1	2	3	4		
LHSMW60-100830	SW8260B	SW5030	N 0 1	HEXACHLOROBUTADIENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				ISOPROPYLBENZENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				M-P-XYLENE	0.500	ug/L	U	N Y	U						L10080846-01	19:36
				METHYLENE CHLORIDE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				N-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				N-PROPYLBENZENE	0.125	ug/L	U	N Y	U						L10080846-01	19:36
				NAPHTHALENE	0.200	ug/L	U	N Y	U						L10080846-01	19:36
				O-XYLENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				P-ISOPROPYLTOLUENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				SEC-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				STYRENE	0.125	ug/L	U	N Y	U						L10080846-01	19:36
				TERT-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				TETRACHLOROETHENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				TOLUENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				TRANS-1,2-DICHLOROETHENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				TRANS-1,3-DICHLOROPROPENE	0.500	ug/L	U	N Y	U						L10080846-01	19:36
				TRICHLOROETHENE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
				TRICHLOROFLUOROMETHANE	0.664	ug/L	J	Y Y	J						L10080846-01	19:36
				VINYL ACETATE	2.50	ug/L	U	N Y	U						L10080846-01	19:36
				VINYL CHLORIDE	0.250	ug/L	U	N Y	U						L10080846-01	19:36
SW8270C	SW3510	N 0 1	1,2,4-TRICHLOROBENZENE	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			1,2-DICHLOROBENZENE	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			1,3-DICHLOROBENZENE	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			1,4-DICHLOROBENZENE	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			2,4,5-TRICHLOROPHENOL	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			2,4,6-TRICHLOROPHENOL	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			2,4-DICHLOROPHENOL	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			2,4-DIMETHYLPHENOL	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			2,4-DINITROPHENOL	12.5	ug/L	U	N Y	U							L10080846-01	15:54
			2,4-DINITROTOLUENE	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			2,6-DINITROTOLUENE	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			2-CHLORONAPHTHALENE	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			2-CHLOROPHENOL	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			2-METHYLNAPHTHALENE	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			2-METHYLPHENOL	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			2-NITROANILINE	12.5	ug/L	U	N Y	U							L10080846-01	15:54
			2-NITROPHENOL	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			3,3'-DICHLOROBENZIDINE	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			3,4-METHYLPHENOL	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			3-NITROANILINE	12.5	ug/L	U	N Y	U							L10080846-01	15:54
			4,6-DINITRO-2-METHYLPHENOL	12.5	ug/L	U	N Y	U							L10080846-01	15:54
			4-BROMOPHENYL-PHENYLETHER	2.50	ug/L	U	N Y	U							L10080846-01	15:54
			4-CHLORO-3-METHYLPHENOL	2.50	ug/L	U	N Y	U							L10080846-01	15:54

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
											1	2	3	4		
LHSMW60-100830	SW8270C	SW3510	N 0 1	4-CHLOROANILINE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				4-CHLOROPHENYL-PHENYL ETHER	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				4-NITROANILINE	12.5	ug/L	U	N Y	U						L10080846-01	15:54
				4-NITROPHENOL	12.5	ug/L	U	N Y	U						L10080846-01	15:54
				ACENAPHTHENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				ACENAPHTHYLENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				ANTHRACENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				BENZO(A)ANTHRACENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				BENZO(A)PYRENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				BENZO(B)FLUORANTHENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				BENZO(G,H,I)PERYLENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				BENZO(K)FLUORANTHENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				BENZOIC ACID	12.5	ug/L	U	N Y	U/L-L						L10080846-01	15:54
				BENZYL ALCOHOL	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				BIS(2-CHLOROETHOXY)METHANE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				BIS(2-CHLOROETHYL)ETHER	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				BIS(2-CHLOROISOPROPYL)ETHER	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				BIS(2-ETHYLHEXYL)PHTHALATE	3.00	ug/L	U	N Y	U						L10080846-01	15:54
				BUTYLBENZYLPHTHALATE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				CHRYSENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				DI-N-BUTYLPHTHALATE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				DI-N-OCTYLPHTHALATE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				DIBENZO(A,H)ANTHRACENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				DIBENZOFURAN	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				DIETHYLPHTHALATE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				DIMETHYLPHTHALATE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				FLUORANTHENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				FLUORENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				HEXACHLORO BENZENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				HEXACHLOROBUTADIENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				HEXACHLOROCYCLOPENTADIENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				HEXACHLOROETHANE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				INDENO(1,2,3-CD)PYRENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				ISOPHORONE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				N-NITROSODIPHENYLAMINE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				N-NITROSODIPROPYLAMINE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				NAPHTHALENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				NITROBENZENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				PENTACHLOROPHENOL	12.5	ug/L	U	N Y	U						L10080846-01	15:54
				PHENANTHRENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				PHENOL	2.50	ug/L	U	N Y	U						L10080846-01	15:54
				PYRENE	2.50	ug/L	U	N Y	U						L10080846-01	15:54

210080846

00105475



Shaw® Shaw Environmental & Infrastructure, Inc.
3010 Briarpark Drive, Suite 400
Houston, TX 77042
(713) 996-4400

Chain of Custody

(HNA)

NO. 6014

+ L10080844

Laboratory Name: Environmental Waste Solutions C/O MICROBAC		Address: 150 STARLITE DR. MARIETTA, GA. 45750		Contact: Stephanie Mossburg													
Project Name: LHAAP		Project Location: KARNACK, TX.		Analysis and Method Desired (Indicate separate containers)													
Project No.: 117591.0009A130.		Project Contact: JEN HOANG		Project Telephone No.: 281-531-3108													
Point of Contact: Scott Beesinger		Project Manager/Supervisor: PRAVEEN SRIVASTAV		Telephone No.: 903-679-3448													
Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	VOC	GASES	ANIONS (4042)	TOC	NO3/NO2	ALKALINITY	TAL METALS	SVOC	Remarks
1	LHSMWB0-100830	8/30/10	13:30		✓	W	SITE 47	10	2	3	1	1	1	1	1	1	
2	TRIP BLANK	8/30/10			✓	W	SITE 47	2	2								
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
Transfers Relinquished By (signature)		Date/Time		Transfers Accepted By (signature)		Date/Time		Special Instructions									
<i>Scott Beesinger</i>		8/30/10 3:00						48 HR TAT									
								FedEx Airbill No.:									
								Sampler's Signature <i>Scott Beesinger</i>									
								Condition ☐ Y ☐ N ☐ Cold									

Microbac OVD

221000008581

Received: 08/31/2010 10:19

By: JANE THOMPSON

TAT: ☐ Standard ☐ Rush DateCondition ☐ Y ☐ N ☐ Cold

Form Number: 433_2

Rev. 10-19-07



COOLER INSPECTION



Received: 08/31/2010 10:19
 Delivery Method: UPS
 Opened By: Jane Thompson
 Comments:

Login(s): L10080846]

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0015043	H	3.0	1266V7250198185362	6014	

- 1 Yes Were shipping coolers sealed?
- 2 Yes Were custody seals intact?
- 3 Yes Were cooler temperatures in range of 0-6?
- 4 Yes Was ice present?
- 5 Yes Were COC's received/information complete/signed and dated?
- 6 Yes Were sample containers and labels intact and match COC?
- 7 Yes Were the correct containers and volumes received?
- 8 Yes Were samples received within EPA hold times?
- 9 Yes Were correct preservatives used? (water only)
- 10 Yes Were pH ranges acceptable? (voa's excluded)
- 11 Yes Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
 158 Starlite Drive
 Marietta, OH 45750
 Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.**Internal Chain of Custody Report****Login:** L10080846**Account:** 2773**Project:** 2773.025**Samples:** 2**Due Date:** 02-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080846-01	733190	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	L1	31-AUG-2010 11:53	JKT	
2	ANALYZ	L1	ORG4	31-AUG-2010 12:02	TMB	JKT
3	STORE	ORG4	A1	13-SEP-2010 08:36	JKT	MRT

Comments: Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	L1	31-AUG-2010 11:53	JKT	
2	ANALYZ	L1	ORG4	31-AUG-2010 12:02	TMB	JKT
3	STORE	ORG4	A1	13-SEP-2010 08:36	JKT	MRT

Comments: Products cancelled.

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080846-01	733191	RSK175

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	L1	31-AUG-2010 11:53	JKT	
2	ANALYZ	L1	ORG4	31-AUG-2010 12:02	TMB	JKT
3	STORE	ORG3	A1	08-SEP-2010 08:23	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	L1	31-AUG-2010 11:53	JKT	
2	ANALYZ	L1	ORG4	31-AUG-2010 12:02	TMB	JKT
3	STORE	ORG3	A1	08-SEP-2010 08:23	JKT	MRT

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	L1	31-AUG-2010 11:53	JKT	
2	ANALYZ	L1	ORG4	31-AUG-2010 12:02	TMB	JKT

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.**Internal Chain of Custody Report**

Login: L10080846

Account: 2773

Project: 2773.025

Samples: 2

Due Date: 02-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080846-01	733192	8270 826-LOW 300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	31-AUG-2010 11:53	JKT	
2	PREP	W1	EXT	31-AUG-2010 12:00	CEB	AZH
3	DISP	EXT	DISP	31-AUG-2010 17:11	RB	AZH
4	ANALYZ*	EXT	SEMI	01-SEP-2010 09:04	ADC	CEB

*Sample extract/digestate

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080846-01	733193	

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	L1	31-AUG-2010 11:53	JKT	
2	ANALYZ	L1	SEM	31-AUG-2010 13:47	JWR	JKT
3	STORE	SEM	A1	01-SEP-2010 10:27	JKT	JWR

Comments: Products cancelled.

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080846-01	733194	ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	31-AUG-2010 11:53	JKT	
2	ANALYZ	W1	WET	31-AUG-2010 12:07	HJR	JKT
3	STORE	WET	A1	03-SEP-2010 07:02	JKT	DIH

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10080846-01	733195	TOC NO3NO2

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	31-AUG-2010 11:53	JKT	
2	ANALYZ	W1	WET	31-AUG-2010 12:07	HJR	JKT
3	STORE	WET	A1	02-SEP-2010 07:28	JKT	DIH

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10080846

Account: 2773

Project: 2773.025

Samples: 2

Due Date: 02-SEP-2010

Samplenum	Container ID	Products
L10080846-01	733196	DIG-ICP HG ZN NA V K AL CA FE MG BE-AX CO-AX 7

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	31-AUG-2010 11:53	JKT	
2	PREP	W1	DIG	31-AUG-2010 12:23	REK	JKT
3	ANALYZ*	DIG	METALS	01-SEP-2010 08:35	JYH	REK
4	STORE	DIG	A1	01-SEP-2010 09:14	JKT	REK

*Sample extract/digestate

Samplenum	Container ID	Products
L10080846-02	733197	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	L1	31-AUG-2010 11:53	JKT	
2	ANALYZ	L1	ORG4	31-AUG-2010 12:02	TMB	JKT
3	STORE	ORG4	A1	13-SEP-2010 08:36	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	L1	31-AUG-2010 11:53	JKT	
2	ANALYZ	L1	ORG4	31-AUG-2010 12:02	TMB	JKT
3	STORE	ORG4	A1	13-SEP-2010 08:36	JKT	MRT

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



NELAP Addendum - May 28, 2010**Non-NELAP LIMS Product and Description**

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄)
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Perchlorate (6850 – LCMS)
 Hexamethylphosphoramide (XMPA-LCMS)
 Thiodiglycol (TDG-LCMS)
 1,4-Dioxane – 8270C (827-DIOXANE)
 Phosphorus – 6010B
 Zirconium - 6010B

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER**

OVL HPLC02/HPLC-UV

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 2, 3, 4, 6-Tetrachlorophenol
 2-Chloronaphthalene
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene

Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnei
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropyl ether
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene

Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnol
Simazine
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropylether
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

LABORATORY REPORT

L10080846

09/15/10 09:59

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
LHSMW60-100830	L10080846-01	8260B	1	31-AUG-10
TRIP BLANK	L10080846-02	8260B	1	31-AUG-10



Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-01
 Client ID: LHSMW60-100830
 Matrix: Water
 Workgroup Number: WG3411343
 Collect Date: 08/30/2010 13:30
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: TMB
 Dilution: 1
 Units: ug/L

Instrument: HPMS10
 Prep Date: 08/31/2010 19:36
 Cal Date: 08/19/2010 17:19
 Run Date: 08/31/2010 19:36
 File ID: 10M81674

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4	0.664	J	1.00	0.250

1 of 4



Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-01

Client ID: LBSMW60-100830

Matrix: Water

Workgroup Number: WG341343

Collect Date: 08/30/2010 13:30

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 5030B/5030C/5035

Analytical Method: 8260B

Analyst: TMB

Dilution: 1

Units: ug/L

Instrument: HPMS10

Prep Date: 08/31/2010 19:36

Cal Date: 08/19/2010 17:19

Run Date: 08/31/2010 19:36

File ID: 10M81674

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	93.5	86	118		
1,2-Dichloroethane-d4	85.2	80	120		
Toluene-d8	96.4	88	110		
4-Bromofluorobenzene	94.6	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-02

Client ID: TRIP BLANK

Matrix: Water

Workgroup Number: WG341343

Collect Date: 08/30/2010 00:01

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 5030B/5030C/5035

Analytical Method: 8260B

Analyst: TMB

Dilution: 1

Units: ug/L

Instrument: HPMS10

Prep Date: 08/31/2010 14:51

Cal Date: 08/19/2010 17:19

Run Date: 08/31/2010 14:51

File ID: 10M81665

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

3 of 4



Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-02

Client ID: TRIP BLANK

Matrix: Water

Workgroup Number: WG341343

Collect Date: 08/30/2010 00:01

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 5030B/5030C/5035

Analytical Method: 8260B

Analyst: TMB

Dilution: 1

Units: ug/L

Instrument: HPMS10

Prep Date: 08/31/2010 14:51

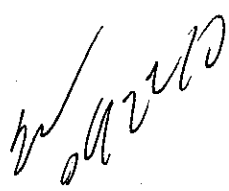
Cal Date: 08/19/2010 17:19

Run Date: 08/31/2010 14:51

File ID: 10M81665

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	93.5	86	118		
1,2-Dichloroethane-d4	86.3	80	120		
Toluene-d8	98.3	88	110		
4-Bromofluorobenzene	92.8	86	115		

U Not detected at or above adjusted sample detection limit



2.1.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080846 Work Group: WG341343
Blank File ID: 10M81657 Blank Sample ID: WG341343-01
Prep Date: 08/31/10 10:37 Instrument ID: HPMS10
Analyzed Date: 08/31/10 10:37 Method: 8260B
Analyst: TMB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341343-02	10M81658	08/31/10 11:09	01
LCS2	WG341343-03	10M81659	08/31/10 11:40	01
TRIP BLANK	L10080846-02	10M81665	08/31/10 14:51	01
LHSMW60-100830	L10080846-01	10M81674	08/31/10 19:36	01

Report Name: BLANK_SUMMARY
PDF File ID: 1769830
Report generated 09/02/2010 10:39



Microbac Laboratories Inc.
METHOD BLANK REPORT

00105492

Login Number: L10080846 Prep Date: 08/31/10 10:37 Sample ID: WG341343-01
Instrument ID: HPMS10 Run Date: 08/31/10 10:37 Prep Method: 5030B/5030C/503
File ID: 10M81657 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG341343 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS10-19-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U

Report Name: BLANK
PDF ID: 1769831
02-SEP-2010 10:39



METHOD BLANK REPORT

Login Number: L10080846 Prep Date: 08/31/10 10:37 Sample ID: WG341343-01
 Instrument ID: HPMS10 Run Date: 08/31/10 10:37 Prep Method: 5030B/5030C/503
 File ID: 10MS1657 Analyst: TMB Method: 8260B
 Workgroup (AAB#): WG341343 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS10-19-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	94.8	86 - 118	PASS
1,2-Dichloroethane-d4	85.2	80 - 120	PASS
Toluene-d8	97.2	88 - 110	PASS
4-Bromofluorobenzene	93.6	86 - 115	PASS

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1769831

02-SEP-2010 10:39



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105494

Login Number: L10080846 Analyst: TMB Prep Method: 5030B/5030C/503
Instrument ID: HPMS10 Matrix: Water Method: 8260B
Workgroup (AAB#): WG341343 Units: ug/L
QC Key: STD Lot #: STD40901

Sample ID: WG341343-02 LCS File ID: 10M81658 Run Date: 08/31/2010 11:09
Sample ID: WG341343-03 LCS2 File ID: 10M81659 Run Date: 08/31/2010 11:40

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Acetone	20.0	19.6	98.0	20.0	19.2	96.0	2.06	40 - 180	20	
Benzene	20.0	19.7	98.6	20.0	18.3	91.6	7.31	80 - 121	20	
Bromobenzene	20.0	20.4	102	20.0	19.5	97.3	4.62	80 - 120	20	
Bromochloromethane	20.0	21.3	106	20.0	20.0	100	6.05	65 - 130	20	
Bromodichloromethane	20.0	21.8	109	20.0	21.0	105	3.67	80 - 131	20	
Bromoform	20.0	20.6	103	20.0	20.5	103	0.255	70 - 130	20	
Bromomethane	20.0	19.3	96.6	20.0	18.0	89.9	7.18	30 - 145	20	
2-Butanone	20.0	16.5	82.7	20.0	16.9	84.5	2.09	10 - 170	20	
n-Butylbenzene	20.0	19.8	99.2	20.0	18.3	91.4	8.19	80 - 131	20	
sec-Butylbenzene	20.0	20.3	101	20.0	18.5	92.5	9.26	80 - 127	20	
tert-Butylbenzene	20.0	20.6	103	20.0	18.7	93.7	9.53	80 - 126	20	
Carbon disulfide	20.0	20.6	103	20.0	18.6	93.2	9.97	58 - 128	20	
Carbon tetrachloride	20.0	22.3	111	20.0	19.9	99.3	11.5	65 - 140	20	
Chlorobenzene	20.0	19.8	99.0	20.0	18.8	94.2	4.88	80 - 120	20	
Chlorodibromomethane	20.0	21.3	107	20.0	20.5	103	3.89	60 - 135	20	
Chloroethane	20.0	20.9	105	20.0	19.4	96.8	7.82	60 - 135	20	
2-Chloroethyl vinyl ether	20.0	18.1	90.3	20.0	17.6	87.9	2.71	45 - 160	20	
Chloroform	20.0	20.0	100	20.0	18.9	94.6	5.60	80 - 125	20	
Chloromethane	20.0	16.0	80.0	20.0	14.5	72.3	10.1	40 - 125	20	
2-Chlorotoluene	20.0	19.8	99.0	20.0	18.6	93.1	6.13	80 - 127	20	
4-Chlorotoluene	20.0	19.6	97.9	20.0	18.2	91.0	7.35	80 - 126	20	
1,2-Dibromo-3-chloropropane	20.0	18.0	89.8	20.0	18.1	90.3	0.453	50 - 130	20	
1,2-Dibromoethane	20.0	19.1	95.3	20.0	18.7	93.6	1.77	80 - 129	20	
Dibromomethane	20.0	20.5	103	20.0	20.0	100	2.64	75 - 125	20	
1,2-Dichlorobenzene	20.0	20.4	102	20.0	19.2	96.2	6.00	80 - 125	20	
1,3-Dichlorobenzene	20.0	20.4	102	20.0	19.0	94.9	7.20	80 - 120	20	
1,4-Dichlorobenzene	20.0	19.6	98.2	20.0	18.5	92.3	6.18	80 - 120	20	
Dichlorodifluoromethane	20.0	22.8	114	20.0	19.4	96.9	16.0	40 - 160	20	
1,1-Dichloroethane	20.0	20.8	104	20.0	19.6	98.1	5.65	80 - 125	20	
1,2-Dichloroethane	20.0	19.9	99.5	20.0	19.0	95.1	4.58	80 - 129	20	
1,1-Dichloroethene	20.0	20.3	102	20.0	18.1	90.5	11.7	80 - 132	20	
cis-1,2-Dichloroethene	20.0	20.5	102	20.0	19.3	96.7	5.82	70 - 125	20	
trans-1,2-Dichloroethene	20.0	19.9	99.4	20.0	18.9	94.6	4.93	80 - 127	20	
1,2-Dichloropropane	20.0	20.3	101	20.0	19.5	97.4	3.92	80 - 120	20	
1,3-Dichloropropane	20.0	18.8	93.9	20.0	18.8	93.9	0.00	80 - 120	20	
2,2-Dichloropropane	20.0	21.4	107	20.0	20.7	103	3.25	80 - 133	20	
cis-1,3-Dichloropropene	20.0	20.3	101	20.0	19.3	96.5	4.87	70 - 130	20	
trans-1,3-Dichloropropene	20.0	18.1	90.5	20.0	17.6	88.0	2.85	80 - 130	20	
1,1-Dichloropropene	20.0	20.0	100	20.0	17.9	89.7	11.0	75 - 130	20	
Ethylbenzene	20.0	20.1	100	20.0	18.5	92.4	8.37	80 - 122	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1768728
Report generated: 09/02/2010 10:39



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10080846 Analyst: TMB Prep Method: 5030B/5030C/503
Instrument ID: HPMS10 Matrix: Water Method: 8260B
Workgroup (AAB#): WG341343 Units: ug/L
QC Key: STD Lot #: STD40901

Sample ID: WG341343-02 LCS File ID: 10M81658 Run Date: 08/31/2010 11:09

Sample ID: WG341343-03 LCS2 File ID: 10M81659 Run Date: 08/31/2010 11:40

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
2-Hexanone	20.0	15.5	77.5	20.0	15.2	75.8	2.23	55 - 130	20	
Hexachlorobutadiene	20.0	18.8	94.2	20.0	17.5	87.6	7.28	72 - 132	20	
Isopropylbenzene	20.0	18.3	91.3	20.0	16.9	84.7	7.44	80 - 122	20	
p-Isopropyltoluene	20.0	20.0	99.9	20.0	18.6	92.9	7.25	80 - 122	20	
4-Methyl-2-pentanone	20.0	18.0	90.0	20.0	17.5	87.4	2.93	64 - 140	20	
Methylene chloride	20.0	19.1	95.3	20.0	18.1	90.7	4.99	80 - 123	20	
Naphthalene	20.0	17.3	86.6	20.0	17.2	85.9	0.781	59 - 149	20	
n-Propylbenzene	20.0	20.0	100	20.0	18.4	92.2	8.18	80 - 129	20	
Styrene	20.0	21.0	105	20.0	20.1	101	4.26	80 - 123	20	
1,1,1,2-Tetrachloroethane	20.0	20.4	102	20.0	19.3	96.3	5.69	80 - 130	20	
1,1,2,2-Tetrachloroethane	20.0	19.0	94.9	20.0	18.8	93.8	1.18	79 - 125	20	
Tetrachloroethane	20.0	21.6	108	20.0	19.5	97.7	9.80	80 - 124	20	
Toluene	20.0	19.6	98.2	20.0	18.3	91.5	7.09	80 - 124	20	
1,2,3-Trichlorobenzene	20.0	17.3	86.5	20.0	17.3	86.4	0.155	55 - 140	20	
1,2,4-Trichlorobenzene	20.0	19.0	95.0	20.0	18.4	92.2	3.00	65 - 135	20	
1,1,1-Trichloroethane	20.0	21.5	108	20.0	19.6	98.1	9.27	80 - 134	20	
1,1,2-Trichloroethane	20.0	20.3	101	20.0	20.0	100	1.34	80 - 125	20	
Trichloroethene	20.0	20.6	103	20.0	19.1	95.7	7.48	80 - 122	20	
Trichlorofluoromethane	20.0	21.8	109	20.0	19.4	97.0	11.8	62 - 151	20	
1,2,3-Trichloropropane	20.0	19.6	98.1	20.0	19.3	96.6	1.51	75 - 125	20	
1,2,4-Trimethylbenzene	20.0	20.5	102	20.0	18.8	94.0	8.39	80 - 125	20	
1,3,5-Trimethylbenzene	20.0	20.6	103	20.0	19.0	94.9	8.26	80 - 127	20	
Vinyl acetate	20.0	14.9	74.3	20.0	14.1	70.6	5.07	10 - 190	20	
Vinyl chloride	20.0	19.7	98.5	20.0	17.5	87.6	11.7	50 - 170	20	
o-Xylene	20.0	20.6	103	20.0	19.1	95.5	7.33	80 - 122	20	
m-,p-Xylene	40.0	40.2	101	40.0	37.1	92.8	8.05	80 - 122	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	88.1	86.8	80 - 120	PASS
Dibromofluoromethane	97.4	97.8	86 - 118	PASS
4-Bromofluorobenzene	93.8	93.8	86 - 115	PASS
Toluene-d8	96.5	96.4	88 - 110	PASS

* EXCEEDS %REC LIMIT

EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1768728
Report generated: 09/02/2010 10:39



2.1.2 RSK 175

2.1.2.1 Summary Data

LABORATORY REPORT

00105498

L10080846

09/15/10 09:59

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
LHSMW60-100830	L10080846-01	RSK175	1	31-AUG-10



Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-01
Client ID: LHSMW60-100830
Matrix: Water
Workgroup Number: WG341529
Collect Date: 08/30/2010 13:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5021
Analytical Method: RSK175
Analyst: FJB
Dilution: 1
Units: ug/L

Instrument: HP16
Prep Date: 09/01/2010 10:43
Cal Date: 05/25/2010 12:59
Run Date: 09/01/2010 10:43
File ID: 16G23058

Analyte	CAS. Number	Result	Qual	PQL	SDL
methane	74-82-8	U	U	5.00	1.00
ethene	74-85-1	U	U	5.00	1.00
ethane	74-84-0	U	U	5.00	1.00

U Not detected at or above adjusted sample detection limit

2.1.2.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080846 Work Group: WG341529
Blank File ID: 16G23055 Blank Sample ID: WG341529-01
Prep Date: 09/01/10 10:07 Instrument ID: HP16
Analyzed Date: 09/01/10 10:07 Method: RSK175
Analyst: FJB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341529-02	16G23056	09/01/10 10:19	01
LCS2	WG341529-03	16G23057	09/01/10 10:31	01
LHSMW60-100830	L10080846-01	16G23058	09/01/10 10:43	01

Report Name: BLANK SUMMARY
PDF File ID: 1768811
Report generated 09/02/2010 09:53



Microbac Laboratories Inc.
METHOD BLANK REPORT

00105502

Login Number: L10080846 Prep Date: 09/01/10 10:07 Sample ID: WG341529-01
Instrument ID: HP16 Run Date: 09/01/10 10:07 Prep Method: 5021
File ID: 16G23055 Analyst: FJB Method: RSK175
Workgroup (AAB#): WG341529 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HP16-25-MAY-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
methane	1.00	5.00	1.00	1	U
ethene	1.00	5.00	1.00	1	U
ethane	1.00	5.00	1.00	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1768812
02-SEP-2010 09:53



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105503

Login Number: L10080846 Analyst: FJB Prep Method: 5021
Instrument ID: HP16 Matrix: Water Method: RSK175
Workgroup (AAB#): WG341529 Units: ug/L
QC Key: STD Lot #: STD38726

Sample ID: WG341529-02 LCS File ID: 16G23056 Run Date: 09/01/2010 10:19
Sample ID: WG341529-03 LCS2 File ID: 16G23057 Run Date: 09/01/2010 10:31

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
methane	114	111	97.2	114	112	97.9	0.707	56 - 140	40	
ethene	200	211	106	200	215	108	1.60	56 - 140	40	
ethane	214	221	103	214	223	104	0.737	56 - 137	40	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1768814
Report generated: 09/02/2010 09:53



2.2.1 Semivolatiles GC/MS Data (8270)

2.2.1.1 Summary Data

LABORATORY REPORT

00105506

L10080846

09/15/10 09:59

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
LHSMW60-100830	L10080846-01	8270C	1	31-AUG-10



Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-01

Client ID: LBSMW60-100830

Matrix: Water

Workgroup Number: WG341513

Collect Date: 08/30/2010 13:30

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 3510C

Analytical Method: 8270C

Analyst: CAA

Dilution: 1

Units: ug/L

Instrument: HPMS12

Prep Date: 08/31/2010 13:00

Cal Date: 08/09/2010 18:55

Run Date: 09/01/2010 15:54

File ID: 12M31592

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,4-Trichlorobenzene	120-82-1		U	5.00	2.50
1,2-Dichlorobenzene	95-50-1		U	5.00	2.50
1,3-Dichlorobenzene	541-73-1		U	5.00	2.50
1,4-Dichlorobenzene	106-46-7		U	5.00	2.50
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3,3'-Dichlorobenzidine	91-94-1		U	10.0	2.50
3,4-Methylphenol	106-44-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1		U	25.0	12.5
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloro-3-methylphenol	59-50-7		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.00	2.50
4-Nitroaniline	100-01-6		U	25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo(a)anthracene	56-55-3		U	5.00	2.50
Benzo(a)pyrene	50-32-8		U	5.00	2.50
Benzo(b)fluoranthene	205-99-2		U	5.00	2.50
Benzo(g,h,i)Perylene	191-24-2		U	5.00	2.50
Benzo(k)fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0	U5L-LC9	U	25.0	12.5
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.00	2.50
Bis(2-Chloroethyl) ether	111-44-4		U	5.00	2.50
bis(2-Chloroisopropyl) ether	108-60-1		U	5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7		U	10.0	3.00
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
N-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
N-Nitrosodipropylamine	621-64-7		U	5.00	2.50

1 of 2



Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-01

Client ID: LHSMW60-100830

Matrix: Water

Workgroup Number: WG341513

Collect Date: 08/30/2010 13:30

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 3510C

Analytical Method: 8270C

Analyst: CAA

Dilution: 1

Units: ug/L

Instrument: HPMS12

Prep Date: 08/31/2010 13:00

Cal Date: 08/09/2010 18:55

Run Date: 09/01/2010 15:54

File ID: 12M31592

Analyte	CAS. Number	Result	Qual	PQL	SDL
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	55.5	10	123		
2-Fluorobiphenyl	74.7	43	116		
2-Fluorophenol	39.5	21	100		
Nitrobenzene-d5	80.7	35	114		
p-Terphenyl-d14	37.8	33	141		
Phenol-d5	28.5	10	94		

U Not detected at or above adjusted sample detection limit

W. J. R. D.

2.2.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080846 Work Group: WG341513
Blank File ID: 12M31585 Blank Sample ID: WG341410-01
Prep Date: 08/31/10 13:00 Instrument ID: HPMS12
Analyzed Date: 09/01/10 11:53 Method: 8270C
Analyst: CAA

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341410-02	12M31586	09/01/10 12:28	01
LCS2	WG341410-03	12M31587	09/01/10 13:02	01
LHSMW60-100830	L10080846-01	12M31592	09/01/10 15:54	01

Report Name: BLANK SUMMARY
PDF File ID: 1771039
Report generated 09/02/2010 16:11



METHOD BLANK REPORT

Login Number: L10080846 Prep Date: 08/31/10 13:00 Sample ID: WG341410-01
 Instrument ID: HPMS12 Run Date: 09/01/10 11:53 Prep Method: 3510C
 File ID: 12M31585 Analyst: CAA Method: 8270C
 Workgroup (AAB#): WG341513 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS12-09-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
1,2,4-Trichlorobenzene	2.50	5.00	2.50	1	U
1,2-Dichlorobenzene	2.50	5.00	2.50	1	U
1,3-Dichlorobenzene	2.50	5.00	2.50	1	U
1,4-Dichlorobenzene	2.50	5.00	2.50	1	U
2,4,5-Trichlorophenol	2.50	5.00	2.50	1	U
2,4,6-Trichlorophenol	2.50	5.00	2.50	1	U
2,4-Dichlorophenol	2.50	5.00	2.50	1	U
2,4-Dimethylphenol	2.50	5.00	2.50	1	U
2,4-Dinitrophenol	12.5	25.0	12.5	1	U
2,4-Dinitrotoluene	2.50	5.00	2.50	1	U
2,6-Dinitrotoluene	2.50	5.00	2.50	1	U
2-Chloronaphthalene	2.50	5.00	2.50	1	U
2-Chlorophenol	2.50	5.00	2.50	1	U
2-Methylnaphthalene	2.50	5.00	2.50	1	U
2-Methylphenol	2.50	5.00	2.50	1	U
2-Nitroaniline	12.5	25.0	12.5	1	U
2-Nitrophenol	2.50	5.00	2.50	1	U
3,3'-Dichlorobenzidine	2.50	10.0	2.50	1	U
3-,4-Methylphenol	2.50	5.00	2.50	1	U
3-Nitroaniline	12.5	25.0	12.5	1	U
4,6-Dinitro-2-methylphenol	12.5	25.0	12.5	1	U
4-Bromophenyl-phenylether	2.50	5.00	2.50	1	U
4-Chloro-3-methylphenol	2.50	5.00	2.50	1	U
4-Chloroaniline	2.50	5.00	2.50	1	U
4-Chlorophenyl-phenyl ether	2.50	5.00	2.50	1	U
4-Nitroaniline	12.5	25.0	12.5	1	U
4-Nitrophenol	12.5	25.0	12.5	1	U
Acenaphthene	2.50	5.00	2.50	1	U
Acenaphthylene	2.50	5.00	2.50	1	U
Anthracene	2.50	5.00	2.50	1	U
Benzo(a)anthracene	2.50	5.00	2.50	1	U
Benzo(a)pyrene	2.50	5.00	2.50	1	U
Benzo(b)fluoranthene	2.50	5.00	2.50	1	U
Benzo(g,h,i)Perylene	2.50	5.00	2.50	1	U
Benzo(k)fluoranthene	2.50	5.00	2.50	1	U
Benzoic acid	12.5	25.0	12.5	1	U
Benzyl alcohol	2.50	5.00	2.50	1	U
Bis(2-Chloroethoxy)Methane	2.50	5.00	2.50	1	U
Bis(2-Chloroethyl)ether	2.50	5.00	2.50	1	U
bis(2-Chloroisopropyl)ether	2.50	5.00	2.50	1	U
bis(2-Ethylhexyl)phthalate	3.00	10.0	3.00	1	U
Butylbenzylphthalate	2.50	5.00	2.50	1	U

Report Name: BLANK

PDF ID: 1771040

02-SEP-2010 16:11



METHOD BLANK REPORT

Login Number: L10080846 Prep Date: 08/31/10 13:00 Sample ID: WG341410-01
 Instrument ID: HPMS12 Run Date: 09/01/10 11:53 Prep Method: 3510C
 File ID: 12M31585 Analyst: CAA Method: 8270C
 Workgroup (AAB#): WG341513 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS12-09-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Chrysene	2.50	5.00	2.50	1	U
Di-N-Butylphthalate	2.50	5.00	2.50	1	U
Di-n-octylphthalate	2.50	5.00	2.50	1	U
Dibenzo(a,h)Anthracene	2.50	5.00	2.50	1	U
Dibenzofuran	2.50	5.00	2.50	1	U
Diethylphthalate	2.50	5.00	2.50	1	U
Dimethylphthalate	2.50	5.00	2.50	1	U
Fluoranthene	2.50	5.00	2.50	1	U
Fluorene	2.50	5.00	2.50	1	U
Hexachlorobenzene	2.50	5.00	2.50	1	U
Hexachlorobutadiene	2.50	5.00	2.50	1	U
Hexachlorocyclopentadiene	2.50	5.00	2.50	1	U
Hexachloroethane	2.50	5.00	2.50	1	U
Indeno(1,2,3-cd)pyrene	2.50	5.00	2.50	1	U
Isophorone	2.50	5.00	2.50	1	U
N-Nitrosodiphenylamine	2.50	5.00	2.50	1	U
N-Nitrosodipropylamine	2.50	5.00	2.50	1	U
Naphthalene	2.50	5.00	2.50	1	U
Nitrobenzene	2.50	5.00	2.50	1	U
Pentachlorophenol	12.5	25.0	12.5	1	U
Phenanthrene	2.50	5.00	2.50	1	U
Phenol	2.50	5.00	2.50	1	U
Pyrene	2.50	5.00	2.50	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,6-Tribromophenol	89.1	10 - 123	PASS
2-Fluorobiphenyl	84.5	43 - 116	PASS
2-Fluorophenol	51.5	21 - 100	PASS
Nitrobenzene-d5	85.4	35 - 114	PASS
p-Terphenyl-d14	105	33 - 141	PASS
Phenol-d5	30.2	10 - 94	PASS

SDL Method Detection Limit
 PQL Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1771040

02-SEP-2010 16:11



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105513

Login Number: L10080846 Analyst: CAA Prep Method: 3510C
Instrument ID: HPMS12 Matrix: Water Method: 8270C
Workgroup (AAB#): WG341513 Units: ug/L
QC Key: STD Lot #: STD40630

Sample ID: WG341410-02 LCS File ID: 12M31586 Run Date: 09/01/2010 12:28
Sample ID: WG341410-03 LCS2 File ID: 12M31587 Run Date: 09/01/2010 13:02

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,2,4-Trichlorobenzene	50.0	41.6	83.2	50.0	42.5	85.1	2.26	25 - 105	30	
1,2-Dichlorobenzene	50.0	43.8	87.7	50.0	45.4	90.8	3.54	25 - 110	30	
1,3-Dichlorobenzene	50.0	42.0	84.1	50.0	44.3	88.6	5.24	25 - 110	30	
1,4-Dichlorobenzene	50.0	42.5	85.0	50.0	44.3	88.6	4.15	25 - 110	30	
2,4,5-Trichlorophenol	50.0	46.9	93.9	50.0	47.9	95.9	2.07	35 - 120	30	
2,4,6-Trichlorophenol	50.0	45.2	90.3	50.0	46.7	93.4	3.32	30 - 120	30	
2,4-Dichlorophenol	50.0	46.0	92.0	50.0	46.9	93.9	2.06	20 - 110	30	
2,4-Dimethylphenol	50.0	48.2	96.4	50.0	49.2	98.3	1.94	20 - 120	30	
2,4-Dinitrophenol	50.0	30.6	61.2	50.0	30.2	60.4	1.39	20 - 140	30	
2,4-Dinitrotoluene	50.0	48.8	97.7	50.0	53.1	106	8.29	50 - 139	30	
2,6-Dinitrotoluene	50.0	47.4	94.7	50.0	50.5	101	6.44	50 - 120	30	
2-Chloronaphthalene	50.0	37.8	75.7	50.0	39.2	78.4	3.55	25 - 120	30	
2-Chlorophenol	50.0	42.6	85.2	50.0	43.9	87.8	2.92	25 - 110	30	
2-Methylnaphthalene	50.0	45.9	91.8	50.0	47.1	94.2	2.59	25 - 120	30	
2-Methylphenol	50.0	40.3	80.7	50.0	41.6	83.2	3.16	20 - 110	30	
2-Nitroaniline	50.0	48.4	96.7	50.0	51.5	103	6.33	45 - 115	30	
2-Nitrophenol	50.0	44.2	88.4	50.0	45.1	90.2	2.08	20 - 115	30	
3,3'-Dichlorobenzidine	50.0	51.4	103	50.0	56.5	113	9.46	30 - 140	30	
3-,4-Methylphenol	50.0	35.8	71.6	50.0	37.1	74.2	3.60	20 - 110	30	
3-Nitroaniline	50.0	46.6	93.2	50.0	50.6	101	8.21	40 - 120	30	
4,6-Dinitro-2-methylphenol	50.0	49.2	98.5	50.0	50.8	102	3.14	40 - 145	30	
4-Bromophenyl-phenylether	50.0	45.9	91.8	50.0	48.9	97.8	6.38	40 - 115	30	
4-Chloro-3-methylphenol	50.0	47.0	94.0	50.0	48.8	97.6	3.76	25 - 110	30	
4-Chloroaniline	50.0	42.4	84.8	50.0	44.0	87.9	3.62	25 - 120	30	
4-Chlorophenyl-phenyl ether	50.0	44.7	89.5	50.0	47.4	94.8	5.73	35 - 120	30	
4-Nitroaniline	50.0	48.7	97.4	50.0	52.6	105	7.71	53 - 135	30	
4-Nitrophenol	50.0	21.7	43.4	50.0	22.3	44.7	2.92	10 - 132	30	
Acenaphthene	50.0	44.6	89.2	50.0	45.8	91.5	2.60	30 - 120	30	
Acenaphthylene	50.0	45.4	90.9	50.0	47.7	95.5	4.93	30 - 120	30	
Anthracene	50.0	49.6	99.2	50.0	52.8	106	6.15	55 - 130	30	
Benzo(a)anthracene	50.0	50.9	102	50.0	53.4	107	4.87	60 - 130	30	
Benzo(a)pyrene	50.0	52.7	105	50.0	55.4	111	4.95	55 - 135	30	
Benzo(b)fluoranthene	50.0	45.4	90.7	50.0	47.4	94.8	4.35	45 - 125	30	
Benzo(g,h,i)Perylene	50.0	62.6	125	50.0	65.1	130	3.96	45 - 140	30	
Benzo(k)fluoranthene	50.0	54.8	110	50.0	57.2	114	4.35	55 - 140	30	
Benzoic acid	50.0	4.26	8.52	50.0	3.52	7.03	19.2	10 - 100	30	*
Benzyl alcohol	50.0	42.7	85.5	50.0	44.7	89.5	4.61	20 - 110	30	
Bis(2-Chloroethoxy)Methane	50.0	35.0	69.9	50.0	36.0	71.9	2.85	20 - 105	30	
Bis(2-Chloroethyl)ether	50.0	45.7	91.3	50.0	46.9	93.9	2.79	25 - 110	30	
bis(2-Chloroisopropyl)ether	50.0	44.9	89.9	50.0	46.6	93.2	3.64	20 - 110	30	

WTL-LCS

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1769746
Report generated: 09/02/2010 16:11



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10080846 Analyst: CAA Prep Method: 3510C
Instrument ID: HPMS12 Matrix: Water Method: 8270C
Workgroup (AAB#): WG341513 Units: ug/L
QC Key: STD Lot #: STD40630

Sample ID: WG341410-02 LCS File ID: 12M31586 Run Date: 09/01/2010 12:28

Sample ID: WG341410-03 LCS2 File ID: 12M31587 Run Date: 09/01/2010 13:02

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
bis(2-Ethylhexyl)phthalate	50.0	53.9	108	50.0	71.3	143	27.7	50 - 150	30	
Butylbenzylphthalate	50.0	53.8	108	50.0	56.5	113	5.02	55 - 150	30	
Chrysene	50.0	50.9	102	50.0	53.9	108	5.83	55 - 130	30	
Di-N-Butylphthalate	50.0	52.7	105	50.0	55.1	110	4.40	55 - 118	30	
Di-n-octylphthalate	50.0	55.8	112	50.0	58.0	116	3.83	40 - 146	30	
Dibenzo(a,h)Anthracene	50.0	58.8	118	50.0	62.4	125	5.91	45 - 125	30	
Dibenzofuran	50.0	45.7	91.3	50.0	48.3	96.5	5.56	35 - 115	30	
Diethylphthalate	50.0	49.7	99.3	50.0	52.6	105	5.70	45 - 120	30	
Dimethylphthalate	50.0	47.4	94.9	50.0	50.9	102	6.99	25 - 112	30	
Fluoranthene	50.0	51.7	103	50.0	54.5	109	5.28	50 - 137	30	
Fluorene	50.0	46.2	92.4	50.0	48.1	96.2	4.12	40 - 120	30	
Hexachlorobenzene	50.0	48.2	96.4	50.0	50.9	102	5.50	50 - 130	30	
Hexachlorobutadiene	50.0	47.2	94.4	50.0	48.3	96.6	2.26	24 - 105	30	
Hexachlorocyclopentadiene	50.0	67.9	136	50.0	69.9	140	2.91	20 - 143	30	
Hexachloroethane	50.0	42.3	84.6	50.0	43.5	87.1	2.84	25 - 95	30	
Indeno(1,2,3-cd)pyrene	50.0	58.6	117	50.0	62.2	124	5.89	50 - 135	30	
Isophorone	50.0	44.6	89.2	50.0	45.7	91.4	2.43	30 - 110	30	
N-Nitrosodiphenylamine	50.0	48.4	96.8	50.0	51.3	103	5.78	40 - 110	30	
N-Nitrosodipropylamine	50.0	47.7	95.5	50.0	49.6	99.2	3.83	28 - 120	30	
Naphthalene	50.0	43.7	87.3	50.0	45.1	90.1	3.14	25 - 110	30	
Nitrobenzene	50.0	44.5	89.1	50.0	45.6	91.1	2.26	30 - 110	30	
Pentachlorophenol	50.0	49.0	98.0	50.0	50.6	101	3.27	40 - 140	30	
Phenanthrene	50.0	48.5	97.0	50.0	51.5	103	5.98	55 - 120	30	
Phenol	50.0	17.5	35.1	50.0	17.7	35.4	0.998	10 - 120	30	
Pyrene	50.0	51.2	102	50.0	53.9	108	5.22	55 - 130	30	

Surrogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
2,4,6-Tribromophenol	102	106	10 - 123	PASS
2-Fluorobiphenyl	91.2	93.6	43 - 116	PASS
2-Fluorophenol	55.6	56.6	21 - 100	PASS
Nitrobenzene-d5	92.8	94.5	35 - 114	PASS
p-Terphenyl-d14	104	108	33 - 141	PASS
Phenol-d5	34.2	34.3	10 - 94	PASS

* EXCEEDS %REC LIMIT

EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1769746
Report generated: 09/02/2010 16:11



2.3.1 Metals I C P Data

2.3.1.1 Summary Data

LABORATORY REPORT

00105517

L10080846

09/15/10 09:59

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
LHSMW60-100830	L10080846-01	6010B	1	31-AUG-10
LHSMW60-100830	L10080846-01	6010B	2	31-AUG-10



Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-01
Client ID: LHSMW60-100830
Matrix: Water
Workgroup Number: WG341559
Collect Date: 08/30/2010 13:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3005A
Analytical Method: 6010B
Analyst: PDM
Dilution: 1
Units: mg/L

Instrument: PE-ICP2
Prep Date: 09/01/2010 06:41
Cal Date: 09/01/2010 10:23
Run Date: 09/01/2010 16:01
File ID: P2.090110.160120

Analyte	CAS. Number	Result	Qual	PQL	SDL
Aluminum, Total	7429-90-5	0.0634	J	0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.000500
Calcium, Total	7440-70-2	26.2		0.200	0.100
Cobalt, Total	7440-48-4		U	0.00500	0.00250
Iron, Total	7439-89-6	0.144		0.100	0.0250
Magnesium, Total	7439-95-4	16.7		0.500	0.250
Potassium, Total	7440-09-7	0.856	J	1.00	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-5		U	0.0200	0.00500

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above adjusted sample detection limit

Handwritten signature/initials



Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-01
Client ID: LHSMW60-100830
Matrix: Water
Workgroup Number: WG341559
Collect Date: 08/30/2010 13:30
Sample Tag: DL01

PrePrep Method: NONE
Prep Method: 3005A
Analytical Method: 6010B
Analyst: PDM
Dilution: 2
Units: mg/L

Instrument: PE-ICP2
Prep Date: 09/01/2010 06:41
Cal Date: 09/02/2010 10:43
Run Date: 09/02/2010 11:40
File ID: P2.090210.114045

Analyte	CAS. Number	Result	Qual	PQL	SDL
Sodium, Total	7440-23-5	213		1.00	0.500

W. J. J. J.



2.3.1.2 QC Summary Data

Microbac Laboratories Inc.
METHOD BLANK REPORT

00105521

Login Number: L10080846 Prep Date: 09/01/10 06:41 Sample ID: WG341465-02
Instrument ID: PE-ICP2 Run Date: 09/01/10 13:05 Prep Method: 3005A
File ID: P2.090110.130549 Analyst: PDM Method: 6010B
Workgroup (AAB#): WG341559 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: PE-ICP-01-SEP-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Aluminum, Total	0.0500	0.100	0.0500	1	U
Beryllium, Total	0.000500	0.00200	0.000500	1	U
Calcium, Total	0.100	0.200	0.100	1	U
Cobalt, Total	0.00250	0.00500	0.00250	1	U
Iron, Total	0.0250	0.100	0.0250	1	U
Magnesium, Total	0.250	0.500	0.250	1	U
Potassium, Total	0.250	1.00	0.250	1	U
Sodium, Total	0.250	0.500	0.250	1	U
Vanadium, Total	0.00500	0.0100	0.00500	1	U
Zinc, Total	0.00500	0.0200	0.00500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1769886
02-SEP-2010 11:08



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105522

Login Number: L10080846 Run Date: 09/01/2010 Sample ID: WG341465-03
Instrument ID: PE-ICP2 Run Time: 13:12 Prep Method: 3005A
File ID: P2.090110.131222 Analyst: PDM Method: 6010B
Workgroup (AAB#): WG341559 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD39933 Cal ID: PE-ICP-01-SEP-10

Analytes	Expected	Found	% Rec	LCS Limits		Q
Aluminum, Total	5.00	5.04	101	85	- 115	
Beryllium, Total	0.0250	0.0231	92.5	85	- 115	
Calcium, Total	5.00	4.74	94.9	85	- 115	
Cobalt, Total	0.100	0.0955	95.5	85	- 115	
Iron, Total	2.00	2.01	100	85	- 115	
Magnesium, Total	5.00	5.13	103	85	- 115	
Potassium, Total	25.0	24.9	99.7	85	- 115	
Sodium, Total	25.0	26.7	107	85	- 115	
Vanadium, Total	0.500	0.479	95.9	85	- 115	
Zinc, Total	0.500	0.480	96.1	85	- 115	

LCS - Modified 03/06/2008
PDF File ID: 1769887
Report generated: 09/02/2010 11:08



2.3.2 Metals ICP-MS Data

2.3.2.1 Summary Data

LABORATORY REPORT

00105525

L10080846

09/15/10 09:59

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
LHSMW60-100830	L10080846-01	6020	5	31-AUG-10



Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-01
Client ID: LHSMW60-100830
Matrix: Water
Workgroup Number: WG341507
Collect Date: 08/30/2010 13:30
Sample Tag: DL01

PrePrep Method: NONE
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 5
Units: mg/L

Instrument: ELAN-ICP
Prep Date: 08/31/2010 13:11
Cal Date: 09/01/2010 09:22
Run Date: 09/01/2010 10:39
File ID: EL.090110.103920

Analyte	CAS. Number	Result	Qual	PQL	SDL
Silver, Total	7440-22-4		U	0.00500	0.00125
Arsenic, Total	7440-38-2		U	0.00500	0.00125
Barium, Total	7440-39-3	0.0184		0.0150	0.00250
Cadmium, Total	7440-43-9		U	0.00250	0.000625
Chromium, Total	7440-47-3	0.00597	J	0.0100	0.00250
Copper, Total	7440-50-8		U	0.0100	0.00250
Lead, Total	7439-92-1		U	0.00250	0.00125
Manganese, Total	7439-96-5	0.00579	J	0.0100	0.00250
Nickel, Total	7440-02-0	0.0371		0.0200	0.00500
Antimony, Total	7440-36-0	0.00162	J	0.00500	0.00125
Selenium, Total	7782-49-2	0.00296	J	0.00500	0.00250
Thallium, Total	7440-28-0		U	0.00100	0.000250

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

*W
9/20/10*

2.3.2.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080846
Blank File ID: EL.090110.102553
Prep Date: 08/31/10 13:11
Analyzed Date: 09/01/10 10:25
Analyst: JYH

Work Group: WG341507
Blank Sample ID: WG341414-04
Instrument ID: ELAN-ICP
Method: 6020

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341414-05	EL.090110.103236	09/01/10 10:32	01
LHSMW60-100830	L10080846-01	EL.090110.103920	09/01/10 10:39	DL01
DUP	WG341414-08	EL.090110.114740	09/01/10 11:47	01

Report Name: BLANK SUMMARY
PDF File ID: 1769442
Report generated 09/02/2010 08:09



Microbac Laboratories Inc.
METHOD BLANK REPORT

00105529

Login Number: L10080846 Prep Date: 08/31/10 13:11 Sample ID: WG341414-04
Instrument ID: ELAN-ICP Run Date: 09/01/10 10:25 Prep Method: 3015
File ID: EL090110.102553 Analyst: JYH Method: 6020
Workgroup (AAB#): WG341507 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: ELAN-I-

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Silver, Total	0.000250	0.00100	0.000250	1	U
Arsenic, Total	0.000250	0.00100	0.000250	1	U
Barium, Total	0.000500	0.00300	0.000500	1	U
Cadmium, Total	0.000125	0.000500	0.000125	1	U
Chromium, Total	0.000500	0.00200	0.000500	1	U
Copper, Total	0.000500	0.00200	0.000500	1	U
Lead, Total	0.000250	0.000500	0.000250	1	U
Manganese, Total	0.000500	0.00200	0.000500	1	U
Nickel, Total	0.00100	0.00400	0.00100	1	U
Antimony, Total	0.000250	0.00100	0.000250	1	U
Selenium, Total	0.000500	0.00100	0.000500	1	U
Thallium, Total	0.0000500	0.000200	0.0000500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* [Analyte concentration] > RL

Report Name: BLANK
PDF ID: 1769443
02-SEP-2010 08:09



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105530

Login Number: L10080846 Run Date: 09/01/2010 Sample ID: WG341414-05
Instrument ID: ELAN-ICP Run Time: 10:32 Prep Method: 3015
File ID: EL_090110.103236 Analyst: JYH Method: 6020
Workgroup (AAB#): WG341507 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD39374 Cal ID: ELAN-I-01-SEP-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Silver, Total	0.0625	0.0612	97.9	80 - 120	
Arsenic, Total	0.0625	0.0652	104	80 - 120	
Barium, Total	0.0625	0.0645	103	80 - 120	
Cadmium, Total	0.0625	0.0643	103	80 - 120	
Chromium, Total	0.0625	0.0644	103	80 - 120	
Copper, Total	0.0625	0.0667	107	80 - 120	
Lead, Total	0.0625	0.0641	103	80 - 120	
Manganese, Total	0.0625	0.0632	101	80 - 120	
Nickel, Total	0.0625	0.0657	105	80 - 120	
Antimony, Total	0.0625	0.0656	105	80 - 120	
Selenium, Total	0.0625	0.0652	104	80 - 120	
Thallium, Total	0.0625	0.0637	102	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 1769444
Report generated: 09/02/2010 08:09



2.3.3 Metals CVAA Data (Mercury)

2.3.3.1 Summary Data

LABORATORY REPORT

00105533

L10080846

09/15/10 09:59

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway
Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
LHSMW60-100830	L10080846-01	7470A	1	31-AUG-10



Report Number:L10080846

Report Date :September 15, 2010

Sample Number:L10080846-01	PrePrep Method:NONE	Instrument:HYDRA
Client ID:LHSMW60-100830	Prep Method:7470A	Prep Date:09/01/2010 06:52
Matrix:Water	Analytical Method:7470A	Cal Date:09/02/2010 12:08
Workgroup Number:WG341720	Analyst:PDM	Run Date:09/02/2010 13:08
Collect Date:08/30/2010 13:30	Dilution:1	File ID:HY.090210.130827
Sample Tag:01	Units:mg/L	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Mercury	7439-97-6		U	0.000200	0.000100

U Not detected at or above adjusted sample detection limit

W. M. M. 2/2/10

2.3.3.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080846
Blank File ID: HY.090210.123106
Prep Date: 09/01/10 06:52
Analyzed Date: 09/02/10 12:31
Analyst: PDM

Work Group: WG341720
Blank Sample ID: WG341471-05
Instrument ID: HYDRA
Method: 7470A

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341471-06	HY.090210.123251	09/02/10 12:32	01
DUP	WG341471-09	HY.090210.124239	09/02/10 12:42	01
LHSMW60-100830	L10080846-01	HY.090210.130827	09/02/10 13:08	01

Report Name: BLANK SUMMARY
PDF File ID: 1770621
Report generated 09/02/2010 14:08



Microbac Laboratories Inc.
METHOD BLANK REPORT

00105537

Login Number: L10080846 Prep Date: 09/01/10 06:52 Sample ID: WG341471-05
Instrument ID: HYDRA Run Date: 09/02/10 12:31 Prep Method: 7470A
File ID: HY_090210.123106 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG341720 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: HYDRA-02-SEP-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Mercury	0.000100	0.000200	0.000100	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* [Analyte concentration] > RL

Report Name: BLANK
PDF ID: 1770622
02-SEP-2010 14:08



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105538

Login Number: L10080846 Run Date: 09/02/2010 Sample ID: WG341471-06
Instrument ID: HYDRA Run Time: 12:32 Prep Method: 7470A
File ID: HY.090210.123251 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG341720 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD41175 Cal ID: HYDRA-02-SEP-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00400	0.00432	108	85 - 115	

LCS - Modified 03/06/2008
PDF File ID: 1770623
Report generated: 09/02/2010 14:08



2.4.1 Method 9056

2.4.1.1 Summary Data

LABORATORY REPORT

00105541

L10080846

09/15/10 09:59

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
LHSMW60-100830	L10080846-01	300.0	5	31-AUG-10
LHSMW60-100830	L10080846-01	300.0	2	31-AUG-10



Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-01
Client ID: LHSMW60-100830
Matrix: Water
Workgroup Number: WG341392
Collect Date: 08/30/2010 13:30
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 300.0
Analytical Method: 300.0
Analyst: JWR
Dilution: 5
Units: mg/L

Instrument: IC2
Prep Date: 08/31/2010 12:41
Cal Date: 07/29/2010 13:04
Run Date: 08/31/2010 16:59
File ID: I20831101659.17

Analyte	CAS. Number	Result	Qual	PQL	SDL
Chloride	16887-00-6	128		1.00	0.500
Fluoride	16984-48-8		U	1.00	0.500
Nitrate	14797-55-8	0.595	J	3.00	0.500
Nitrite	14797-65-0		U	2.00	0.500
Sulfate	14808-79-8	254		5.00	2.50

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Handwritten signature

Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-01

Client ID: LHSMW60-100830

Matrix: Water

Workgroup Number: WG341392

Collect Date: 08/30/2010 13:30

Sample Tag: DL01

PrePrep Method: NONE

Prep Method: 300.0

Analytical Method: 300.0

Analyst: JWR

Dilution: 2

Units: mg/L

Instrument: IC2

Prep Date: 08/31/2010 12:41

Cal Date: 07/29/2010 13:04

Run Date: 08/31/2010 16:03

File ID: I20831101603.14

Analyte	CAS. Number	Result	Qual	PQL	SDL
Chloride	16887-00-6	122	I	0.400	0.200
Fluoride	16984-48-8	0.280	J	0.400	0.200
Nitrate	14797-55-8	0.570	J	1.20	0.200
Nitrite	14797-65-0		U	0.800	0.200
Sulfate	14808-79-8	257		2.00	1.00

J The analyte was positively identified, but the quantitation was below the RL

U Not detected at or above adjusted sample detection limit

I Semiquantitative result (out of instrument calibration range)

R
J
J

W/MD



2.4.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080846
Blank File ID: I20831101317.05
Prep Date: 08/31/10 12:41
Analyzed Date: 08/31/10 13:17
Analyst: JWR

Work Group: WG341392
Blank Sample ID: WG341392-01
Instrument ID: IC2
Method: 300.0

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341392-02	I20831101336.06	08/31/10 13:36	01
DUP	WG341392-04	I20831101508.11	08/31/10 15:08	01
LHSMW60-100830	L10080846-01	I20831101603.14	08/31/10 16:03	DL01
LHSMW60-100830	L10080846-01	I20831101659.17	08/31/10 16:59	DL02
DUP	WG341392-08	I20831101849.23	08/31/10 18:49	DL01

Report Name: BLANK SUMMARY
PDF File ID: 1768387
Report generated 09/01/2010 16:32



Microbac Laboratories Inc.
METHOD BLANK REPORT

00105546

Login Number: L10080846 Prep Date: 08/31/10 12:41 Sample ID: WG341392-01
Instrument ID: IC2 Run Date: 08/31/10 13:17 Prep Method: 300.0
File ID: I20831101317.05 Analyst: JWR Method: 300.0
Workgroup (AAB#): WG341392 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: IC2-29-JUL-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Chloride	0.100	0.200	0.100	1	U
Fluoride	0.100	0.200	0.100	1	U
Nitrate	0.100	0.600	0.100	1	U
Nitrite	0.100	0.400	0.100	1	U
Sulfate	0.500	1.00	0.500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* [Analyte concentration] > RL

Report Name: BLANK
PDF ID: 1768388
01-SEP-2010 16:32



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105547

Login Number: L10080846 Run Date: 08/31/2010 Sample ID: WG341392-02
Instrument ID: IC2 Run Time: 13:36 Prep Method: 300.0
File ID: I20831101336.06 Analyst: JWR Method: 300.0
Workgroup (AAB#): WG341392 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD39765 Cal ID: IC2-29-JUL-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Chloride	8.00	8.21	103	90 - 110	
Fluoride	8.00	8.41	105	90 - 110	
Nitrate	5.42	5.51	102	90 - 110	
Nitrite	4.87	4.94	101	90 - 110	
Sulfate	40.0	41.0	103	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 1768389
Report generated: 09/01/2010 16:32



2.4.2 Alkalinity Data

2.4.2.1 Summary Data

LABORATORY REPORT

00105550

L10080846

09/15/10 09:59

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
LHSMW60-100830	L10080846-01	310.2	1	31-AUG-10

LI_A_PROD - Modified 03/06/2008

PDF File ID: 1781111

Report generated: 09/15/2010 09:59

1 OF 1



Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-01
Client ID: LHSMM60-100830
Matrix: Water
Workgroup Number: WG341692
Collect Date: 08/30/2010 13:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 310.2
Analytical Method: 310.2
Analyst: DIH
Dilution: 1
Units: mg/L

Instrument: SMARTCHEM
Prep Date: 09/02/2010 10:47
Cal Date: 09/02/2010 10:43
Run Date: 09/02/2010 10:47
File ID: SC100902002.013

Analyte	CAS. Number	Result	Qual	PQL	SDL
Alkalinity, Total (as CaCO3)		109		10.0	5.00

W 092210



2.4.2.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080846
Blank File ID: SC100902002.041
Prep Date: 09/02/10 11:03
Analyzed Date: 09/02/10 11:03
Analyst: DIH

Work Group: WG341692
Blank Sample ID: WG341692-01
Instrument ID: SMARTCHEM
Method: 310.2

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341692-02	SC100902002.011	09/02/10 10:45	01
LCS2	WG341692-03	SC100902002.012	09/02/10 10:46	01
LHSMW60-100830	L10080846-01	SC100902002.013	09/02/10 10:47	01
DUP	WG341692-05	SC100902002.015	09/02/10 10:48	01

Report Name: BLANK SUMMARY
PDF File ID: 1770567
Report generated: 09/02/2010 14:06



METHOD BLANK REPORT

Login Number: L10080846 Prep Date: 09/02/10 11:03 Sample ID: WG341692-01
Instrument ID: SMARTCHEM Run Date: 09/02/10 11:03 Prep Method: 310.2
File ID: SC100902002.041 Analyst: DIH Method: 310.2
Workgroup (AAB#): WG341692 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: SMARTC-02-SEP-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Alkalinity, Total (as CaCO3)	5.00	10.0	5.00	1	U

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1770568

02-SEP-2010 14:06

Microbac

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105555

Login Number: L10080846 Analyst: DIH Prep Method: 310.2
Instrument ID: SMARTCHEM Matrix: Water Method: 310.2
Workgroup (AAB#): WG341692 Units: mg/L
QC Key: STD Lot #: STD40995

Sample ID: WG341692-02 LCS File ID: SC100902002.011 Run Date: 09/02/2010 10:45
Sample ID: WG341692-03 LCS2 File ID: SC100902002.012 Run Date: 09/02/2010 10:46

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Alkalinity, Total (as CaCO3)	200	190	95.1	200	199	99.3	4.36	85 - 115	25	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1770569
Report generated: 09/02/2010 14:06



2.4.3 Nitrate Data

2.4.3.1 Summary Data

LABORATORY REPORT

00105558

L10080846

09/15/10 09:59

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
LHSMW60-100830	L10080846-01	353.2	1	31-AUG-10



Report Number: L10080846

Report Date : September 15, 2010

Sample Number: L10080846-01
Client ID: LHSMW60-100830
Matrix: Water
Workgroup Number: WG341552
Collect Date: 08/30/2010 13:30

PrePrep Method: NONE
Prep Method: 353.2
Analytical Method: 353.2
Analyst: DIH
Dilution: 1
Units: mg/L

Instrument: SMARTCHEM
Prep Date: 08/31/2010 12:52
Cal Date: 08/31/2010 10:32
Run Date: 08/31/2010 12:52
File ID: SC10090114462501

Analyte	CAS. Number	Result	Qual	PQL	SDL
Nitrate-Nitrite (as N)		0.567		0.0500	0.0250



2.4.3.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080846
Blank File ID: SC10090114451801
Prep Date: 08/31/10 12:52
Analyzed Date: 08/31/10 12:52
Analyst: DIH

Work Group: WG341552
Blank Sample ID: WG341552-01
Instrument ID: SMARTCHEM
Method: 353.2

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341552-02	SC10090114452701	08/31/10 12:52	
LHSMW60-100830	L10080846-01	SC10090114462501	08/31/10 12:52	
DUP	WG341552-05	SC10090114454601	08/31/10 12:52	
LCS2	WG341552-03	SC10090114453201	08/31/10 12:52	

Report Name: BLANK SUMMARY
PDF File ID: 1769127
Report generated 09/01/2010 15:35



METHOD BLANK REPORT

Login Number: L10080846 Prep Date: 08/31/10 12:52 Sample ID: WG341552-01
Instrument ID: SMARTCHEM Run Date: 08/31/10 12:52 Prep Method: 353.2
File ID: SC10090114451801 Analyst: DIH Method: 353.2
Workgroup (AAB#): WG341552 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: SMARTC-31-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Nitrate-Nitrite (as N)	0.0250	0.0500	0.0250	1	U

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1769128

01-SEP-2010 15:35



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105563

Login Number: L10080846 Analyst: DIH Prep Method: 353.2
Instrument ID: SMARTCHEM Matrix: Water Method: 353.2
Workgroup (AAB#): WG341552 Units: mg/L
QC Key: STD Lot #: STD40886

Sample ID: WG341552-02 LCS File ID: SC10090114452701 Run Date: 08/31/2010 12:52
Sample ID: WG341552-03 LCS2 File ID: SC10090114453201 Run Date: 08/31/2010 12:52

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Nitrate-Nitrite (as N)	1.00	0.986	98.6	1.00	0.985	98.5	0.101	90 - 110	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1769129
Report generated: 09/01/2010 15:35



2.4.4 Total Organic Carbon Data

2.4.4.1 Summary Data

LABORATORY REPORT

00105566

L10080846

09/15/10 09:59

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
LHSMW60-100830	L10080846-01	415.1	2	31-AUG-10



Report Number: L10080846

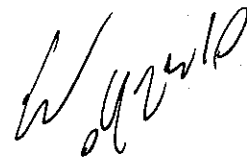
Report Date : September 15, 2010

Sample Number: L10080846-01
Client ID: LHSMW60-100830
Matrix: Water
Workgroup Number: WG341506
Collect Date: 08/30/2010 13:30
Sample Tag: DL01

PrePrep Method: NONE
Prep Method: 415.1
Analytical Method: 415.1
Analyst: DIH
Dilution: 2
Units: mg/L

Instrument: TOC-VWP
Prep Date: 09/01/2010 18:07
Cal Date: 06/08/2010 10:31
Run Date: 09/01/2010 18:07
File ID: TC09012010.031

Analyte	CAS. Number	Result	Qual	PQL	SDL
Total Organic Carbon		5.85		2.00	1.00



2.4.4.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10080846
Blank File ID: TC09012010.004
Prep Date: 09/01/10 12:16
Analyzed Date: 09/01/10 12:16
Analyst: DIH

Work Group: WG341506
Blank Sample ID: WG341506-01
Instrument ID: TOC-VWP
Method: 415.1

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341506-02	TC09012010.005	09/01/10 12:28	01
DUP	WG341506-05	TC09012010.010	09/01/10 13:34	01
LHSMW60-100830	L10080846-01	TC09012010.031	09/01/10 18:07	DL01
LCS2	WG341506-03	TC09012010.059	09/02/10 09:03	01

Report Name: BLANK SUMMARY
PDF File ID: 1770840
Report generated 09/02/2010 14:59



Microbac Laboratories Inc.
METHOD BLANK REPORT

00105570

Login Number: L10080846 Prep Date: 09/01/10 12:16 Sample ID: WG341506-01
Instrument ID: TOC-VWP Run Date: 09/01/10 12:16 Prep Method: 415.1
File ID: TC09012010.004 Analyst: DIH Method: 415.1
Workgroup (AAB#): WG341506 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: TOC-VW-08-JUN-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Total Organic Carbon	0.500	1.00	0.500	1	U

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1770841

02-SEP-2010 14:59



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105571

Login Number: L10080846 Analyst: DIH Prep Method: 415.1
Instrument ID: TOC-VWP Matrix: Water Method: 415.1
Workgroup (AAB#): WG341506 Units: mg/L
QC Key: STD Lot #: STD41119

Sample ID: WG341506-02 LCS File ID: TC09012010.005 Run Date: 09/01/2010 12:28
Sample ID: WG341506-03 LCS2 File ID: TC09012010.059 Run Date: 09/02/2010 09:03

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	26.3	105	25.0	26.1	105	0.572	85 - 115	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1770842
Report generated: 09/02/2010 14:59



Validation Qualifier Data Entry Verification

Longhorn Army Ammunition Pl

Run Date: September 21, 2010

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Sample Number:	Analytical/Extraction Method:	Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes 1 2 3 4	Lab Sample:	Analysis Time:
47WW37-100901	SW6010B	TOTREC	N 0 100	SODIUM, TOTAL	198	mg/L	Y Y				L10090073-01	17:36
	SW6010B	TOTREC	N 1 1	ALUMINUM, TOTAL	0.768	mg/L	Y Y				L10090073-01	22:56
				BERYLLIUM, TOTAL	0.000500	mg/L	U	N Y	U		L10090073-01	22:56
				CALCIUM, TOTAL	135	mg/L	Y Y				L10090073-01	22:56
				COBALT, TOTAL	0.00250	mg/L	U	N Y	U		L10090073-01	22:56
				IRON, TOTAL	0.717	mg/L	Y Y				L10090073-01	22:56
				MAGNESIUM, TOTAL	27.2	mg/L	Y Y				L10090073-01	22:56
				POTASSIUM, TOTAL	19.4	mg/L	Y Y				L10090073-01	22:56
				VANADIUM, TOTAL	0.00794	mg/L	J	Y Y	J		L10090073-01	22:56
				ZINC, TOTAL	0.00735	mg/L	J	Y Y	J		L10090073-01	22:56
	SW6020	SW3015	N 0 5	MANGANESE, TOTAL	0.0357	mg/L	Y Y				L10090073-01	13:41
	SW6020	SW3015	N 1 5	ANTIMONY, TOTAL	0.00125	mg/L	U	N Y	U		L10090073-01	14:37
				ARSENIC, TOTAL	0.00445	mg/L	J	Y Y	J		L10090073-01	14:37
				BARIUM, TOTAL	0.0596	mg/L	Y Y				L10090073-01	14:37
				CADMIUM, TOTAL	0.000625	mg/L	U	N Y	U		L10090073-01	14:37
				CHROMIUM, TOTAL	0.00530	mg/L	J	Y Y	J		L10090073-01	14:37
				COPPER, TOTAL	0.00294	mg/L	J	Y Y	J		L10090073-01	14:37
				LEAD, TOTAL	0.00125	mg/L	U	N Y	U		L10090073-01	14:37
				NICKEL, TOTAL	0.00603	mg/L	J	Y Y	J		L10090073-01	14:37
				SELENIUM, TOTAL	0.0115	mg/L	Y Y				L10090073-01	14:37
				SILVER, TOTAL	0.00125	mg/L	U	N Y	U		L10090073-01	14:37
				THALLIUM, TOTAL	0.000250	mg/L	U	N Y	U		L10090073-01	14:37
	SW6850	NONE	N 0 1	PERCHLORATE	6.42	ug/L	Y Y				L10090073-01	16:10
	SW7470A	METHOD	N 0 1	MERCURY	0.000100	mg/L	U	N Y	U		L10090073-01	09:53
	SW8260B	SW5030	N 0 1	1,1,1,2-TETRACHLOROETHANE	0.250	ug/L	U	N Y	U		L10090073-01	15:58
				1,1,1-TRICHLOROETHANE	0.250	ug/L	U	N Y	U		L10090073-01	15:58
				1,1,2,2-TETRACHLOROETHANE	0.200	ug/L	U	N Y	U		L10090073-01	15:58
				1,1,2-TRICHLOROETHANE	0.250	ug/L	U	N Y	U		L10090073-01	15:58
				1,1-DICHLOROETHANE	0.125	ug/L	U	N Y	U		L10090073-01	15:58
				1,1-DICHLOROETHENE	0.500	ug/L	U	N Y	U		L10090073-01	15:58
				1,1-DICHLOROPROPENE	0.250	ug/L	U	N Y	U		L10090073-01	15:58
				1,2,3-TRICHLOROBENZENE	0.150	ug/L	U	N Y	U		L10090073-01	15:58
				1,2,3-TRICHLOROPROPANE	0.500	ug/L	U	N Y	U		L10090073-01	15:58
				1,2,4-TRICHLOROBENZENE	0.200	ug/L	U	N Y	U		L10090073-01	15:58
				1,2,4-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U		L10090073-01	15:58
				1,2-DIBROMO-3-CHLOROPROPANE	1.00	ug/L	U	N Y	U		L10090073-01	15:58
				1,2-DIBROMOETHANE	0.250	ug/L	U	N Y	U		L10090073-01	15:58
				1,2-DICHLOROBENZENE	0.125	ug/L	U	N Y	U		L10090073-01	15:58
				1,2-DICHLOROETHANE	0.250	ug/L	U	N Y	U		L10090073-01	15:58
				1,2-DICHLOROPROPANE	0.200	ug/L	U	N Y	U		L10090073-01	15:58
				1,3,5-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U		L10090073-01	15:58
				1,3-DICHLOROBENZENE	0.250	ug/L	U	N Y	U		L10090073-01	15:58
				1,3-DICHLOROPROPANE	0.200	ug/L	U	N Y	U		L10090073-01	15:58

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Validation Qualifier Data Entry Verification

Longhorn Army Ammunition Pl

Run Date: September 21, 2010

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use	BCF	Val	Val	Reason Codes				Lab Sample:	Analysis Time:
										Qlfr	Code:	1	2	3	4		
47WW37-100901	SW8260B	SW5030	N 0 1	1,4-DICHLOROBENZENE	0.125	ug/L	U	N	Y	U						L10090073-01	15:58
				2,2-DICHLOROPROPANE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				2-BUTANONE	2.50	ug/L	U	N	Y	U						L10090073-01	15:58
				2-CHLOROETHYL VINYL ETHER	2.00	ug/L	U	N	Y	U						L10090073-01	15:58
				2-CHLOROTOLUENE	0.125	ug/L	U	N	Y	U						L10090073-01	15:58
				2-HEXANONE	2.50	ug/L	U	N	Y	U						L10090073-01	15:58
				4-CHLOROTOLUENE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				4-METHYL-2-PENTANONE	2.50	ug/L	U	N	Y	U						L10090073-01	15:58
				ACETONE	10.5	ug/L		Y	Y							L10090073-01	15:58
				BENZENE	0.125	ug/L	U	N	Y	U						L10090073-01	15:58
				BROMOBENZENE	0.125	ug/L	U	N	Y	U						L10090073-01	15:58
				BROMOCHLOROMETHANE	0.200	ug/L	U	N	Y	U						L10090073-01	15:58
				BROMODICHLOROMETHANE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				BROMOFORM	0.500	ug/L	U	N	Y	U						L10090073-01	15:58
				BROMOMETHANE	0.500	ug/L	U	N	Y	U						L10090073-01	15:58
				CARBON DISULFIDE	0.500	ug/L	U	N	Y	U						L10090073-01	15:58
				CARBON TETRACHLORIDE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				CHLOROBENZENE	0.125	ug/L	U	N	Y	U						L10090073-01	15:58
				CHLORODIBROMOMETHANE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				CHLOROETHANE	0.500	ug/L	U	N	Y	U						L10090073-01	15:58
				CHLOROFORM	2.23	ug/L		Y	Y							L10090073-01	15:58
				CHLOROMETHANE	0.500	ug/L	U	N	Y	U						L10090073-01	15:58
				CIS-1,2-DICHLOROETHENE	1.62	ug/L		Y	Y							L10090073-01	15:58
				CIS-1,3-DICHLOROPROPENE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				DIBROMOMETHANE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				DICHLORODIFLUOROMETHANE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				ETHYLBENZENE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				HEXACHLOROBUTADIENE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				ISOPROPYLBENZENE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				M-,P-XYLENE	0.500	ug/L	U	N	Y	U						L10090073-01	15:58
				METHYLENE CHLORIDE	1.05	ug/L	J	Y	Y	J						L10090073-01	15:58
				N-BUTYLBENZENE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				N-PROPYLBENZENE	0.125	ug/L	U	N	Y	U						L10090073-01	15:58
				NAPHTHALENE	0.200	ug/L	U	N	Y	U						L10090073-01	15:58
				O-XYLENE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				P-ISOPROPYLTOLUENE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				SEC-BUTYLBENZENE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				STYRENE	0.125	ug/L	U	N	Y	U						L10090073-01	15:58
				TERT-BUTYLBENZENE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				TETRACHLOROETHENE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				TOLUENE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				TRANS-1,2-DICHLOROETHENE	0.250	ug/L	U	N	Y	U						L10090073-01	15:58
				TRANS-1,3-DICHLOROPROPENE	0.500	ug/L	U	N	Y	U						L10090073-01	15:58
				TRICHLOROETHENE	29.4	ug/L		Y	Y							L10090073-01	15:58

Validation Qualifier Data Entry Verification

Longhorn Army Ammunition Plant

Run Date: September 21, 2010

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Sample Number:	Analytical/Extraction Method:		Flt REX Dif:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val	Val	Reason Codes				Lab Sample:	Analysis Time:
	Qlfr	Code:							1	2	3	4				
47WW37-100901	SW8260B	SW5030	N 0 1	TRICHLOROFLUOROMETHANE	0.250	ug/L	U	N Y	U						L10090073-01	15:58
				VINYL ACETATE	2.50	ug/L	U	N Y	U						L10090073-01	15:58
				VINYL CHLORIDE	0.250	ug/L	U	N Y	U						L10090073-01	15:58
	SW8270C	SW3510	N 0 1	1,2,4-TRICHLOROBENZENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				1,2-DICHLOROBENZENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				1,3-DICHLOROBENZENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				1,4-DICHLOROBENZENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				2,4,5-TRICHLOROPHENOL	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				2,4,6-TRICHLOROPHENOL	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				2,4-DICHLOROPHENOL	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				2,4-DIMETHYLPHENOL	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				2,4-DINITROPHENOL	12.5	ug/L	U	N Y	U						L10090073-01	12:53
				2,4-DINITROTOLUENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				2,6-DINITROTOLUENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				2-CHLORONAPHTHALENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				2-CHLOROPHENOL	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				2-METHYLNAPHTHALENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				2-METHYLPHENOL	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				2-NITROANILINE	12.5	ug/L	U	N Y	U						L10090073-01	12:53
				2-NITROPHENOL	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				3,3'-DICHLOROBENZIDINE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				3,4-METHYLPHENOL	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				3-NITROANILINE	12.5	ug/L	U	N Y	U						L10090073-01	12:53
				4,6-DINITRO-2-METHYLPHENOL	12.5	ug/L	U	N Y	U						L10090073-01	12:53
				4-BROMOPHENYL-PHENYLETHER	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				4-CHLORO-3-METHYLPHENOL	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				4-CHLOROANILINE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				4-CHLOROPHENYL-PHENYL ETHER	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				4-NITROANILINE	12.5	ug/L	U	N Y	U						L10090073-01	12:53
				4-NITROPHENOL	12.5	ug/L	U	N Y	U						L10090073-01	12:53
				ACENAPHTHENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				ACENAPHTHYLENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				ANTHRACENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				BENZO(A)ANTHRACENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				BENZO(A)PYRENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				BENZO(B)FLUORANTHENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				BENZO(G,H,I)PERYLENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				BENZO(K)FLUORANTHENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				BENZOIC ACID	12.5	ug/L	U	N Y	R-LCS						L10090073-01	12:53
				BENZYL ALCOHOL	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				BIS(2-CHLOROETHOXY)METHANE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				BIS(2-CHLOROETHYL)ETHER	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				BIS(2-CHLOROISOPROPYL)ETHER	2.50	ug/L	U	N Y	U						L10090073-01	12:53

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
											1	2	3	4		
47WW37-100901	SW8270C	SW3510	N 0 1	BIS(2-ETHYLHEXYL)PHTHALATE	3.00	ug/L	U	N Y	U						L10090073-01	12:53
				BUTYLBENZYLPHTHALATE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				CHRYSENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				DI-N-BUTYLPHTHALATE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				DI-N-OCTYLPHTHALATE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				DIBENZO(A,H)ANTHRACENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				DIBENZOFURAN	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				DIETHYLPHTHALATE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				DIMETHYLPHTHALATE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				FLUORANTHENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				FLUORENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				HEXACHLOROBENZENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				HEXACHLOROBUTADIENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				HEXACHLOROCYCLOPENTADIENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				HEXACHLOROETHANE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				INDENO(1,2,3-CD)PYRENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				ISOPHORONE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				N-NITROSODIPHENYLAMINE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				N-NITROSODIPROPYLAMINE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				NAPHTHALENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				NITROBENZENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				PENTACHLOROPHENOL	12.5	ug/L	U	N Y	U						L10090073-01	12:53
				PHENANTHRENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				PHENOL	2.50	ug/L	U	N Y	U						L10090073-01	12:53
				PYRENE	2.50	ug/L	U	N Y	U						L10090073-01	12:53
47WW38-100901	SW6010B	TOTREC	N 0 1	ALUMINUM, TOTAL	2.66	mg/L		Y Y	JI-FD						L10090073-02	23:03
				BERYLLIUM, TOTAL	0.000500	mg/L	U	N Y	U						L10090073-02	23:03
				CALCIUM, TOTAL	26.4	mg/L		Y Y							L10090073-02	23:03
				COBALT, TOTAL	0.00250	mg/L	U	N Y	U						L10090073-02	23:03
				IRON, TOTAL	2.43	mg/L		Y Y	JI-FD						L10090073-02	23:03
				MAGNESIUM, TOTAL	6.00	mg/L		Y Y							L10090073-02	23:03
				POTASSIUM, TOTAL	6.01	mg/L		Y Y							L10090073-02	23:03
				SODIUM, TOTAL	121	mg/L		Y Y							L10090073-02	23:03
				VANADIUM, TOTAL	0.0326	mg/L		Y Y							L10090073-02	23:03
				ZINC, TOTAL	0.0205	mg/L		Y Y							L10090073-02	23:03
	SW6020	SW3015	N 0 5	ANTIMONY, TOTAL	0.00509	mg/L		Y Y							L10090073-02	14:43
				ARSENIC, TOTAL	0.108	mg/L		Y Y							L10090073-02	14:43
				BARIUM, TOTAL	0.0555	mg/L		Y Y	JI-FD						L10090073-02	14:43
				CADMIUM, TOTAL	0.000625	mg/L	U	N Y	U						L10090073-02	14:43
				CHROMIUM, TOTAL	0.00966	mg/L	J	Y Y	J						L10090073-02	14:43
				COPPER, TOTAL	0.00626	mg/L	J	Y Y	J						L10090073-02	14:43
				LEAD, TOTAL	0.00454	mg/L		Y Y							L10090073-02	14:43
				NICKEL, TOTAL	0.00564	mg/L	J	Y Y	J						L10090073-02	14:43

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
											1	2	3	4		
47WW38-100901	SW6020	SW3015	N 0 5	SELENIUM, TOTAL	0.00661	mg/L		Y Y	J1-FD						L10090073-02	14:43
				SILVER, TOTAL	0.00125	mg/L	U	N Y	U						L10090073-02	14:43
				THALLIUM, TOTAL	0.000250	mg/L	U	N Y	U						L10090073-02	14:43
	SW6020	SW3015	N 1 5	MANGANESE, TOTAL	0.0539	mg/L		Y Y	J1-FD						L10090073-02	13:48
	SW6850	NONE	N 0 1000	PERCHLORATE	4110	ug/L		Y Y							L10090073-02	18:49
	SW7470A	METHOD	N 0 1	MERCURY	0.000100	mg/L	U	N Y	U						L10090073-02	09:55
	SW8260B	SW5030	N 0 1	1,1,1,2-TETRACHLOROETHANE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				1,1,1-TRICHLOROETHANE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				1,1,2,2-TETRACHLOROETHANE	0.200	ug/L	U	N Y	U						L10090073-02	16:31
				1,1,2-TRICHLOROETHANE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				1,1-DICHLOROETHANE	0.125	ug/L	U	N Y	U						L10090073-02	16:31
				1,1-DICHLOROETHENE	0.500	ug/L	U	N Y	U						L10090073-02	16:31
				1,1-DICHLOROPROPENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				1,2,3-TRICHLOROBENZENE	0.150	ug/L	U	N Y	U						L10090073-02	16:31
				1,2,3-TRICHLOROPROPANE	0.500	ug/L	U	N Y	U						L10090073-02	16:31
				1,2,4-TRICHLOROBENZENE	0.200	ug/L	U	N Y	U						L10090073-02	16:31
				1,2,4-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				1,2-DIBROMO-3-CHLOROPROPANE	1.00	ug/L	U	N Y	U						L10090073-02	16:31
				1,2-DIBROMOETHANE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				1,2-DICHLOROBENZENE	0.125	ug/L	U	N Y	U						L10090073-02	16:31
				1,2-DICHLOROETHANE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				1,2-DICHLOROPROPANE	0.200	ug/L	U	N Y	U						L10090073-02	16:31
				1,3,5-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				1,3-DICHLOROBENZENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				1,3-DICHLOROPROPANE	0.200	ug/L	U	N Y	U						L10090073-02	16:31
				1,4-DICHLOROBENZENE	0.125	ug/L	U	N Y	U						L10090073-02	16:31
				2,2-DICHLOROPROPANE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				2-BUTANONE	2.50	ug/L	U	N Y	U						L10090073-02	16:31
				2-CHLOROETHYL VINYL ETHER	2.00	ug/L	U	N Y	U						L10090073-02	16:31
				2-CHLOROTOLUENE	0.125	ug/L	U	N Y	U						L10090073-02	16:31
				2-HEXANONE	2.50	ug/L	U	N Y	U						L10090073-02	16:31
				4-CHLOROTOLUENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				4-METHYL-2-PENTANONE	2.50	ug/L	U	N Y	U						L10090073-02	16:31
				ACETONE	3.42	ug/L	J	Y Y	J						L10090073-02	16:31
				BENZENE	0.125	ug/L	U	N Y	U						L10090073-02	16:31
				BROMOBENZENE	0.125	ug/L	U	N Y	U						L10090073-02	16:31
				BROMOCHLOROMETHANE	0.200	ug/L	U	N Y	U						L10090073-02	16:31
				BROMODICHLOROMETHANE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				BROMOFORM	0.500	ug/L	U	N Y	U						L10090073-02	16:31
				BROMOMETHANE	0.500	ug/L	U	N Y	U						L10090073-02	16:31
				CARBON DISULFIDE	0.500	ug/L	U	N Y	U						L10090073-02	16:31
				CARBON TETRACHLORIDE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				CHLOROBENZENE	0.125	ug/L	U	N Y	U						L10090073-02	16:31

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
											1	2	3	4		
47WW38-100901	SW8260B	SW5030	N 0 1	CHLORODIBROMOMETHANE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				CHLOROETHANE	0.500	ug/L	U	N Y	U						L10090073-02	16:31
				CHLOROFORM	0.125	ug/L	U	N Y	U						L10090073-02	16:31
				CHLOROMETHANE	0.500	ug/L	U	N Y	U						L10090073-02	16:31
				CIS-1,2-DICHLOROETHENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				CIS-1,3-DICHLOROPROPENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				DIBROMOMETHANE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				DICHLORODIFLUOROMETHANE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				ETHYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				HEXACHLOROBUTADIENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				ISOPROPYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				M-,P-XYLENE	0.500	ug/L	U	N Y	U						L10090073-02	16:31
				METHYLENE CHLORIDE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				N-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				N-PROPYLBENZENE	0.125	ug/L	U	N Y	U						L10090073-02	16:31
				NAPHTHALENE	0.200	ug/L	U	N Y	U						L10090073-02	16:31
				O-XYLENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				P-ISOPROPYLTOLUENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				SEC-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				STYRENE	0.125	ug/L	U	N Y	U						L10090073-02	16:31
				TERT-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				TETRACHLOROETHENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				TOLUENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				TRANS-1,2-DICHLOROETHENE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				TRANS-1,3-DICHLOROPROPENE	0.500	ug/L	U	N Y	U						L10090073-02	16:31
				TRICHLOROETHENE	0.565	ug/L	J	Y Y	J						L10090073-02	16:31
				TRICHLOROFLUOROMETHANE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
				VINYL ACETATE	2.50	ug/L	U	N Y	U						L10090073-02	16:31
				VINYL CHLORIDE	0.250	ug/L	U	N Y	U						L10090073-02	16:31
SW8270C	SW3510	N 0 1	1,2,4-TRICHLOROBENZENE	2.50	ug/L	U	N Y	U							L10090073-02	13:27
			1,2-DICHLOROBENZENE	2.50	ug/L	U	N Y	U							L10090073-02	13:27
			1,3-DICHLOROBENZENE	2.50	ug/L	U	N Y	U							L10090073-02	13:27
			1,4-DICHLOROBENZENE	2.50	ug/L	U	N Y	U							L10090073-02	13:27
			2,4,5-TRICHLOROPHENOL	2.50	ug/L	U	N Y	U							L10090073-02	13:27
			2,4,6-TRICHLOROPHENOL	2.50	ug/L	U	N Y	U							L10090073-02	13:27
			2,4-DICHLOROPHENOL	2.50	ug/L	U	N Y	U							L10090073-02	13:27
			2,4-DIMETHYLPHENOL	2.50	ug/L	U	N Y	U							L10090073-02	13:27
			2,4-DINITROPHENOL	12.5	ug/L	U	N Y	U							L10090073-02	13:27
			2,4-DINITROTOLUENE	2.50	ug/L	U	N Y	U							L10090073-02	13:27
			2,6-DINITROTOLUENE	2.50	ug/L	U	N Y	U							L10090073-02	13:27
			2-CHLORONAPHTHALENE	2.50	ug/L	U	N Y	U							L10090073-02	13:27
			2-CHLOROPHENOL	2.50	ug/L	U	N Y	U							L10090073-02	13:27
			2-METHYLNAPHTHALENE	2.50	ug/L	U	N Y	U							L10090073-02	13:27

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use	BCF	Val	Val	Reason Codes				Lab Sample:	Analysis Time:
										Qlfr	Code:	1	2	3	4		
47WW38-100901	SW8270C	SW3510	N 0 1	2-METHYLPHENOL	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				2-NITROANILINE	12.5	ug/L	U	N	Y	U						L10090073-02	13:27
				2-NITROPHENOL	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				3,3'-DICHLOROBENZIDINE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				3-4-METHYLPHENOL	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				3-NITROANILINE	12.5	ug/L	U	N	Y	U						L10090073-02	13:27
				4,6-DINITRO-2-METHYLPHENOL	12.5	ug/L	U	N	Y	U						L10090073-02	13:27
				4-BROMOPHENYL-PHENYLETHER	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				4-CHLORO-3-METHYLPHENOL	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				4-CHLOROANILINE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				4-CHLOROPHENYL-PHENYL ETHER	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				4-NITROANILINE	12.5	ug/L	U	N	Y	U						L10090073-02	13:27
				4-NITROPHENOL	12.5	ug/L	U	N	Y	U						L10090073-02	13:27
				ACENAPHTHENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				ACENAPHTHYLENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				ANTHRACENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				BENZO(A)ANTHRACENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				BENZO(A)PYRENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				BENZO(B)FLUORANTHENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				BENZO(G,H,I)PERYLENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				BENZO(K)FLUORANTHENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				BENZOIC ACID	12.5	ug/L	U	N	Y	R-LCS						L10090073-02	13:27
				BENZYL ALCOHOL	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				BIS(2-CHLOROETHOXY)METHANE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				BIS(2-CHLOROETHYL)ETHER	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				BIS(2-CHLOROISOPROPYL)ETHER	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				BIS(2-ETHYLHEXYL)PHTHALATE	21.0	ug/L	U	Y	Y	U-MB						L10090073-02	13:27
				BUTYLBENZYLPHTHALATE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				CHRYSENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				DI-N-BUTYLPHTHALATE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				DI-N-OCTYLPHTHALATE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				DIBENZO(A,H)ANTHRACENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				DIBENZOFURAN	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				DIETHYLPHTHALATE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				DIMETHYLPHTHALATE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				FLUORANTHENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				FLUORENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				HEXACHLOROBENZENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				HEXACHLOROBUTADIENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				HEXACHLOROCYCLOPENTADIENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				HEXACHLOROETHANE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				INDENO(1,2,3-CD)PYRENE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				ISOPHORONE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27
				N-NITROSODIPHENYLAMINE	2.50	ug/L	U	N	Y	U						L10090073-02	13:27

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Sample Number:	Analytical/Extraction Method:		Flt REX Dtl:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
											1	2	3	4		
47WW38-100901	SW8270C	SW3510	N 0 1	N-NITROSODIPROPYLAMINE	2.50	ug/L	U	N Y	U						L10090073-02	13:27
				NAPHTHALENE	2.50	ug/L	U	N Y	U						L10090073-02	13:27
				NITROBENZENE	2.50	ug/L	U	N Y	U						L10090073-02	13:27
				PENTACHLOROPHENOL	12.5	ug/L	U	N Y	U						L10090073-02	13:27
				PHENANTHRENE	2.50	ug/L	U	N Y	U						L10090073-02	13:27
				PHENOL	2.50	ug/L	U	N Y	U						L10090073-02	13:27
				PYRENE	2.50	ug/L	U	N Y	U						L10090073-02	13:27
47WW38-100901-FD	SW6010B	TOTREC	N 0 1	ALUMINUM, TOTAL	3.83	mg/L		Y Y	JI-FD						L10090073-03	23:08
				BERYLLIUM, TOTAL	0.000500	mg/L	U	N Y	U						L10090073-03	23:08
				CALCIUM, TOTAL	30.7	mg/L		Y Y							L10090073-03	23:08
				COBALT, TOTAL	0.00331	mg/L	J	Y Y	J						L10090073-03	23:08
				IRON, TOTAL	4.15	mg/L		Y Y	JI-FD						L10090073-03	23:08
				MAGNESIUM, TOTAL	6.50	mg/L		Y Y							L10090073-03	23:08
				POTASSIUM, TOTAL	6.33	mg/L		Y Y							L10090073-03	23:08
				SODIUM, TOTAL	125	mg/L		Y Y							L10090073-03	23:08
				VANADIUM, TOTAL	0.0372	mg/L		Y Y							L10090073-03	23:08
				ZINC, TOTAL	0.0237	mg/L		Y Y							L10090073-03	23:08
	SW6020	SW3015	N 0 5	MANGANESE, TOTAL	0.0865	mg/L		Y Y	JI-FD						L10090073-03	13:55
	SW6020	SW3015	N 1 5	ANTIMONY, TOTAL	0.00477	mg/L	J	Y Y	J						L10090073-03	14:50
				ARSENIC, TOTAL	0.0965	mg/L		Y Y							L10090073-03	14:50
				BARIUM, TOTAL	0.0621	mg/L		Y Y	JI-FD						L10090073-03	14:50
				CADMIUM, TOTAL	0.000625	mg/L	U	N Y	U						L10090073-03	14:50
				CHROMIUM, TOTAL	0.0121	mg/L		Y Y							L10090073-03	14:50
				COPPER, TOTAL	0.00629	mg/L	J	Y Y	J						L10090073-03	14:50
				LEAD, TOTAL	0.00466	mg/L		Y Y							L10090073-03	14:50
				NICKEL, TOTAL	0.00709	mg/L	J	Y Y	J						L10090073-03	14:50
				SELENIUM, TOTAL	0.00374	mg/L	J	Y Y	JI-FD						L10090073-03	14:50
				SILVER, TOTAL	0.00125	mg/L	U	N Y	U						L10090073-03	14:50
				THALLIUM, TOTAL	0.000250	mg/L	U	N Y	U						L10090073-03	14:50
	SW6850	NONE	N 0 1000	PERCHLORATE	4520	ug/L		Y Y							L10090073-03	19:16
	SW7470A	METHOD	N 0 1	MERCURY	0.000100	mg/L	U	N Y	U						L10090073-03	09:56
	SW8260B	SW5030	N 0 1	1,1,1,2-TETRACHLOROETHANE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				1,1,1-TRICHLOROETHANE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				1,1,2,2-TETRACHLOROETHANE	0.200	ug/L	U	N Y	U						L10090073-03	17:02
				1,1,2-TRICHLOROETHANE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				1,1-DICHLOROETHANE	0.125	ug/L	U	N Y	U						L10090073-03	17:02
				1,1-DICHLOROETHENE	0.500	ug/L	U	N Y	U						L10090073-03	17:02
				1,1-DICHLOROPROPENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				1,2,3-TRICHLOROBENZENE	0.150	ug/L	U	N Y	U						L10090073-03	17:02
				1,2,3-TRICHLOROPROPANE	0.500	ug/L	U	N Y	U						L10090073-03	17:02
				1,2,4-TRICHLOROBENZENE	0.200	ug/L	U	N Y	U						L10090073-03	17:02
				1,2,4-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				1,2-DIBROMO-3-CHLOROPROPANE	1.00	ug/L	U	N Y	U						L10090073-03	17:02

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Sample Number:	Analytical/Extraction Method:		Flt REX Dtl:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample: /	Analysis Time:
											1	2	3	4		
47WW38-100901-PD	SW8260B	SW5030	N 0 1	1,2-DIBROMOETHANE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				1,2-DICHLOROBENZENE	0.125	ug/L	U	N Y	U						L10090073-03	17:02
				1,2-DICHLOROETHANE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				1,2-DICHLOROPROPANE	0.200	ug/L	U	N Y	U						L10090073-03	17:02
				1,3,5-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				1,3-DICHLOROBENZENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				1,3-DICHLOROPROPANE	0.200	ug/L	U	N Y	U						L10090073-03	17:02
				1,4-DICHLOROBENZENE	0.125	ug/L	U	N Y	U						L10090073-03	17:02
				2,2-DICHLOROPROPANE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				2-BUTANONE	2.50	ug/L	U	N Y	U						L10090073-03	17:02
				2-CHLOROETHYL VINYL ETHER	2.00	ug/L	U	N Y	U						L10090073-03	17:02
				2-CHLOROTOLUENE	0.125	ug/L	U	N Y	U						L10090073-03	17:02
				2-HEXANONE	2.50	ug/L	U	N Y	U						L10090073-03	17:02
				4-CHLOROTOLUENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				4-METHYL-2-PENTANONE	2.50	ug/L	U	N Y	U						L10090073-03	17:02
				ACETONE	3.36	ug/L	J	Y Y	J						L10090073-03	17:02
				BENZENE	0.125	ug/L	U	N Y	U						L10090073-03	17:02
				BROMOBENZENE	0.125	ug/L	U	N Y	U						L10090073-03	17:02
				BROMOCHLOROMETHANE	0.200	ug/L	U	N Y	U						L10090073-03	17:02
				BROMODICHLOROMETHANE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				BROMOFORM	0.500	ug/L	U	N Y	U						L10090073-03	17:02
				BROMOMETHANE	0.500	ug/L	U	N Y	U						L10090073-03	17:02
				CARBON DISULFIDE	0.500	ug/L	U	N Y	U						L10090073-03	17:02
				CARBON TETRACHLORIDE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				CHLOROBENZENE	0.125	ug/L	U	N Y	U						L10090073-03	17:02
				CHLORODIBROMOMETHANE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				CHLOROETHANE	0.500	ug/L	U	N Y	U						L10090073-03	17:02
				CHLOROFORM	0.125	ug/L	U	N Y	U						L10090073-03	17:02
				CHLOROMETHANE	0.500	ug/L	U	N Y	U						L10090073-03	17:02
				CIS-1,2-DICHLOROETHENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				CIS-1,3-DICHLOROPROPENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				DIBROMOMETHANE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				DICHLORODIFLUOROMETHANE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				ETHYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				HEXACHLOROBUTADIENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				ISOPROPYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				M-P-XYLENE	0.500	ug/L	U	N Y	U						L10090073-03	17:02
				METHYLENE CHLORIDE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				N-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				N-PROPYLBENZENE	0.125	ug/L	U	N Y	U						L10090073-03	17:02
				NAPHTHALENE	0.200	ug/L	U	N Y	U						L10090073-03	17:02
				O-XYLENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				P-ISOPROPYLTOLUENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				SEC-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02

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Sample Number:	Analytical/Extraction		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val	Val	Reason Codes				Lab Sample:	Analysis Time:
	Method:								Qlfr	Code:	1	2	3	4		
47WW38-100901-FD	SW8260B	SW5030	N 0 1	STYRENE	0.125	ug/L	U	N Y	U						L10090073-03	17:02
				TERT-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				TETRACHLOROETHENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				TOLUENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				TRANS-1,2-DICHLOROETHENE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				TRANS-1,3-DICHLOROPROPENE	0.500	ug/L	U	N Y	U						L10090073-03	17:02
				TRICHLOROETHENE	0.605	ug/L	J	Y Y	J						L10090073-03	17:02
				TRICHLOROFLUOROMETHANE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
				VINYL ACETATE	2.50	ug/L	U	N Y	U						L10090073-03	17:02
				VINYL CHLORIDE	0.250	ug/L	U	N Y	U						L10090073-03	17:02
	SW8270C	SW3510	N 0 1	1,2,4-TRICHLOROBENZENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				1,2-DICHLOROBENZENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				1,3-DICHLOROBENZENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				1,4-DICHLOROBENZENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				2,4,5-TRICHLOROPHENOL	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				2,4,6-TRICHLOROPHENOL	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				2,4-DICHLOROPHENOL	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				2,4-DIMETHYLPHENOL	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				2,4-DINITROPHENOL	12.5	ug/L	U	N Y	U						L10090073-03	14:01
				2,4-DINITROTOLUENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				2,6-DINITROTOLUENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				2-CHLORONAPHTHALENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				2-CHLOROPHENOL	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				2-METHYLNAPHTHALENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				2-METHYLPHENOL	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				2-NITROANILINE	12.5	ug/L	U	N Y	U						L10090073-03	14:01
				2-NITROPHENOL	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				3,3'-DICHLOROBENZIDINE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				3,4-METHYLPHENOL	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				3-NITROANILINE	12.5	ug/L	U	N Y	U						L10090073-03	14:01
				4,6-DINITRO-2-METHYLPHENOL	12.5	ug/L	U	N Y	U						L10090073-03	14:01
				4-BROMOPHENYL-PHENYLETHER	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				4-CHLORO-3-METHYLPHENOL	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				4-CHLOROANILINE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				4-CHLOROPHENYL-PHENYL ETHER	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				4-NITROANILINE	12.5	ug/L	U	N Y	U						L10090073-03	14:01
				4-NITROPHENOL	12.5	ug/L	U	N Y	U						L10090073-03	14:01
				ACENAPHTHENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				ACENAPHTHYLENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				ANTHRACENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				BENZO(A)ANTHRACENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				BENZO(A)PYRENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				BENZO(B)FLUORANTHENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
											1	2	3	4		
47WW38-100901-FD	SW8270C	SW3510	N 0 1	BENZO(G,H,I)PERYLENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				BENZO(K)FLUORANTHENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				BENZOIC ACID	12.5	ug/L	U	N Y	R-LCS						L10090073-03	14:01
				BENZYL ALCOHOL	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				BIS(2-CHLOROETHOXY)METHANE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				BIS(2-CHLOROETHYL)ETHER	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				BIS(2-CHLOROISOPROPYL)ETHER	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				BIS(2-ETHYLHEXYL)PHTHALATE	3.92	ug/L	J	Y Y	U-MB						L10090073-03	14:01
				BUTYLBENZYLPHTHALATE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				CHRYSENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				DI-N-BUTYLPHTHALATE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				DI-N-OCTYLPHTHALATE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				DIBENZO(A,H)ANTHRACENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				DIBENZOFURAN	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				DIETHYLPHTHALATE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				DIMETHYLPHTHALATE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				FLUORANTHENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				FLUORENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				HEXACHLOROBENZENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				HEXACHLOROBUTADIENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				HEXACHLOROCYCLOPENTADIENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				HEXACHLOROETHANE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				INDENO(1,2,3-CD)PYRENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				ISOPHORONE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				N-NITROSODIPHENYLAMINE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				N-NITROSODIPROPYLAMINE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				NAPHTHALENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				NITROBENZENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				PENTACHLOROPHENOL	12.5	ug/L	U	N Y	U						L10090073-03	14:01
				PHENANTHRENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				PHENOL	2.50	ug/L	U	N Y	U						L10090073-03	14:01
				PYRENE	2.50	ug/L	U	N Y	U						L10090073-03	14:01

2100 900.73
(MNA)

00105583

No. 6017



Shaw® Shaw Environmental & Infrastructure, Inc.
3010 Briarpark Drive, Suite 400
Houston, TX 77042
(713) 996-4400

Chain of Custody

Laboratory Name: Environmental Waste Solutions C/o MICROBAC		Address: 158 STARLITA DR. MARIETTA, OH 45750		Contact: STEPHANIE MOSSBURG								
Project Name: LHAAP		Project Location:		Analysis and Method Desired (Indicate separate containers)								
Project No.: 117591.0009A130		Project Contact: JEN HOANG		Project Telephone No.: 281-531-3108								
Point of Contact: Scott Beesinger		Project Manager/Supervisor: PRAVEEN SRIVASTAVA		Number of Containers								
Telephone No.: 903-679-3448												
Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	VOC	SVOC	TAL METALS	PERCHLORATE Method 6850	Remarks
1	47WW37-100901	9/1/10	13:45		✓	W	Site 47	5	2	1	1	
2	47WW38-100901	9/1/10	15:30		✓	W	Site 47	5	2	1	1	
3	47WW38-100901-FD	9/1/10	15:30		✓	W	Site 47	5	2	1	1	
4	TRIP BLANK	9/1/10			✓	W		2	2			
5												
6												
7												
8												
9												
10												
Transfers Relinquished By (signature)		Date/Time		Transfers Accepted By (signature)		Date/Time		Special Instructions				
<i>Scott Beesinger</i>		9/1/10 16:00						48 HR. TAT				
								Ex Airbill No.:				
								Sampler's Signature <i>Scott Beesinger</i>				
								Y N Cold				



Microbac OVD
Received: 09/02/2010 10:03
By: ROBIN KLINGER

221000000000

Robin L. Klinger

TAT: _____ Standard _____ Rush Date _____



1000008669

COOLER INSPECTION



Received: 09/02/2010 10:03
Delivery Method: UPS
Opened By: Robin Klinger
Comments:

Login(s): L10090073|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0013687	H	1.0	1Z66V7250192530436	6017	

- 1 Yes Were shipping coolers sealed?
- 2 Yes Were custody seals intact?
- 3 Yes Were cooler temperatures in range of 0-6?
- 4 Yes Was ice present?
- 5 Yes Were COC's received/information complete/signed and dated?
- 6 Yes Were sample containers and labels intact and match COC?
- 7 Yes Were the correct containers and volumes received?
- 8 Yes Were samples received within EPA hold times?
- 9 Yes Were correct preservatives used? (water only)
- 10 Yes Were pH ranges acceptable? (voa's excluded)
- 11 Yes Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10090073

Account: 2773

Project: 2773.025

Samples: 4

Due Date: 07-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090073-01	735184	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	02-SEP-2010 12:43	JKT	
2	ANALYZ	V1	ORG4	02-SEP-2010 12:52	MRT	JKT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	02-SEP-2010 12:43	JKT	
2	ANALYZ	V1	ORG4	02-SEP-2010 12:52	MRT	JKT

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090073-01	735185	8270

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	02-SEP-2010 12:43	JKT	
2	PREP	W1	EXT	03-SEP-2010 09:02	CSH	JKT
3	ANALYZ*	EXT	SEMI	07-SEP-2010 08:21	CAA	CSH

*Sample extract/digestate

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090073-01	735186	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	02-SEP-2010 12:43	JKT	
2	ANALYZ	W1	SEM	02-SEP-2010 12:57	WTD	JKT
3	STORE	SEM	A1	03-SEP-2010 11:39	JKT	WTD

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090073-01	735187	CD-MS CO-AX CR-MS CU-MS DIG-ICP FE HG K MG MN-

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	02-SEP-2010 12:43	JKT	
2	PREP	W1	DIG	02-SEP-2010 12:54	REK	JKT
3	ANALYZ*	DIG	METALS	03-SEP-2010 09:38	JYH	REK
4	STORE	DIG	A1	03-SEP-2010 15:23	JKT	ERP

*Sample extract/digestate

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.**Internal Chain of Custody Report**

Login: L10090073

Account: 2773

Project: 2773.025

Samples: 4

Due Date: 07-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090073-02	735188	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	02-SEP-2010 12:43	JKT	
2	ANALYZ	V1	ORG4	02-SEP-2010 12:52	MRT	JKT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	02-SEP-2010 12:43	JKT	
2	ANALYZ	V1	ORG4	02-SEP-2010 12:51	MRT	JKT

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090073-02	735189	8270

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	02-SEP-2010 12:43	JKT	
2	PREP	W1	EXT	03-SEP-2010 09:02	CSH	JKT
3	ANALYZ*	EXT	SEMI	07-SEP-2010 08:21	CAA	CSH

*Sample extract/digestate

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090073-02	735190	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	02-SEP-2010 12:43	JKT	
2	ANALYZ	W1	SEM	02-SEP-2010 12:57	WTD	JKT
3	STORE	SEM	A1	03-SEP-2010 11:39	JKT	WTD

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090073-02	735191	AG-MS AL AS-MS BA-MS BE-AX CA CD-MS CO-AX CR-M

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	02-SEP-2010 12:43	JKT	
2	PREP	W1	DIG	02-SEP-2010 12:54	REK	JKT
3	ANALYZ*	DIG	METALS	03-SEP-2010 09:38	JYH	REK
4	STORE	DIG	A1	03-SEP-2010 15:23	JKT	ERP

*Sample extract/digestate

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.**Internal Chain of Custody Report**

Login: L10090073

Account: 2773

Project: 2773.025

Samples: 4

Due Date: 07-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090073-03	735192	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	02-SEP-2010 12:43	JKT	
2	ANALYZ	V1	ORG4	02-SEP-2010 12:51	MRT	JKT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	02-SEP-2010 12:43	JKT	
2	ANALYZ	V1	ORG4	02-SEP-2010 12:51	MRT	JKT

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090073-03	735193	8270

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	02-SEP-2010 12:43	JKT	
2	PREP	W1	EXT	03-SEP-2010 09:02	CSH	JKT
3	ANALYZ*	EXT	SEMI	07-SEP-2010 08:21	CAA	CSH

*Sample extract/digestate

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090073-03	735194	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	02-SEP-2010 12:43	JKT	
2	ANALYZ	W1	SEM	02-SEP-2010 12:57	WTD	JKT
3	STORE	SEM	A1	03-SEP-2010 11:39	JKT	WTD

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090073-03	735195	NA AG-MS AL AS-MS BA-MS BE-AX CA CD-MS CO-AX (

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	02-SEP-2010 12:43	JKT	
2	PREP	W1	DIG	02-SEP-2010 12:54	REK	JKT
3	ANALYZ*	DIG	METALS	03-SEP-2010 09:38	JYH	REK
4	STORE	DIG	A1	03-SEP-2010 15:23	JKT	ERP

*Sample extract/digestate

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login

Microbac

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10090073

Account: 2773

Project: 2773.025

Samples: 4

Due Date: 07-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090073-04	735196	826-LOW

Bottle: 1

Seq	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	02-SEP-2010 12:43	JKT	
2	ANALYZ	V1	ORG4	02-SEP-2010 12:51	MRT	JKT

Bottle: 2

Seq	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	02-SEP-2010 12:43	JKT	
2	ANALYZ	V1	ORG4	02-SEP-2010 12:51	MRT	JKT

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



NELAP Addendum - May 28, 2010**Non-NELAP LIMS Product and Description**

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄)
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Perchlorate (6850 – LCMS)
 Hexamethylphosphoramide (XMPA-LCMS)
 Thiodiglycol (TDG-LCMS)
 1,4-Dioxane – 8270C (827-DIOXANE)
 Phosphorus – 6010B
 Zirconium - 6010B

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER****OVL HPLC02/HPLC-UV**

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 2, 3, 4, 6-Tetrachlorophenol
 2-Chloronaphthalene
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene

Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnell
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropyl ether
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene

Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnal
Simazine
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropylether
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

LABORATORY REPORT

L10090073

09/15/10 08:13

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47WW37-100901	L10090073-01	8260B	1	02-SEP-10
47WW38-100901	L10090073-02	8260B	1	02-SEP-10
47WW38-100901-FD	L10090073-03	8260B	1	02-SEP-10
TRIP BLANK	L10090073-04	8260B	1	02-SEP-10



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-01

Client ID: 47WW37-100901

Matrix: Water

Workgroup Number: WG341710

Collect Date: 09/01/2010 13:45

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 5030B/5030C/5035

Analytical Method: 8260B

Analyst: MES

Dilution: 1

Units: ug/L

Instrument: HPMS6

Prep Date: 09/02/2010 15:58

Cal Date: 08/25/2010 15:42

Run Date: 09/02/2010 15:58

File ID: 6M93545

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	10.5		10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	2.23		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	1.62		1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2	1.05	J	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	29.4		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

1 of 8



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-01
Client ID: 47WW37-100901
Matrix: Water
Workgroup Number: WG341710
Collect Date: 09/01/2010 13:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B/5030C/5035
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 09/02/2010 15:58
Cal Date: 08/25/2010 15:42
Run Date: 09/02/2010 15:58
File ID: 6M93545

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	96.1	86	118		
1,2-Dichloroethane-d4	92.3	80	120		
Toluene-d8	79.8	88	110	*	
4-Bromofluorobenzene	102	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

* Surrogate or spike compound out of range

Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-02

Client ID: 47WW38-100901

Matrix: Water

Workgroup Number: WG341710

Collect Date: 09/01/2010 15:30

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 5030B/5030C/5035

Analytical Method: 8260B

Analyst: MES

Dilution: 1

Units: ug/L

Instrument: HPMS6

Prep Date: 09/02/2010 16:31

Cal Date: 08/25/2010 15:42

Run Date: 09/02/2010 16:31

File ID: 6M93546

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	3.42	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.125
1,2-Dichlorobenzene	95-50-1		U	1.00	0.250
1,3-Dichlorobenzene	541-73-1		U	1.00	0.125
1,4-Dichlorobenzene	106-46-7		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.125
1,1-Dichloroethane	75-34-3		U	1.00	0.250
1,2-Dichloroethane	107-06-2		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.200
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.250
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.250
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	10.0	2.50
2-Hexanone	591-78-6		U	1.00	0.250
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	2.50
p-Isopropyltoluene	99-87-6		U	10.0	0.250
4-Methyl-2-pentanone	108-10-1		U	5.00	0.250
Methylene chloride	75-09-2		U	1.00	0.200
Naphthalene	91-20-3		U	1.00	0.125
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.250
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.200
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.250
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.150
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.200
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.250
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	0.565	J	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

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Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-02
Client ID: 47WW38-100901
Matrix: Water
Workgroup Number: WG341710
Collect Date: 09/01/2010 15:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B/5030C/5035
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: 09/02/2010 16:31
Cal Date: 08/25/2010 15:42
Run Date: 09/02/2010 16:31
File ID: 6M93546

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	92.1	86	118		
1,2-Dichloroethane-d4	93.8	80	120		
Toluene-d8	96.4	88	110		
4-Bromofluorobenzene	104	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-03
 Client ID: 47WW38-100901-PD
 Matrix: Water
 Workgroup Number: WG341710
 Collect Date: 09/01/2010 15:30
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 09/02/2010 17:02
 Cal Date: 08/25/2010 15:42
 Run Date: 09/02/2010 17:02
 File ID: 6M93547

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	3.36	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	0.605	J	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

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Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-03
 Client ID: 47WW38-100901-ED
 Matrix: Water
 Workgroup Number: WG341710
 Collect Date: 09/01/2010 15:30
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS6
 Prep Date: 09/02/2010 17:02
 Cal Date: 08/25/2010 15:42
 Run Date: 09/02/2010 17:02
 File ID: 6M93547

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	92.5	86	118		
1,2-Dichloroethane-d4	93.8	80	120		
Toluene-d8	97.0	88	110		
4-Bromofluorobenzene	120	86	115	*	

- U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL
 * Surrogate or spike compound out of range

OK
 (60-140)

W 9/20/10



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-04
 Client ID: TRIP BLANK
 Matrix: Water
 Workgroup Number: WG341835
 Collect Date: 09/01/2010 00:01
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: TMB
 Dilution: 1
 Units: ug/L

Instrument: HPMS10
 Prep Date: 09/03/2010 14:03
 Cal Date: 08/19/2010 17:19
 Run Date: 09/03/2010 14:03
 File ID: 10M81746

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

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Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-04
Client ID: TRIP BLANK
Matrix: Water
Workgroup Number: WG341835
Collect Date: 09/01/2010 00:01
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B/5030C/5035
Analytical Method: 8260B
Analyst: TMB
Dilution: 1
Units: ug/L

Instrument: HPMS10
Prep Date: 09/03/2010 14:03
Cal Date: 08/19/2010 17:19
Run Date: 09/03/2010 14:03
File ID: 10M81746

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	91.7	86	118		
1,2-Dichloroethane-d4	80.4	80	120		
Toluene-d8	98.5	88	110		
4-Bromofluorobenzene	93.9	86	115		

U Not detected at or above adjusted sample detection limit

2.1.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10090073
Blank File ID: 10M81740
Prep Date: 09/03/10 10:53
Analyzed Date: 09/03/10 10:53
Analyst: TMB

Work Group: WG341835
Blank Sample ID: WG341835-01
Instrument ID: HPMS10
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341835-02	10M81741	09/03/10 11:24	01
TRIP BLANK	L10090073-04	10M81746	09/03/10 14:03	01

Report Name: BLANK SUMMARY
PDF File ID: 1773662
Report generated 09/07/2010 14:59



METHOD BLANK SUMMARY

Login Number: L10090073
Blank File ID: 6M93539
Prep Date: 09/02/10 12:49
Analyzed Date: 09/02/10 12:49
Analyst: MES

Work Group: WG341710
Blank Sample ID: WG341710-01
Instrument ID: HPMS6
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS2	WG341710-03	6M93541	09/02/10 13:51	01
LCS	WG341710-02	6M93542	09/02/10 14:22	01
47WW37-100901	L10090073-01	6M93545	09/02/10 15:58	01
47WW38-100901	L10090073-02	6M93546	09/02/10 16:31	01
47WW38-100901-FD	L10090073-03	6M93547	09/02/10 17:02	01

Report Name: BLANK SUMMARY
PDF File ID: 1773662
Report generated 09/07/2010 14:59



Microbac Laboratories Inc.
METHOD BLANK REPORT

00105606

Login Number: L10090073 Prep Date: 09/03/10 10:53 Sample ID: WG341835-01
Instrument ID: HPMS10 Run Date: 09/03/10 10:53 Prep Method: 5030B/5030C/503
File ID: 10M81740 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG341835 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS10-19-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U

Report Name: BLANK
PDF ID: 1773663
07-SEP-2010 14:59



Microbac Laboratories Inc.
METHOD BLANK REPORT

00105607

Login Number: L10090073 Prep Date: 09/03/10 10:53 Sample ID: WG341835-01
Instrument ID: HPMS10 Run Date: 09/03/10 10:53 Prep Method: 5030B/5030C/503
File ID: 10M81740 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG341835 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS10-19-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	93.4	86 - 118	PASS
1,2-Dichloroethane-d4	82.6	80 - 120	PASS
Toluene-d8	98.9	88 - 110	PASS
4-Bromofluorobenzene	93.0	86 - 115	PASS

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1773663
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Microbac Laboratories Inc.
METHOD BLANK REPORT

00105608

Login Number: L10090073 Prep Date: 09/02/10 12:49 Sample ID: WG341710-01
Instrument ID: HPMS6 Run Date: 09/02/10 12:49 Prep Method: 5030B/5030C/503
File ID: 6M93539 Analyst: MES Method: 8260B
Workgroup (AAB#): WG341710 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS6-25-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U

Report Name: BLANK
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METHOD BLANK REPORT

Login Number: L10090073 Prep Date: 09/02/10 12:49 Sample ID: WG341710-01
 Instrument ID: HPMS6 Run Date: 09/02/10 12:49 Prep Method: 5030B/5030C/503
 File ID: 6M93539 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG341710 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS6-25-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits		Qualifier
Dibromofluoromethane	92.9	86	- 118	PASS
1,2-Dichloroethane-d4	95.5	80	- 120	PASS
Toluene-d8	97.8	88	- 110	PASS
4-Bromofluorobenzene	109	86	- 115	PASS

SDL Method Detection Limit
 PQL Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > RL

Report Name: BLANK
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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105610

Login Number: L10090073 Run Date: 09/03/2010 Sample ID: WG341835-02
Instrument ID: HPMS10 Run Time: 11:24 Prep Method: 5030B/5030C/503
File ID: 10M81741 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG341835 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD41193 Cal ID: HPMS10-19-AUG-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	21.5	107	40 - 180	
Benzene	20.0	20.8	104	80 - 121	
Bromobenzene	20.0	20.6	103	80 - 120	
Bromochloromethane	20.0	21.7	108	65 - 130	
Bromodichloromethane	20.0	21.8	109	80 - 131	
Bromoform	20.0	20.2	101	70 - 130	
Bromomethane	20.0	19.8	98.8	30 - 145	
2-Butanone	20.0	18.3	91.5	10 - 170	
n-Butylbenzene	20.0	20.1	101	80 - 131	
sec-Butylbenzene	20.0	20.8	104	80 - 127	
tert-Butylbenzene	20.0	21.1	105	80 - 126	
Carbon disulfide	20.0	19.3	96.7	58 - 128	
Carbon tetrachloride	20.0	21.2	106	65 - 140	
Chlorobenzene	20.0	20.5	102	80 - 120	
Chlorodibromomethane	20.0	21.2	106	60 - 135	
Chloroethane	20.0	22.3	112	60 - 135	
2-Chloroethyl vinyl ether	20.0	19.0	94.8	45 - 160	
Chloroform	20.0	20.0	100	80 - 125	
Chloromethane	20.0	17.5	87.5	40 - 125	
2-Chlorotoluene	20.0	21.4	107	80 - 127	
4-Chlorotoluene	20.0	18.5	92.5	80 - 126	
1,2-Dibromo-3-chloropropane	20.0	20.8	104	50 - 130	
1,2-Dibromoethane	20.0	19.9	99.4	80 - 129	
Dibromomethane	20.0	20.9	105	75 - 125	
1,2-Dichlorobenzene	20.0	21.2	106	80 - 125	
1,3-Dichlorobenzene	20.0	20.6	103	80 - 120	
1,4-Dichlorobenzene	20.0	19.9	99.6	80 - 120	
Dichlorodifluoromethane	20.0	23.9	120	40 - 160	
1,1-Dichloroethane	20.0	21.5	108	80 - 125	
1,2-Dichloroethane	20.0	19.4	97.2	80 - 129	
1,1-Dichloroethene	20.0	21.0	105	80 - 132	
cis-1,2-Dichloroethene	20.0	21.0	105	70 - 125	
trans-1,2-Dichloroethene	20.0	21.0	105	80 - 127	
1,2-Dichloropropane	20.0	21.6	108	80 - 120	
1,3-Dichloropropane	20.0	20.6	103	80 - 120	
2,2-Dichloropropane	20.0	22.1	110	80 - 133	
cis-1,3-Dichloropropene	20.0	20.8	104	70 - 130	
trans-1,3-Dichloropropene	20.0	18.8	93.9	80 - 130	
1,1-Dichloropropene	20.0	20.2	101	75 - 130	
Ethylbenzene	20.0	20.8	104	80 - 122	
2-Hexanone	20.0	17.3	86.6	55 - 130	

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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105611

Login Number: L10090073 Run Date: 09/03/2010 Sample ID: WG341835-02
Instrument ID: HPMS10 Run Time: 11:24 Prep Method: 5030B/5030C/503
File ID: 10M81741 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG341835 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD41193 Cal ID: HPMS10-19-AUG-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Hexachlorobutadiene	20.0	19.3	96.5	72 - 132	
Isopropylbenzene	20.0	18.8	94.0	80 - 122	
p-Isopropyltoluene	20.0	20.0	100	80 - 122	
4-Methyl-2-pentanone	20.0	18.1	90.7	64 - 140	
Methylene chloride	20.0	20.4	102	80 - 123	
Naphthalene	20.0	20.8	104	59 - 149	
n-Propylbenzene	20.0	20.5	103	80 - 129	
Styrene	20.0	21.4	107	80 - 123	
1,1,1,2-Tetrachloroethane	20.0	20.3	101	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	21.5	108	79 - 125	
Tetrachloroethene	20.0	22.2	111	80 - 124	
Toluene	20.0	21.0	105	80 - 124	
1,2,3-Trichlorobenzene	20.0	20.8	104	55 - 140	
1,2,4-Trichlorobenzene	20.0	20.3	101	65 - 135	
1,1,1-Trichloroethane	20.0	20.5	102	80 - 134	
1,1,2-Trichloroethane	20.0	21.5	107	80 - 125	
Trichloroethene	20.0	20.6	103	80 - 122	
Trichlorofluoromethane	20.0	21.2	106	62 - 151	
1,2,3-Trichloropropane	20.0	20.2	101	75 - 125	
1,2,4-Trimethylbenzene	20.0	20.3	102	80 - 125	
1,3,5-Trimethylbenzene	20.0	20.5	103	80 - 127	
Vinyl acetate	20.0	12.0	60.2	10 - 190	
Vinyl chloride	20.0	19.5	97.4	50 - 170	
o-Xylene	20.0	20.6	103	80 - 122	
m-,p-Xylene	40.0	41.5	104	80 - 122	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	95.3	86 - 118	PASS
1,2-Dichloroethane-d4	86.4	80 - 120	PASS
Toluene-d8	99.2	88 - 110	PASS
4-Bromofluorobenzene	90.9	86 - 115	PASS

* EXCEEDS %REC LIMIT

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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105612

Login Number: L10090073 Run Date: 09/02/2010 Sample ID: WG341710-02
Instrument ID: HPMS6 Run Time: 14:22 Prep Method: 5030B/5030C/503
File ID: 6M93542 Analyst: MES Method: 8260B
Workgroup (AAB#): WG341710 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD41193 Cal ID: HPMS6-25-AUG-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	25.3	127	40 - 180	
Benzene	20.0	20.5	103	80 - 121	
Bromobenzene	20.0	20.3	102	80 - 120	
Bromochloromethane	20.0	21.8	109	65 - 130	
Bromodichloromethane	20.0	22.3	112	80 - 131	
Bromoform	20.0	21.0	105	70 - 130	
Bromomethane	20.0	23.3	117	30 - 145	
2-Butanone	20.0	22.7	114	10 - 170	
n-Butylbenzene	20.0	20.1	101	80 - 131	
sec-Butylbenzene	20.0	20.5	103	80 - 127	
tert-Butylbenzene	20.0	20.4	102	80 - 126	
Carbon disulfide	20.0	23.9	120	58 - 128	
Carbon tetrachloride	20.0	22.0	110	65 - 140	
Chlorobenzene	20.0	22.1	110	80 - 120	
Chlorodibromomethane	20.0	24.7	123	60 - 135	
Chloroethane	20.0	25.8	129	60 - 135	
2-Chloroethyl vinyl ether	20.0	19.0	94.8	45 - 160	
Chloroform	20.0	21.4	107	80 - 125	
Chloromethane	20.0	21.7	108	40 - 125	
2-Chlorotoluene	20.0	23.0	115	80 - 127	
4-Chlorotoluene	20.0	24.7	123	80 - 126	
1,2-Dibromo-3-chloropropane	20.0	24.1	120	50 - 130	
1,2-Dibromoethane	20.0	21.3	107	80 - 129	
Dibromomethane	20.0	19.8	99.2	75 - 125	
1,2-Dichlorobenzene	20.0	20.2	101	80 - 125	
1,3-Dichlorobenzene	20.0	19.9	99.6	80 - 120	
1,4-Dichlorobenzene	20.0	19.6	98.2	80 - 120	
Dichlorodifluoromethane	20.0	29.5	147	40 - 160	
1,1-Dichloroethane	20.0	23.6	118	80 - 125	
1,2-Dichloroethane	20.0	20.7	104	80 - 129	
1,1-Dichloroethene	20.0	20.8	104	80 - 132	
cis-1,2-Dichloroethene	20.0	20.8	104	70 - 125	
trans-1,2-Dichloroethene	20.0	23.3	117	80 - 127	
1,2-Dichloropropane	20.0	25.8	129	80 - 120	*
1,3-Dichloropropane	20.0	21.8	109	80 - 120	
2,2-Dichloropropane	20.0	20.8	104	80 - 133	
cis-1,3-Dichloropropene	20.0	24.4	122	70 - 130	
trans-1,3-Dichloropropene	20.0	18.8	94.2	80 - 130	
1,1-Dichloropropene	20.0	24.2	121	75 - 130	
Ethylbenzene	20.0	21.6	108	80 - 122	
2-Hexanone	20.0	20.4	102	55 - 130	

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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105613

Login Number: L10090073 Run Date: 09/02/2010 Sample ID: WG341710-02
Instrument ID: HPMS6 Run Time: 14:22 Prep Method: 5030B/5030C/503
File ID: 6M93542 Analyst: MES Method: 8260B
Workgroup (AAB#): WG341710 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD41193 Cal ID: HPMS6-25-AUG-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Hexachlorobutadiene	20.0	23.0	115	72 - 132	
Isopropylbenzene	20.0	17.0	85.1	80 - 122	
p-Isopropyltoluene	20.0	20.2	101	80 - 122	
4-Methyl-2-pentanone	20.0	20.7	104	64 - 140	
Methylene chloride	20.0	23.6	118	80 - 123	
Naphthalene	20.0	21.5	108	59 - 149	
n-Propylbenzene	20.0	21.5	107	80 - 129	
Styrene	20.0	20.1	101	80 - 123	
1,1,1,2-Tetrachloroethane	20.0	22.7	113	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.1	95.6	79 - 125	
Tetrachloroethene	20.0	20.9	105	80 - 124	
Toluene	20.0	22.2	111	80 - 124	
1,2,3-Trichlorobenzene	20.0	23.0	115	55 - 140	
1,2,4-Trichlorobenzene	20.0	20.7	103	65 - 135	
1,1,1-Trichloroethane	20.0	20.9	104	80 - 134	
1,1,2-Trichloroethane	20.0	21.1	105	80 - 125	
Trichloroethene	20.0	20.1	100	80 - 122	
Trichlorofluoromethane	20.0	20.9	104	62 - 151	
1,2,3-Trichloropropane	20.0	21.9	110	75 - 125	
1,2,4-Trimethylbenzene	20.0	20.6	103	80 - 125	
1,3,5-Trimethylbenzene	20.0	24.0	120	80 - 127	
Vinyl acetate	20.0	13.7	68.6	10 - 190	
Vinyl chloride	20.0	18.8	93.8	50 - 170	
o-Xylene	20.0	20.6	103	80 - 122	
m-,p-Xylene	40.0	36.4	91.1	80 - 122	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	89.1	86 - 118	PASS
1,2-Dichloroethane-d4	98.6	80 - 120	PASS
Toluene-d8	108	88 - 110	PASS
4-Bromofluorobenzene	95.1	86 - 115	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 1773264
Report generated: 09/07/2010 11:23



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105614

Login Number: L10090073 Analyst: MES Prep Method: 5030B/5030C/503
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG341710 Units: ug/L
QC Key: STD Lot #: STD41193

Sample ID: WG341710-02 LCS File ID: 6M93542 Run Date: 09/02/2010 14:22
Sample ID: WG341710-03 LCS2 File ID: 6M93541 Run Date: 09/02/2010 13:51

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Acetone	20.0	25.3	127	20.0	19.9	99.5	24.1	40 - 180	20	#
Benzene	20.0	20.5	103	20.0	18.7	93.6	9.30	80 - 121	20	
Bromobenzene	20.0	20.3	102	20.0	21.3	106	4.56	80 - 120	20	
Bromochloromethane	20.0	21.8	109	20.0	19.7	98.4	10.2	65 - 130	20	
Bromodichloromethane	20.0	22.3	112	20.0	23.1	116	3.62	80 - 131	20	
Bromoform	20.0	21.0	105	20.0	20.1	100	4.65	70 - 130	20	
Bromomethane	20.0	23.3	117	20.0	22.3	112	4.40	30 - 145	20	
2-Butanone	20.0	22.7	114	20.0	17.5	87.4	26.1	10 - 170	20	#
n-Butylbenzene	20.0	20.1	101	20.0	17.5	87.3	14.3	80 - 131	20	
sec-Butylbenzene	20.0	20.5	103	20.0	20.2	101	1.43	80 - 127	20	
tert-Butylbenzene	20.0	20.4	102	20.0	20.4	102	0.0570	80 - 126	20	
Carbon disulfide	20.0	23.9	120	20.0	20.5	103	15.1	58 - 128	20	
Carbon tetrachloride	20.0	22.0	110	20.0	18.0	90.0	20.1	65 - 140	20	#
Chlorobenzene	20.0	22.1	110	20.0	20.0	100	9.79	80 - 120	20	
Chlorodibromomethane	20.0	24.7	123	20.0	21.5	108	13.6	60 - 135	20	
Chloroethane	20.0	25.8	129	20.0	28.1	141	8.50	60 - 135	20	*
2-Chloroethyl vinyl ether	20.0	19.0	94.8	20.0	22.0	110	15.1	45 - 160	20	
Chloroform	20.0	21.4	107	20.0	18.8	93.8	12.9	80 - 125	20	
Chloromethane	20.0	21.7	108	20.0	21.4	107	1.41	40 - 125	20	
2-Chlorotoluene	20.0	23.0	115	20.0	21.5	108	6.52	80 - 127	20	
4-Chlorotoluene	20.0	24.7	123	20.0	20.0	100	21.0	80 - 126	20	#
1,2-Dibromo-3-chloropropane	20.0	24.1	120	20.0	21.6	108	11.0	50 - 130	20	
1,2-Dibromoethane	20.0	21.3	107	20.0	20.0	100	6.21	80 - 129	20	
Dibromomethane	20.0	19.8	99.2	20.0	19.2	95.9	3.44	75 - 125	20	
1,2-Dichlorobenzene	20.0	20.2	101	20.0	20.7	104	2.46	80 - 125	20	
1,3-Dichlorobenzene	20.0	19.9	99.6	20.0	20.2	101	1.20	80 - 120	20	
1,4-Dichlorobenzene	20.0	19.6	98.2	20.0	19.7	98.5	0.340	80 - 120	20	
Dichlorodifluoromethane	20.0	29.5	147	20.0	23.5	118	22.5	40 - 160	20	#
1,1-Dichloroethane	20.0	23.6	118	20.0	18.7	93.4	23.2	80 - 125	20	#
1,2-Dichloroethane	20.0	20.7	104	20.0	18.5	92.5	11.4	80 - 129	20	
1,1-Dichloroethene	20.0	20.8	104	20.0	18.5	92.6	11.6	80 - 132	20	
cis-1,2-Dichloroethene	20.0	20.8	104	20.0	19.0	95.0	9.08	70 - 125	20	
trans-1,2-Dichloroethene	20.0	23.3	117	20.0	18.6	92.9	22.6	80 - 127	20	#
1,2-Dichloropropane	20.0	25.8	129	20.0	21.6	108	17.7	80 - 120	20	*
1,3-Dichloropropane	20.0	21.8	109	20.0	19.3	96.4	12.3	80 - 120	20	
2,2-Dichloropropane	20.0	20.8	104	20.0	18.3	91.4	12.9	80 - 133	20	
cis-1,3-Dichloropropene	20.0	24.4	122	20.0	22.1	110	9.96	70 - 130	20	
trans-1,3-Dichloropropene	20.0	18.8	94.2	20.0	23.3	116	21.1	80 - 130	20	#
1,1-Dichloropropene	20.0	24.2	121	20.0	18.9	94.4	24.6	75 - 130	20	#
Ethylbenzene	20.0	21.6	108	20.0	18.9	94.6	13.3	80 - 122	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1771404
Report generated: 09/07/2010 14:59



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105615

Login Number: L10090073 Analyst: MES Prep Method: 5030B/5030C/503
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG341710 Units: ug/L
QC Key: STD Lot #: STD41193

Sample ID: WG341710-02 LCS File ID: 6M93542 Run Date: 09/02/2010 14:22
Sample ID: WG341710-03 LCS2 File ID: 6M93541 Run Date: 09/02/2010 13:51

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
2-Hexanone	20.0	20.4	102	20.0	22.6	113	10.4	55 - 130	20	
Hexachlorobutadiene	20.0	23.0	115	20.0	22.4	112	2.75	72 - 132	20	
Isopropylbenzene	20.0	17.0	85.1	20.0	16.0	80.2	5.97	80 - 122	20	
p-Isopropyltoluene	20.0	20.2	101	20.0	19.1	95.4	5.70	80 - 122	20	
4-Methyl-2-pentanone	20.0	20.7	104	20.0	24.6	123	17.2	64 - 140	20	
Methylene chloride	20.0	23.6	118	20.0	17.9	89.7	27.0	80 - 123	20	#
Naphthalene	20.0	21.5	108	20.0	24.2	121	11.8	59 - 149	20	
n-Propylbenzene	20.0	21.5	107	20.0	21.1	106	1.76	80 - 129	20	
Styrene	20.0	20.1	101	20.0	17.8	88.9	12.4	80 - 123	20	
1,1,1,2-Tetrachloroethane	20.0	22.7	113	20.0	20.0	100	12.2	80 - 130	20	
1,1,2,2-Tetrachloroethane	20.0	19.1	95.6	20.0	20.0	99.8	4.34	79 - 125	20	
Tetrachloroethene	20.0	20.9	105	20.0	21.3	107	1.92	80 - 124	20	
Toluene	20.0	22.2	111	20.0	23.8	119	6.75	80 - 124	20	
1,2,3-Trichlorobenzene	20.0	23.0	115	20.0	25.9	130	12.0	55 - 140	20	
1,2,4-Trichlorobenzene	20.0	20.7	103	20.0	20.5	103	0.520	65 - 135	20	
1,1,1-Trichloroethane	20.0	20.9	104	20.0	17.6	88.0	17.0	80 - 134	20	
1,1,2-Trichloroethane	20.0	21.1	105	20.0	21.9	109	3.84	80 - 125	20	
Trichloroethene	20.0	20.1	100	20.0	20.3	101	0.931	80 - 122	20	
Trichlorofluoromethane	20.0	20.9	104	20.0	22.1	110	5.59	62 - 151	20	
1,2,3-Trichloropropane	20.0	21.9	110	20.0	20.3	102	7.72	75 - 125	20	
1,2,4-Trimethylbenzene	20.0	20.6	103	20.0	20.6	103	0.221	80 - 125	20	
1,3,5-Trimethylbenzene	20.0	24.0	120	20.0	20.9	105	13.6	80 - 127	20	
Vinyl acetate	20.0	13.7	68.6	20.0	10.1	50.3	30.7	10 - 190	20	#
Vinyl chloride	20.0	18.8	93.8	20.0	18.9	94.6	0.807	50 - 170	20	
o-Xylene	20.0	20.6	103	20.0	17.7	88.6	14.9	80 - 122	20	
m-,p-Xylene	40.0	36.4	91.1	40.0	35.2	88.1	3.32	80 - 122	20	

Surrogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	98.6	86.2	80 - 120	PASS
Dibromofluoromethane	89.1	86.2	86 - 118	PASS
4-Bromofluorobenzene	95.1	99.1	86 - 115	PASS
Toluene-d8	108	110	88 - 110	PASS

* EXCEEDS %REC LIMIT

EXCEEDS RPD LIMIT

LCS LCS2 - Modified 03/06/2008
PDF File ID: 1771404
Report generated: 09/07/2010 14:59



2.2.1 Semivolatiles GC/MS Data (8270)

2.2.1.1 Summary Data

LABORATORY REPORT

00105618

L10090073

09/15/10 08:13

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47WW37-100901	L10090073-01	8270C	1	02-SEP-10
47WW38-100901	L10090073-02	8270C	1	02-SEP-10
47WW38-100901-FD	L10090073-03	8270C	1	02-SEP-10



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-01

Client ID: 47WW37-100901

Matrix: Water

Workgroup Number: WG342007

Collect Date: 09/01/2010 13:45

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 3510C

Analytical Method: 8270C

Analyst: ADC

Dilution: 1

Units: ug/L

Instrument: HPMS12

Prep Date: 09/03/2010 10:30

Cal Date: 08/09/2010 18:55

Run Date: 09/07/2010 12:53

File ID: 12M31658

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,4-Trichlorobenzene	120-82-1		U	5.00	2.50
1,2-Dichlorobenzene	95-50-1		U	5.00	2.50
1,3-Dichlorobenzene	541-73-1		U	5.00	2.50
1,4-Dichlorobenzene	106-46-7		U	5.00	2.50
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	25.0	12.5
2,4-Dinitrophenol	51-28-5		U	5.00	2.50
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3,3'-Dichlorobenzidine	91-94-1		U	10.0	2.50
3-,4-Methylphenol	106-44-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1		U	25.0	12.5
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloro-3-methylphenol	59-50-7		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.00	2.50
4-Nitroaniline	100-01-6		U	25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo (a) anthracene	56-55-3		U	5.00	2.50
Benzo (a) pyrene	50-32-8		U	5.00	2.50
Benzo (b) fluoranthene	205-99-2		U	5.00	2.50
Benzo (g,h,i) Perylene	191-24-2		U	5.00	2.50
Benzo (k) fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	25.0	12.5
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis (2-Chloroethoxy) Methane	111-91-1		U	5.00	2.50
Bis (2-Chloroethyl) ether	111-44-4		U	5.00	2.50
bis (2-Chloroisopropyl) ether	108-60-1		U	5.00	2.50
bis (2-Ethylhexyl) phthalate	117-81-7		U	10.0	3.00
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo (a,h) Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno (1,2,3-cd) pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
N-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
N-Nitrosodipropylamine	621-64-7		U	5.00	2.50

R-LCS

1 of 6



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-01

Client ID: 47WW37-100901

Matrix: Water

Workgroup Number: WG342007

Collect Date: 09/01/2010 13:45

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 3510C

Analytical Method: 8270C

Analyst: ADC

Dilution: 1

Units: ug/L

Instrument: HPMS12

Prep Date: 09/03/2010 10:30

Cal Date: 08/09/2010 18:55

Run Date: 09/07/2010 12:53

File ID: 12M31658

Analyte	CAS. Number	Result	Qual	PQL	SDL
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	79.8	10	123		
2-Fluorobiphenyl	44.9	43	116		
2-Fluorophenol	29.3	21	100		
Nitrobenzene-d5	45.1	35	114		
p-Terphenyl-d14	109	33	141		
Phenol-d5	18.3	10	94		

U Not detected at or above adjusted sample detection limit



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-02
 Client ID: 47WW38-100901
 Matrix: Water
 Workgroup Number: WG342007
 Collect Date: 09/01/2010 15:30
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3510C
 Analytical Method: 8270C
 Analyst: ADC
 Dilution: 1
 Units: ug/L

Instrument: HPMS12
 Prep Date: 09/03/2010 10:30
 Cal Date: 08/09/2010 18:55
 Run Date: 09/07/2010 13:27
 File ID: 12M31659

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,4-Trichlorobenzene	120-82-1		U	5.00	2.50
1,2-Dichlorobenzene	95-50-1		U	5.00	2.50
1,3-Dichlorobenzene	541-73-1		U	5.00	2.50
1,4-Dichlorobenzene	106-46-7		U	5.00	2.50
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3,3'-Dichlorobenzidine	91-94-1		U	10.0	2.50
3-,4-Methylphenol	106-44-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1		U	25.0	12.5
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloro-3-methylphenol	59-50-7		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.00	2.50
4-Nitroaniline	100-01-6		U	25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo(a)anthracene	56-55-3		U	5.00	2.50
Benzo(a)pyrene	50-32-8		U	5.00	2.50
Benzo(b)fluoranthene	205-99-2		U	5.00	2.50
Benzo(g,h,i)Perylene	191-24-2		U	5.00	2.50
Benzo(k)fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	25.0	12.5
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4		U	5.00	2.50
bis(2-Chloroisopropyl)ether	108-60-1		U	5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7	21.0		10.0	3.00
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
N-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
N-Nitrosodipropylamine	621-64-7		U	5.00	2.50

u-mb

3 of 6

W/ grow



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-02
Client ID: 47WM38-100901
Matrix: Water
Workgroup Number: WG342007
Collect Date: 09/01/2010 15:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3510C
Analytical Method: 8270C
Analyst: ADC
Dilution: 1
Units: ug/L

Instrument: HPMS12
Prep Date: 09/03/2010 10:30
Cal Date: 08/09/2010 18:55
Run Date: 09/07/2010 13:27
File ID: 12M31659

Analyte	CAS. Number	Result	Qual	PQL	SDL
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	64.2	10	123		
2-Fluorobiphenyl	44.8	43	116		
2-Fluorophenol	31.1	21	100		
Nitrobenzene-d5	47.1	35	114		
p-Terphenyl-d14	103	33	141		
Phenol-d5	20.2	10	94		

U Not detected at or above adjusted sample detection limit

Report Number: L10090073
Report Date : September 15, 2010

MICROBAC LABORATORIES INC.

00105623

Sample Number: L10090073-03
Client ID: 47WW38-100901-FD
Matrix: Water
Workgroup Number: WG342007
Collect Date: 09/01/2010 15:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3510C
Analytical Method: 8270C
Analyst: ADC
Dilution: 1
Units: ug/L

Instrument: HPMS12
Prep Date: 09/03/2010 10:30
Cal Date: 08/09/2010 18:55
Run Date: 09/07/2010 14:01
File ID: 12M31660

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,4-Trichlorobenzene	120-82-1		U	5.00	2.50
1,2-Dichlorobenzene	95-50-1		U	5.00	2.50
1,3-Dichlorobenzene	541-73-1		U	5.00	2.50
1,4-Dichlorobenzene	106-46-7		U	5.00	2.50
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3,3'-Dichlorobenzidine	91-94-1		U	10.0	2.50
3-,4-Methylphenol	106-44-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1		U	25.0	12.5
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloro-3-methylphenol	59-50-7		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.00	2.50
4-Nitroaniline	100-01-6		U	25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo(a)anthracene	56-55-3		U	5.00	2.50
Benzo(a)pyrene	50-32-8		U	5.00	2.50
Benzo(b)fluoranthene	205-99-2		U	5.00	2.50
Benzo(g,h,i)Perylene	191-24-2		U	5.00	2.50
Benzo(k)fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	25.0	12.5
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4		U	5.00	2.50
bis(2-Chloroisopropyl)ether	108-60-1		U	5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7	3.92	J	10.0	3.00
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
N-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
N-Nitrosodipropylamine	621-64-7		U	5.00	2.50

45-1003

42010



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-03
Client ID: 47WN38-100901-FD
Matrix: Water
Workgroup Number: WC342007
Collect Date: 09/01/2010 15:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3510C
Analytical Method: 8270C
Analyst: ADC
Dilution: 1
Units: ug/L

Instrument: HPMS12
Prep Date: 09/03/2010 10:30
Cal Date: 08/09/2010 18:55
Run Date: 09/07/2010 14:01
File ID: 12M31660

Analyte	CAS. Number	Result	Qual	PQL	SDL
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50
Surrogate	% Recovery	Lower	Upper	Qual	
2,4,6-Tribromophenol	58.8	10	123		
2-Fluorobiphenyl	40.6	43	116	*	
2-Fluorophenol	27.9	21	100		
Nitrobenzene-d5	42.0	35	114		
p-Terphenyl-d14	99.8	33	141		
Phenol-d5	18.0	10	94		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

* Surrogate or spike compound out of range



2.2.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10090073
Blank File ID: 12M31652
Prep Date: 09/03/10 10:30
Analyzed Date: 09/07/10 09:34
Analyst: ADC

Work Group: WG342007
Blank Sample ID: WG341827-01
Instrument ID: HPMS12
Method: 8270C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341827-02	12M31653	09/07/10 10:07	01
LCS2	WG341827-03	12M31654	09/07/10 10:40	01
47WW37-100901	L10090073-01	12M31658	09/07/10 12:53	01
47WW38-100901	L10090073-02	12M31659	09/07/10 13:27	01
47WW38-100901-FD	L10090073-03	12M31660	09/07/10 14:01	01



METHOD BLANK REPORT

Login Number: L10090073 Prep Date: 09/03/10 10:30 Sample ID: WG341827-01
Instrument ID: HPMS12 Run Date: 09/07/10 09:34 Prep Method: 3510C
File ID: 12M31652 Analyst: ADC Method: 8270C
Workgroup (AAB#): WG342007 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS12-09-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
1,2,4-Trichlorobenzene	2.50	5.00	2.50	1	U
1,2-Dichlorobenzene	2.50	5.00	2.50	1	U
1,3-Dichlorobenzene	2.50	5.00	2.50	1	U
1,4-Dichlorobenzene	2.50	5.00	2.50	1	U
2,4,5-Trichlorophenol	2.50	5.00	2.50	1	U
2,4,6-Trichlorophenol	2.50	5.00	2.50	1	U
2,4-Dichlorophenol	2.50	5.00	2.50	1	U
2,4-Dimethylphenol	2.50	5.00	2.50	1	U
2,4-Dinitrophenol	12.5	25.0	12.5	1	U
2,4-Dinitrotoluene	2.50	5.00	2.50	1	U
2,6-Dinitrotoluene	2.50	5.00	2.50	1	U
2-Chloronaphthalene	2.50	5.00	2.50	1	U
2-Chlorophenol	2.50	5.00	2.50	1	U
2-Methylnaphthalene	2.50	5.00	2.50	1	U
2-Methylphenol	2.50	5.00	2.50	1	U
2-Nitroaniline	12.5	25.0	12.5	1	U
2-Nitrophenol	2.50	5.00	2.50	1	U
3,3'-Dichlorobenzidine	2.50	10.0	2.50	1	U
3-,4-Methylphenol	2.50	5.00	2.50	1	U
3-Nitroaniline	12.5	25.0	12.5	1	U
4,6-Dinitro-2-methylphenol	12.5	25.0	12.5	1	U
4-Bromophenyl-phenylether	2.50	5.00	2.50	1	U
4-Chloro-3-methylphenol	2.50	5.00	2.50	1	U
4-Chloroaniline	2.50	5.00	2.50	1	U
4-Chlorophenyl-phenyl ether	2.50	5.00	2.50	1	U
4-Nitroaniline	12.5	25.0	12.5	1	U
4-Nitrophenol	12.5	25.0	12.5	1	U
Acenaphthene	2.50	5.00	2.50	1	U
Acenaphthylene	2.50	5.00	2.50	1	U
Anthracene	2.50	5.00	2.50	1	U
Benzo(a)anthracene	2.50	5.00	2.50	1	U
Benzo(a)pyrene	2.50	5.00	2.50	1	U
Benzo(b)fluoranthene	2.50	5.00	2.50	1	U
Benzo(g,h,i)Perylene	2.50	5.00	2.50	1	U
Benzo(k)fluoranthene	2.50	5.00	2.50	1	U
Benzoic acid	12.5	25.0	12.5	1	U
Benzyl alcohol	2.50	5.00	2.50	1	U
Bis(2-Chloroethoxy)Methane	2.50	5.00	2.50	1	U
Bis(2-Chloroethyl)ether	2.50	5.00	2.50	1	U
bis(2-Chloroisopropyl)ether	2.50	5.00	2.50	1	U
bis(2-Ethylhexyl)phthalate	3.00	10.0	3.81	1	U
Butylbenzylphthalate	2.50	5.00	2.50	1	U

10x 38.1

Report Name: BLANK

PDF ID: 1775559

08-SEP-2010 16:15



METHOD BLANK REPORT

Login Number: L10090073 Prep Date: 09/03/10 10:30 Sample ID: WG341827-01
 Instrument ID: HPMS12 Run Date: 09/07/10 09:34 Prep Method: 3510C
 File ID: 12M31652 Analyst: ADC Method: 8270C
 Workgroup (AAB#): WG342007 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS12-09-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Chrysene	2.50	5.00	2.50	1	U
Di-N-Butylphthalate	2.50	5.00	2.50	1	U
Di-n-octylphthalate	2.50	5.00	2.50	1	U
Dibenzo(a,h)Anthracene	2.50	5.00	2.50	1	U
Dibenzofuran	2.50	5.00	2.50	1	U
Diethylphthalate	2.50	5.00	2.50	1	U
Dimethylphthalate	2.50	5.00	2.50	1	U
Fluoranthene	2.50	5.00	2.50	1	U
Fluorene	2.50	5.00	2.50	1	U
Hexachlorobenzene	2.50	5.00	2.50	1	U
Hexachlorobutadiene	2.50	5.00	2.50	1	U
Hexachlorocyclopentadiene	2.50	5.00	2.50	1	U
Hexachloroethane	2.50	5.00	2.50	1	U
Indeno(1,2,3-cd)pyrene	2.50	5.00	2.50	1	U
Isophorone	2.50	5.00	2.50	1	U
N-Nitrosodiphenylamine	2.50	5.00	2.50	1	U
N-Nitrosodipropylamine	2.50	5.00	2.50	1	U
Naphthalene	2.50	5.00	2.50	1	U
Nitrobenzene	2.50	5.00	2.50	1	U
Pentachlorophenol	12.5	25.0	12.5	1	U
Phenanthrene	2.50	5.00	2.50	1	U
Phenol	2.50	5.00	2.50	1	U
Pyrene	2.50	5.00	2.50	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,6-Tribromophenol	67.7	10 - 123	PASS
2-Fluorobiphenyl	51.8	43 - 116	PASS
2-Fluorophenol	31.7	21 - 100	PASS
Nitrobenzene-d5	51.6	35 - 114	PASS
p-Terphenyl-d14	113	33 - 141	PASS
Phenol-d5	20.0	10 - 94	PASS

SDL Method Detection Limit
 PQL Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1775559

08-SEP-2010 16:15



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105629

Login Number: L10090073 Analyst: ADC Prep Method: 3510C
Instrument ID: HPMS12 Matrix: Water Method: 8270C
Workgroup (AAB#): WG342007 Units: ug/L
QC Key: STD Lot #: STD40630

Sample ID: WG341827-02 LCS File ID: 12M31653 Run Date: 09/07/2010 10:07
Sample ID: WG341827-03 LCS2 File ID: 12M31654 Run Date: 09/07/2010 10:40

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,2,4-Trichlorobenzene	50.0	18.8	37.7	50.0	15.3	30.6	20.8	25 - 105	30	
1,2-Dichlorobenzene	50.0	21.5	43.1	50.0	17.6	35.2	19.9	25 - 110	30	
1,3-Dichlorobenzene	50.0	20.8	41.7	50.0	16.8	33.5	21.7	25 - 110	30	
1,4-Dichlorobenzene	50.0	20.8	41.7	50.0	16.8	33.6	21.6	25 - 110	30	
2,4,5-Trichlorophenol	50.0	30.2	60.4	50.0	27.7	55.4	8.66	35 - 120	30	
2,4,6-Trichlorophenol	50.0	26.7	53.4	50.0	22.6	45.2	16.6	30 - 120	30	
2,4-Dichlorophenol	50.0	22.1	44.3	50.0	18.3	36.5	19.3	20 - 110	30	
2,4-Dimethylphenol	50.0	23.8	47.6	50.0	19.5	39.1	19.7	20 - 120	30	
2,4-Dinitrophenol	50.0	29.2	58.5	50.0	23.8	47.6	20.5	20 - 140	30	
2,4-Dinitrotoluene	50.0	43.2	86.4	50.0	40.5	81.0	6.44	50 - 139	30	
2,6-Dinitrotoluene	50.0	34.5	69.1	50.0	31.1	62.2	10.5	50 - 120	30	
2-Chloronaphthalene	50.0	20.5	40.9	50.0	16.7	33.4	20.3	25 - 120	30	
2-Chlorophenol	50.0	21.9	43.7	50.0	17.6	35.3	21.4	25 - 110	30	
2-Methylnaphthalene	50.0	22.0	43.9	50.0	17.9	35.9	20.2	25 - 120	30	
2-Methylphenol	50.0	21.7	43.5	50.0	17.3	34.7	22.4	20 - 110	30	
2-Nitroaniline	50.0	33.4	66.8	50.0	30.4	60.9	9.28	45 - 115	30	
2-Nitrophenol	50.0	20.3	40.7	50.0	16.6	33.1	20.4	20 - 115	30	
3,3'-Dichlorobenzidine	50.0	50.9	102	50.0	50.5	101	0.901	30 - 140	30	
3,4-Methylphenol	50.0	20.0	40.0	50.0	16.0	32.1	21.9	20 - 110	30	
3-Nitroaniline	50.0	38.2	76.5	50.0	36.8	73.6	3.84	40 - 120	30	
4,6-Dinitro-2-methylphenol	50.0	47.3	94.6	50.0	42.4	84.8	10.9	40 - 145	30	
4-Bromophenyl-phenylether	50.0	35.5	71.0	50.0	31.6	63.2	11.6	40 - 115	30	
4-Chloro-3-methylphenol	50.0	27.4	54.9	50.0	24.1	48.2	12.9	25 - 110	30	
4-Chloroaniline	50.0	22.5	44.9	50.0	18.9	37.8	17.3	25 - 120	30	
4-Chlorophenyl-phenyl ether	50.0	29.3	58.6	50.0	26.2	52.3	11.4	35 - 120	30	
4-Nitroaniline	50.0	44.7	89.4	50.0	44.0	88.0	1.54	53 - 135	30	
4-Nitrophenol	50.0	20.8	41.7	50.0	19.2	38.4	8.13	10 - 132	30	
Acenaphthene	50.0	27.0	54.0	50.0	22.6	45.2	17.8	30 - 120	30	
Acenaphthylene	50.0	26.7	53.4	50.0	22.2	44.3	18.7	30 - 120	30	
Anthracene	50.0	45.4	90.8	50.0	41.4	82.9	9.14	55 - 130	30	
Benzo(a)anthracene	50.0	50.7	101	50.0	49.4	98.9	2.54	60 - 130	30	
Benzo(a)pyrene	50.0	51.5	103	50.0	50.7	101	1.48	55 - 135	30	
Benzo(b)fluoranthene	50.0	46.4	92.8	50.0	46.5	93.0	0.215	45 - 125	30	
Benzo(g,h,i)Perylene	50.0	61.6	123	50.0	60.8	122	1.46	45 - 140	30	
Benzo(k)fluoranthene	50.0	53.0	106	50.0	51.1	102	3.51	55 - 140	30	
Benzoic acid	50.0	0.00	0.00	50.0	0.00	0.00	NA	10 - 100	30	
Benzyl alcohol	50.0	23.4	46.9	50.0	19.4	38.9	18.6	20 - 110	30	
Bis(2-Chloroethoxy)Methane	50.0	16.4	32.7	50.0	13.4	26.7	20.1	20 - 105	30	
Bis(2-Chloroethyl)ether	50.0	23.2	46.4	50.0	19.2	38.4	19.0	25 - 110	30	
bis(2-Chloroisopropyl)ether	50.0	22.3	44.5	50.0	18.2	36.4	20.0	20 - 110	30	

LCS LCS2 - Modified 03/06/2008
PDF File ID: 1775006
Report generated: 09/08/2010 16:15



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105630

Login Number: L10090073 Analyst: ADC Prep Method: 3510C
Instrument ID: HPMS12 Matrix: Water Method: 8270C
Workgroup (AAB#): WG342007 Units: ug/L
QC Key: STD Lot #: STD40630

Sample ID: WG341827-02 LCS File ID: 12M31653 Run Date: 09/07/2010 10:07
Sample ID: WG341827-03 LCS2 File ID: 12M31654 Run Date: 09/07/2010 10:40

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Bis(2-Ethylhexyl)phthalate	50.0	56.0	112	50.0	60.0	120	6.81	50 - 150	30	
Butylbenzylphthalate	50.0	54.6	109	50.0	53.6	107	1.84	55 - 150	30	
Chrysene	50.0	51.9	104	50.0	50.4	101	2.96	55 - 130	30	
Di-N-Butylphthalate	50.0	53.9	108	50.0	51.5	103	4.50	55 - 118	30	
Di-n-octylphthalate	50.0	54.9	110	50.0	54.1	108	1.37	40 - 146	30	
Dibenzo(a,h)Anthracene	50.0	59.2	118	50.0	58.1	116	1.87	45 - 125	30	
Dibenzofuran	50.0	28.4	56.7	50.0	24.4	48.7	15.2	35 - 115	30	
Diethylphthalate	50.0	42.9	85.8	50.0	39.7	79.3	7.86	45 - 120	30	
Dimethylphthalate	50.0	35.0	70.1	50.0	31.7	63.5	9.86	25 - 112	30	
Fluoranthene	50.0	52.2	104	50.0	50.4	101	3.53	50 - 137	30	
Fluorene	50.0	31.1	62.3	50.0	27.4	54.8	12.7	40 - 120	30	
Hexachlorobenzene	50.0	40.3	80.7	50.0	37.1	74.2	8.38	50 - 130	30	
Hexachlorobutadiene	50.0	20.2	40.4	50.0	16.3	32.6	21.3	24 - 105	30	
Hexachlorocyclopentadiene	50.0	28.2	56.4	50.0	22.6	45.1	22.3	20 - 143	30	
Hexachloroethane	50.0	19.4	38.7	50.0	15.6	31.2	21.6	25 - 95	30	
Indeno(1,2,3-cd)pyrene	50.0	58.6	117	50.0	57.6	115	1.84	50 - 135	30	
Isophorone	50.0	21.6	43.2	50.0	17.8	35.7	19.1	30 - 110	30	
N-Nitrosodiphenylamine	50.0	39.0	78.0	50.0	36.0	71.9	8.15	40 - 110	30	
N-Nitrosodipropylamine	50.0	24.7	49.4	50.0	20.1	40.3	20.5	28 - 120	30	
Naphthalene	50.0	20.5	40.9	50.0	16.9	33.8	19.2	25 - 110	30	
Nitrobenzene	50.0	20.9	41.8	50.0	17.2	34.3	19.6	30 - 110	30	
Pentachlorophenol	50.0	47.6	95.3	50.0	44.3	88.6	7.28	40 - 140	30	
Phenanthrene	50.0	43.7	87.5	50.0	40.3	80.5	8.27	55 - 120	30	
Phenol	50.0	9.67	19.3	50.0	7.56	15.1	24.5	10 - 120	30	
Pyrene	50.0	50.4	101	50.0	49.2	98.5	2.41	55 - 130	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
2,4,6-Tribromophenol	86.9	81.5	10 - 123	PASS
2-Fluorobiphenyl	49.4	39.6	43 - 116	FAIL
2-Fluorophenol	29.8	23.0	21 - 100	PASS
Nitrobenzene-d5	43.3	35.8	35 - 114	PASS
p-Terphenyl-d14	105	100	33 - 141	PASS
Phenol-d5	19.2	14.7	10 - 94	PASS

* EXCEEDS %REC LIMIT

EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1775006
Report generated: 09/08/2010 16:15



2.2.2 LC/MS Data (6850)

2.2.2.1 Summary Data

LABORATORY REPORT

00105633

L10090073

09/15/10 08:13

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47WW37-100901	L10090073-01	6850	1	02-SEP-10
47WW38-100901	L10090073-02	6850	1000	02-SEP-10
47WW38-100901-FD	L10090073-03	6850	1000	02-SEP-10



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-01
Client ID: 47WW37-100901
Matrix: Water
Workgroup Number: WG341781
Collect Date: 09/01/2010 13:45
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/L

Instrument: LCMS1
Prep Date: 09/03/2010 11:53
Cal Date: 08/26/2010 21:10
Run Date: 09/04/2010 16:10
File ID: 11M.LM05307

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	6.42		0.200	0.100

W. 9/20/10

Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-02
Client ID: 47WW38-100901
Matrix: Water
Workgroup Number: WG341781
Collect Date: 09/01/2010 15:30
Sample Tag: DL01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1000
Units: ug/L

Instrument: LCMS1
Prep Date: 09/03/2010 11:53
Cal Date: 08/26/2010 21:10
Run Date: 09/07/2010 18:49
File ID: LLM.LM05352

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	4110		200	100

WTD



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-03
Client ID: 47WW38-100901-FD
Matrix: Water
Workgroup Number: WG341781
Collect Date: 09/01/2010 15:30
Sample Tag: DL01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1000
Units: ug/L

Instrument: LCMS1
Prep Date: 09/03/2010 11:53
Cal Date: 08/26/2010 21:10
Run Date: 09/07/2010 19:16
File ID: 1LM.LM05353

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	4520		200	100

96 LFD =
9.5%
1.4%

WTD

2.2.2.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10090073 Work Group: WG341781
Blank File ID: 1LM.LM05304 Blank Sample ID: WG341781-02
Prep Date: 09/03/10 11:53 Instrument ID: LCMS1
Analyzed Date: 09/04/10 14:51 Method: 6850
Analyst: WTD

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG341781-05	1LM.LM05301	09/04/10 13:31	01
MCT	WG341781-01	1LM.LM05303	09/04/10 14:24	01
LCS	WG341781-03	1LM.LM05305	09/04/10 15:17	01
LCS2	WG341781-04	1LM.LM05306	09/04/10 15:44	01
47WW37-100901	L10090073-01	1LM.LM05307	09/04/10 16:10	01
QCMRL	WG341781-06	1LM.LM05311	09/04/10 17:56	01
QCMRL	WG341781-07	1LM.LM05347	09/07/10 16:33	01
47WW38-100901	L10090073-02	1LM.LM05352	09/07/10 18:49	DL01
47WW38-100901-FD	L10090073-03	1LM.LM05353	09/07/10 19:16	DL01
QCMRL	WG341781-08	1LM.LM05355	09/07/10 20:09	01

Report Name: BLANK_SUMMARY
PDF File ID: 1773948
Report generated 09/09/2010 11:53



METHOD BLANK REPORT

Login Number: L10090073 Prep Date: 09/03/10 11:53 Sample ID: WG341781-02
Instrument ID: LCMS1 Run Date: 09/04/10 14:51 Prep Method: 6850
File ID: ILM.LM05304 Analyst: WTD Method: 6850
Workgroup (AAB#): WG341781 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: LCMS1-26-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.100	0.200	0.100	1	U

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1773949

09-SEP-2010 11:53



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105640

Login Number: L10090073 Analyst: WTD Prep Method: 6850
Instrument ID: LCMS1 Matrix: Water Method: 6850
Workgroup (AAB#): WG341781 Units: ug/L
QC Key: STD Lot #: STD40906

Sample ID: WG341781-03 LCS File ID: 1LM.LM05305 Run Date: 09/04/2010 15:17
Sample ID: WG341781-04 LCS2 File ID: 1LM.LM05306 Run Date: 09/04/2010 15:44

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	0.200	0.183	91.5	0.200	0.203	102	10.4	80 - 120	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1773950
Report generated: 09/09/2010 11:53



2.3.1 Metals I C P Data

2.3.1.1 Summary Data

LABORATORY REPORT

L10090073

09/15/10 08:13

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47WW37-100901	L10090073-01	6010B	1	02-SEP-10
47WW37-100901	L10090073-01	6010B	100	02-SEP-10
47WW38-100901	L10090073-02	6010B	1	02-SEP-10
47WW38-100901-FD	L10090073-03	6010B	1	02-SEP-10



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-01

Client ID: 47WW37-100901

Matrix: Water

Workgroup Number: WG341887

Collect Date: 09/01/2010 13:45

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 3005A

Analytical Method: 6010B

Analyst: SLP

Dilution: 1

Units: mg/L

Instrument: PE-ICP2

Prep Date: 09/03/2010 11:13

Cal Date: 09/03/2010 09:04

Run Date: 09/03/2010 22:56

File ID: P2.090310.225623

Analyte	CAS. Number	Result	Qual	PQL	SDL
Aluminum, Total	7429-90-5	0.768		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.000500
Calcium, Total	7440-70-2	135		0.200	0.100
Cobalt, Total	7440-48-4		U	0.00500	0.00250
Iron, Total	7439-89-6	0.717		0.100	0.0250
Magnesium, Total	7439-95-4	27.2		0.500	0.250
Potassium, Total	7440-09-7	19.4		1.00	0.250
Vanadium, Total	7440-62-2	0.00794	J	0.0100	0.00500
Zinc, Total	7440-66-6	0.00735	J	0.0200	0.00500

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

W. Brown

Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-01	PrePrep Method: NONE	Instrument: PE-ICP2
Client ID: 47WW37-100901	Prep Method: 3005A	Prep Date: 09/03/2010 11:13
Matrix: Water	Analytical Method: 6010B	Cal Date: 09/07/2010 10:55
Workgroup Number: WG341887	Analyst: PDM	Run Date: 09/07/2010 17:36
Collect Date: 09/01/2010 13:45	Dilution: 100	File ID: P2.090710.173606
Sample Tag: DL01	Units: mg/L	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Sodium, Total	7440-23-5	198		50.0	25.0

092010

2 of 4



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-02
Client ID: 47WW38-100901
Matrix: Water
Workgroup Number: WG341887
Collect Date: 09/01/2010 15:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 3005A
Analytical Method: 6010B
Analyst: SLP
Dilution: 1
Units: mg/L

Instrument: PE-ICP2
Prep Date: 09/03/2010 11:13
Cal Date: 09/03/2010 09:04
Run Date: 09/03/2010 23:03
File ID: P2.090310.230302

Analyte	CAS. Number	Result	Qual	PQL	SDL
Aluminum, Total	7429-90-5	2.66		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.000500
Calcium, Total	7440-70-2	26.4		0.200	0.100
Cobalt, Total	7440-48-4		U	0.00500	0.00250
Iron, Total	7439-89-6	2.43		0.100	0.0250
Magnesium, Total	7439-95-4	6.00		0.500	0.250
Potassium, Total	7440-09-7	6.01		1.00	0.250
Sodium, Total	7440-23-5	121		0.500	0.250
Vanadium, Total	7440-62-2	0.0326		0.0100	0.00500
Zinc, Total	7440-66-6	0.0205		0.0200	0.00500

U Not detected at or above adjusted sample detection limit



Report Number: L10090073

Report Date : September 15, 2010

00105648

Sample Number: L10090073-03
 Client ID: 47WW38-100901-FD
 Matrix: Water
 Workgroup Number: WG341887
 Collect Date: 09/01/2010 15:30
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 3005A
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 1
 Units: mg/L

Instrument: PE-ICP2
 Prep Date: 09/03/2010 11:13
 Cal Date: 09/03/2010 09:04
 Run Date: 09/03/2010 23:08
 File ID: P2.090310.230842

Analyte	CAS. Number	Result	Qual	PQL	SDL
Aluminum, Total	7429-90-5	3.83		0.100	0.0500
Beryllium, Total	7440-41-7		U	0.00200	0.000500
Calcium, Total	7440-70-2	30.7		0.200	0.100
Cobalt, Total	7440-48-4	0.00331	J	0.00500	0.00250
Iron, Total	7439-89-6	4.15		0.100	0.0250
Magnesium, Total	7439-95-4	6.50		0.500	0.250
Potassium, Total	7440-09-7	6.33		1.00	0.250
Sodium, Total	7440-23-5	125		0.500	0.250
Vanadium, Total	7440-62-2	0.0372		0.0100	0.00500
Zinc, Total	7440-66-6	0.0237		0.0200	0.00500

U Not detected at or above adjusted sample detection limit
 J The analyte was positively identified, but the quantitation was below the RL



2.3.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10090073
Blank File ID: P2.090310.200726
Prep Date: 09/03/10 11:13
Analyzed Date: 09/03/10 20:07
Analyst: SLP

Work Group: WG341887
Blank Sample ID: WG341847-02
Instrument ID: PE-ICP2
Method: 6010B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341847-03	P2.090310.201359	09/03/10 20:13	01
47WW37-100901	L10090073-01	P2.090310.225623	09/03/10 22:56	01
47WW38-100901	L10090073-02	P2.090310.230302	09/03/10 23:03	01
47WW38-100901-FD	L10090073-03	P2.090310.230842	09/03/10 23:08	01
47WW37-100901	L10090073-01	P2.090710.173606	09/07/10 17:36	DL01

Report Name: BLANK SUMMARY
PDF File ID: 1772944
Report generated 09/08/2010 08:54



Microbac Laboratories Inc.
METHOD BLANK REPORT

00105651

Login Number: L10090073 Prep Date: 09/03/10 11:13 Sample ID: WG341847-02
Instrument ID: PE-ICP2 Run Date: 09/03/10 20:07 Prep Method: 3005A
File ID: P2.090310.200726 Analyst: SLP Method: 6010B
Workgroup (AAB#): WG341887 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: PE-ICP-03-SEP-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Aluminum, Total	0.0500	0.100	0.0500	1	U
Beryllium, Total	0.000500	0.00200	0.000500	1	U
Calcium, Total	0.100	0.200	0.100	1	U
Cobalt, Total	0.00250	0.00500	0.00250	1	U
Iron, Total	0.0250	0.100	0.0250	1	U
Magnesium, Total	0.250	0.500	0.250	1	U
Potassium, Total	0.250	1.00	0.250	1	U
Sodium, Total	0.250	0.500	0.250	1	U
Vanadium, Total	0.00500	0.0100	0.00500	1	U
Zinc, Total	0.00500	0.0200	0.00500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1772945
07-SEP-2010 09:58



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105652

Login Number: L10090073 Run Date: 09/03/2010 Sample ID: WG341847-03
Instrument ID: PE-ICP2 Run Time: 20:13 Prep Method: 3005A
File ID: P2.090310.201359 Analyst: SLP Method: 6010B
Workgroup (AAB#): WG341887 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD39933 Cal ID: PE-ICP-03-SEP-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Aluminum, Total	5.00	5.22	104	85 - 115	
Beryllium, Total	0.0250	0.0251	101	85 - 115	
Calcium, Total	5.00	4.94	98.9	85 - 115	
Cobalt, Total	0.100	0.100	100	85 - 115	
Iron, Total	2.00	2.08	104	85 - 115	
Magnesium, Total	5.00	5.27	105	85 - 115	
Potassium, Total	25.0	26.2	105	85 - 115	
Sodium, Total	25.0	27.9	111	85 - 115	
Vanadium, Total	0.500	0.511	102	85 - 115	
Zinc, Total	0.500	0.506	101	85 - 115	

LCS - Modified 03/06/2008
PDF File ID: 1772946
Report generated: 09/07/2010 09:58



2.3.2 Metals ICP-MS Data

2.3.2.1 Summary Data

LABORATORY REPORT

00105655

L10090073

09/15/10 08:13

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47WW37-100901	L10090073-01	6020	5	02-SEP-10
47WW37-100901	L10090073-01	6020	5	02-SEP-10
47WW38-100901	L10090073-02	6020	5	02-SEP-10
47WW38-100901	L10090073-02	6020	5	02-SEP-10
47WW38-100901-FD	L10090073-03	6020	5	02-SEP-10
47WW38-100901-FD	L10090073-03	6020	5	02-SEP-10



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-01	PrePrep Method: NONE	Instrument: ELAN-ICP
Client ID: 47WW37-100901	Prep Method: 3015	Prep Date: 09/03/2010 07:36
Matrix: Water	Analytical Method: 6020	Cal Date: 09/07/2010 10:14
Workgroup Number: WG341845	Analyst: JYH	Run Date: 09/07/2010 13:41
Collect Date: 09/01/2010 13:45	Dilution: 5	File ID: EL.090710.134158
Sample Tag: DL02	Units: mg/L	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Manganese, Total	7439-96-5	0.0357		0.0100	0.00250



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-01

Client ID: 47WW37-100901

Matrix: Water

Workgroup Number: WG341845

Collect Date: 09/01/2010 13:45

Sample Tag: DL01

PrePrep Method: NONE

Prep Method: 3015

Analytical Method: 6020

Analyst: JYH

Dilution: 5

Units: mg/L

Instrument: ELAN-ICP

Prep Date: 09/03/2010 07:36

Cal Date: 09/03/2010 11:40

Run Date: 09/03/2010 14:37

File ID: EL.090310.143710

Analyte	CAS. Number	Result	Qual	PQL	SDL
Silver, Total	7440-22-4		U	0.00500	0.00125
Arsenic, Total	7440-38-2	0.00445	J	0.00500	0.00125
Barium, Total	7440-39-3	0.0596		0.0150	0.00250
Cadmium, Total	7440-43-9		U	0.00250	0.000625
Chromium, Total	7440-47-3	0.00530	J	0.0100	0.00250
Copper, Total	7440-50-8	0.00294	J	0.0100	0.00250
Lead, Total	7439-92-1		U	0.00250	0.00125
Nickel, Total	7440-02-0	0.00603	J	0.0200	0.00500
Antimony, Total	7440-36-0		U	0.00500	0.00125
Selenium, Total	7782-49-2	0.0115		0.00500	0.00250
Thallium, Total	7440-28-0		U	0.00100	0.000250

J The analyte was positively identified, but the quantitation was below the RL
U Not detected at or above adjusted sample detection limit

Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-02	PrePrep Method: NONE	Instrument: ELAN-ICP
Client ID: 47WW38-100901	Prep Method: 3015	Prep Date: 09/03/2010 07:36
Matrix: Water	Analytical Method: 6020	Cal Date: 09/07/2010 10:14
Workgroup Number: WG341845	Analyst: JYH	Run Date: 09/07/2010 13:48
Collect Date: 09/01/2010 15:30	Dilution: 5	File ID: EL.090710.134842
Sample Tag: DL02	Units: mg/L	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Manganese, Total	7439-96-5	0.0539		0.0100	0.00250

JI-FD



3 of 6



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-02

Client ID: 47WW38-100901

Matrix: Water

Workgroup Number: WG341845

Collect Date: 09/01/2010 15:30

Sample Tag: DL01

PrePrep Method: NONE

Prep Method: 3015

Analytical Method: 6020

Analyst: JYH

Dilution: 5

Units: mg/L

Instrument: ELAN-ICP

Prep Date: 09/03/2010 07:36

Cal Date: 09/03/2010 11:40

Run Date: 09/03/2010 14:43

File ID: EL.090310.144355

Analyte	CAS. Number	Result	Qual	PQL	SDL
Silver, Total	7440-22-4		U	0.00500	0.00125
Arsenic, Total	7440-38-2	0.108		0.00500	0.00125
Barium, Total	7440-39-3	0.0555		0.0150	0.00250
Cadmium, Total	7440-43-9		U	0.00250	0.000625
Chromium, Total	7440-47-3	0.00966	J	0.0100	0.00250
Copper, Total	7440-50-8	0.00626	J	0.0100	0.00250
Lead, Total	7439-92-1	0.00454		0.00250	0.00125
Nickel, Total	7440-02-0	0.00564	J	0.0200	0.00500
Antimony, Total	7440-36-0	0.00509		0.00500	0.00125
Selenium, Total	7782-49-2	0.00661		0.00500	0.00250
Thallium, Total	7440-28-0		U	0.00100	0.000250

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Barium $1/0.00661 > 0.0025$ JI-FDCr $1/0.00244 < 0.0025$ ok ✓Copper $1/0.00003 < 0.0025$ ok ✓Lead $1/0.00012 < 0.00125$ ok ✓Nickel $1/0.00145 < 0.0050$ ok ✓Antimony $1/0.00032 < 0.00125$ ok ✓Selenium $1/0.00287 > 0.0025$ JI-FD

4 of 6



Report Number: L10090073

Report Date : September 15, 2010

L201.
54 SDK

Sample Number: L10090073-03
 Client ID: 47WW38-100901-FD
 Matrix: Water
 Workgroup Number: WG341845
 Collect Date: 09/01/2010 15:30
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6020
 Analyst: JYH
 Dilution: 5
 Units: mg/L

Instrument: ELAN-ICP
 Prep Date: 09/03/2010 07:36
 Cal Date: 09/03/2010 11:40
 Run Date: 09/03/2010 14:50
 File ID: RL.090310.145039

Analyte	CAS. Number	Result	Qual	PQL	SDL
Silver, Total	7440-22-4		U	0.00500	0.00125
Arsenic, Total	7440-38-2	0.0965		0.00500	0.00125
Barium, Total	7440-39-3	0.0621		0.0150	0.00250
Cadmium, Total	7440-43-9		U	0.00250	0.000625
Chromium, Total	7440-47-3	0.0121		0.0100	0.00250
Copper, Total	7440-50-8	0.00629	J	0.0100	0.00250
Lead, Total	7439-92-1	0.00466		0.00250	0.00125
Nickel, Total	7440-02-0	0.00709	J	0.0200	0.00500
Antimony, Total	7440-36-0	0.00477	J	0.00500	0.00125
Selenium, Total	7782-49-2	0.00374	J	0.00500	0.00250
Thallium, Total	7440-28-0		U	0.00100	0.000250

11.2

J

J

J

II-KD

J The analyte was positively identified, but the quantitation was below the RL
 U Not detected at or above adjusted sample detection limit

E
09/10/10

Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-03
Client ID: 47WW38-100901-FD
Matrix: Water
Workgroup Number: WG341845
Collect Date: 09/01/2010 15:30
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 5
Units: mg/L

Instrument: ELAN-ICP
Prep Date: 09/03/2010 07:36
Cal Date: 09/07/2010 10:14
Run Date: 09/07/2010 13:55
File ID: EL.090710.135528

Analyte	CAS. Number	Result	Qual	PQL	SDL
Manganese, Total	7439-96-5	0.0865		0.0100	0.00250

JI-FD

7/6 HPO =
46.4

Handwritten signature

2.3.2.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10090073
Blank File ID: EL.090310.124306
Prep Date: 09/03/10 07:36
Analyzed Date: 09/03/10 12:43
Analyst: JYH

Work Group: WG341845
Blank Sample ID: WG341803-03
Instrument ID: ELAN-ICP
Method: 6020

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341803-04	EL.090310.131431	09/03/10 13:14	01
47WW37-100901	L10090073-01	EL.090310.143710	09/03/10 14:37	DL01
47WW38-100901	L10090073-02	EL.090310.144355	09/03/10 14:43	DL01
47WW38-100901-FD	L10090073-03	EL.090310.145039	09/03/10 14:50	DL01
DUP	WG341803-07	EL.090310.151736	09/03/10 15:17	DL01
LCS	WG341803-04	EL.090710.131500	09/07/10 13:15	02
47WW37-100901	L10090073-01	EL.090710.134158	09/07/10 13:41	DL02
47WW38-100901	L10090073-02	EL.090710.134842	09/07/10 13:48	DL02
47WW38-100901-FD	L10090073-03	EL.090710.135528	09/07/10 13:55	DL02

Report Name: BLANK SUMMARY
PDF File ID: 1772456
Report generated 09/08/2010 13:26



METHOD BLANK SUMMARY

Login Number: L10090073 Work Group: WG341845
Blank File ID: EL.090710.130805 Blank Sample ID: WG341803-03
Prep Date: 09/03/10 07:36 Instrument ID: ELAN-ICP
Analyzed Date: 09/07/10 13:08 Method: 6020
Analyst: JYH

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341803-04	EL.090310.131431	09/03/10 13:14	01
47WW37-100901	L10090073-01	EL.090310.143710	09/03/10 14:37	DL01
47WW38-100901	L10090073-02	EL.090310.144355	09/03/10 14:43	DL01
47WW38-100901-FD	L10090073-03	EL.090310.145039	09/03/10 14:50	DL01
DUP	WG341803-07	EL.090310.151736	09/03/10 15:17	DL01
LCS	WG341803-04	EL.090710.131500	09/07/10 13:15	02
47WW37-100901	L10090073-01	EL.090710.134158	09/07/10 13:41	DL02
47WW38-100901	L10090073-02	EL.090710.134842	09/07/10 13:48	DL02
47WW38-100901-FD	L10090073-03	EL.090710.135528	09/07/10 13:55	DL02

Report Name: BLANK_SUMMARY
PDF File ID: 1772456
Report generated 09/08/2010 13:26



METHOD BLANK REPORT

Login Number: L10090073 Prep Date: 09/03/10 07:36 Sample ID: WG341803-03
Instrument ID: ELAN-ICP Run Date: 09/03/10 12:43 Prep Method: 3015
File ID: EL.090310.124306 Analyst: JYH Method: 6020
Workgroup (AAB#): WG341845 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: ELAN-I-

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Silver, Total	0.000250	0.00100	0.000250	1	U
Arsenic, Total	0.000250	0.00100	0.000250	1	U
Barium, Total	0.000500	0.00300	0.000500	1	U
Cadmium, Total	0.000125	0.000500	0.000125	1	U
Chromium, Total	0.000500	0.00200	0.000500	1	U
Copper, Total	0.000500	0.00200	0.000500	1	U
Lead, Total	0.000250	0.000500	0.000250	1	U
Nickel, Total	0.00100	0.00400	0.00100	1	U
Antimony, Total	0.000250	0.00100	0.000250	1	U
Selenium, Total	0.000500	0.00100	0.000500	1	U
Thallium, Total	0.0000500	0.000200	0.0000500	1	U

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1772457

08-SEP-2010 13:26



METHOD BLANK REPORT

Login Number: L10090073 Prep Date: 09/03/10 07:36 Sample ID: WG341803-03
Instrument ID: ELAN-ICP Run Date: 09/07/10 13:08 Prep Method: 3015
File ID: EL.090710.130805 Analyst: JYH Method: 6020
Workgroup (AAB#): WG341845 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: ELAN-I-07-SEP-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Manganese, Total	0.000500	0.00200	0.000933	1	J

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

ok

Report Name: BLANK
PDF ID: 1772457
08-SEP-2010 13:26



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105667

Login Number: L10090073 Run Date: 09/03/2010 Sample ID: WG341803-04
Instrument ID: ELAN-ICP Run Time: 13:14 Prep Method: 3015
File ID: EL-090310.131431 Analyst: JYH Method: 6020
Workgroup (AAB#): WG341845 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD39374 Cal ID: ELAN-I-

Analytes	Expected	Found	% Rec	LCS Limits			Q
Silver, Total	0.0625	0.0619	99.0	80	-	120	
Arsenic, Total	0.0625	0.0645	103	80	-	120	
Barium, Total	0.0625	0.0645	103	80	-	120	
Cadmium, Total	0.0625	0.0664	106	80	-	120	
Chromium, Total	0.0625	0.0652	104	80	-	120	
Copper, Total	0.0625	0.0680	109	80	-	120	
Lead, Total	0.0625	0.0653	104	80	-	120	
Nickel, Total	0.0625	0.0666	106	80	-	120	
Antimony, Total	0.0625	0.0661	106	80	-	120	
Selenium, Total	0.0625	0.0641	103	80	-	120	
Thallium, Total	0.0625	0.0649	104	80	-	120	

LCS - Modified 03/06/2008
PDF File ID: 1772458
Report generated: 09/08/2010 13:26



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10090073 Run Date: 09/07/2010 Sample ID: WG341803-04
Instrument ID: ELAN-ICP Run Time: 13:15 Prep Method: 3015
File ID: EL-090710.131500 Analyst: JYH Method: 6020
Workgroup (AAB#): WG341845 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD39374 Cal ID: ELAN-I-07-SEP-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Manganese, Total	0.0625	0.0719	115	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 1772458
Report generated: 09/08/2010 13:26



Microbac Laboratories Inc.
MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

00105669

Loginnum: L10090073 Cal ID: ELAN-ICP- Worknum: WG341845
Instrument ID: ELAN-ICP Contract #: DACA56-94-D-0020 Method: 6020
Parent ID: WG341803-01 File ID: EL_090310_133534 Dil: 1 Matrix: WATER
Sample ID: WG341803-05 MS File ID: EL_090310_134218 Dil: 1 Units: mg/L
Sample ID: WG341803-06 MSD File ID: EL_090310_134903 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony	0.000328	0.0625	0.0618	98.4	0.0625	0.0629	100	1.79	75 - 125	20	
Arsenic	0.00220	0.0625	0.0600	92.5	0.0625	0.0600	92.5	0.0629	75 - 125	20	
Barium	0.0546	0.0625	0.116	99.0	0.0625	0.114	95.5	1.91	75 - 125	20	
Cadmium	ND	0.0625	0.0596	95.3	0.0625	0.0606	96.9	1.64	75 - 125	20	
Chromium	0.00546	0.0625	0.0689	101	0.0625	0.0729	108	5.70	75 - 125	20	
Copper	0.000652	0.0625	0.0663	105	0.0625	0.0670	106	0.984	75 - 125	20	
Lead	ND	0.0625	0.0654	105	0.0625	0.0655	105	0.165	75 - 125	20	
Nickel	0.00169	0.0625	0.0660	103	0.0625	0.0711	111	7.37	75 - 125	20	
Selenium	0.00122	0.0625	0.0547	85.6	0.0625	0.0551	86.2	0.718	75 - 125	20	
Silver	ND	0.0625	0.0595	95.2	0.0625	0.0599	95.8	0.624	75 - 125	20	
Thallium	ND	0.0625	0.0633	101	0.0625	0.0644	103	1.79	75 - 125	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

MS

Microbac Laboratories Inc.
MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

00105670

Loginnum:L10090073 Cal ID: ELAN-ICP- Worknum:WG341845
Instrument ID:ELAN-ICP Contract #:DACA56-94-D-0020 Method:6020
Parent ID:WG341803-01 File ID:EL.090710.132145 Dil:1 Matrix:WATER
Sample ID:WG341803-05 MS File ID:EL.090710.132829 Dil:1 Units:mg/L
Sample ID:WG341803-06 MSD File ID:EL.090710.133513 Dil:1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Manganese	0.00315	0.0625	0.0729	112	0.0625	0.0754	116	3.46	75 - 125	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

MSD

2.3.3 Metals CVAA Data (Mercury)

2.3.3.1 Summary Data

LABORATORY REPORT

00105673

L10090073

09/15/10 08:14

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47WW37-100901	L10090073-01	7470A	1	02-SEP-10
47WW38-100901	L10090073-02	7470A	1	02-SEP-10
47WW38-100901-FD	L10090073-03	7470A	1	02-SEP-10

L1_A_PROD - Modified 03/06/2008

PDF File ID: 1780934

Report generated: 09/15/2010 08:14

1 OF 1



Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-01	PrePrep Method: NONE	Instrument: HYDRA
Client ID: 47WW37-100901	Prep Method: 7470A	Prep Date: 09/03/2010 11:12
Matrix: Water	Analytical Method: 7470A	Cal Date: 09/07/2010 09:35
Workgroup Number: WG341916	Analyst: SLP	Run Date: 09/07/2010 09:53
Collect Date: 09/01/2010 13:45	Dilution: 1	File ID: HY.090710.095322
Sample Tag: 01	Units: mg/L	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Mercury	7439-97-6		U	0.000200	0.000100

U Not detected at or above adjusted sample detection limit

W. Brown

Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-02	PrePrep Method: NONE	Instrument: HYDRA
Client ID: 47WW38-100901	Prep Method: 7470A	Prep Date: 09/03/2010 11:12
Matrix: Water	Analytical Method: 7470A	Cal Date: 09/07/2010 09:35
Workgroup Number: WG341916	Analyst: SLP	Run Date: 09/07/2010 09:55
Collect Date: 09/01/2010 15:30	Dilution: 1	File ID: HY-090710.095516
Sample Tag: 01	Units: mg/L	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Mercury	7439-97-6		U	0.000200	0.000100

U Not detected at or above adjusted sample detection limit

Handwritten signature

Report Number: L10090073

Report Date : September 15, 2010

Sample Number: L10090073-03	PrePrep Method: NONE	Instrument: HYDRA
Client ID: 47WW38-100901-FD	Prep Method: 7470A	Prep Date: 09/03/2010 11:12
Matrix: Water	Analytical Method: 7470A	Cal Date: 09/07/2010 09:35
Workgroup Number: WG341916	Analyst: SLE	Run Date: 09/07/2010 09:56
Collect Date: 09/01/2010 15:30	Dilution: 1	File ID: HY.090710.095658
Sample Tag: 01	Units: mg/L	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Mercury	7439-97-6		U	0.000200	0.000100

U Not detected at or above adjusted sample detection limit

L/g2010

2.3.3.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10090073 Work Group: WG341916
Blank File ID: HY.090710.094735 Blank Sample ID: WG341851-02
Prep Date: 09/03/10 11:12 Instrument ID: HYDRA
Analyzed Date: 09/07/10 09:47 Method: 7470A
Analyst: SLP

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG341851-03	HY.090710.094938	09/07/10 09:49	01
47WW37-100901	L10090073-01	HY.090710.095322	09/07/10 09:53	01
47WW38-100901	L10090073-02	HY.090710.095516	09/07/10 09:55	01
47WW38-100901-FD	L10090073-03	HY.090710.095658	09/07/10 09:56	01

Report Name: BLANK_SUMMARY
PDF File ID: 1773596
Report generated 09/07/2010 14:02



Microbac Laboratories Inc.
METHOD BLANK REPORT

00105679

Login Number: L10090073 Prep Date: 09/03/10 11:12 Sample ID: WG341851-02
Instrument ID: HYDRA Run Date: 09/07/10 09:47 Prep Method: 7470A
File ID: HY.090710.094735 Analyst: SLP Method: 7470A
Workgroup (AAB#): WG341916 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: HYDRA-07-SEP-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Mercury	0.000100	0.000200	0.000100	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* {Analyte concentration} > RL

Report Name: BLANK
PDF ID: 1773597
07-SEP-2010 14:02



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105680

Login Number: L10090073 Run Date: 09/07/2010 Sample ID: WG341851-03
Instrument ID: HYDRA Run Time: 09:49 Prep Method: 7470A
File ID: HY.090710.094938 Analyst: SLP Method: 7470A
Workgroup (AAB#): WG341916 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD41240 Cal ID: HYDRA-07-SEP-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00400	0.00432	108	85 - 115	

LCS - Modified 03/06/2008
PDF File ID: 1773598
Report generated: 09/07/2010 14:02



Microbac Laboratories Inc.
MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

00105681

Loginnum: L10090073 Cal ID: HYDRA - Worknum: WG341916
Instrument ID: HYDRA Contract #: DACA56-94-D-0020 Method: 7470A
Parent ID: WG341851-01 File ID: HY.090710.103605 Dil: 1 Matrix: WATER
Sample ID: WG341851-04 MS File ID: HY.090710.103759 Dil: 1 Units: mg/L
Sample ID: WG341851-05 MSD File ID: HY.090710.103950 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Mercury	ND	0.00444	0.00468	105	0.00444	0.00474	107	1.42	85 - 115	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Handwritten signature/initials



Validation Qualifier Data Entry Verification

Longhorn Army Ammunition Pla

Run Date: September 23, 2010

Page: 1 of 1

Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Val Qlfr Code:	Reason Codes				Lab Sample:	Analysis Time:
										1	2	3	4		
47SB-K03(4-6)	D2216	NONE	N 0 1	PERCENT SOLIDS	84.9	Percent		Y Y						L10090229-04	10:26
	SW6850	NONE	N 0 1	PERCHLORATE	7.13	ug/kg		Y Y						L10090229-04	05:52
47SB-K03(9-11)	D2216	NONE	N 0 1	PERCENT SOLIDS	84.9	Percent		Y Y						L10090229-03	10:26
	SW6850	NONE	N 0 1	PERCHLORATE	25.3	ug/kg		Y Y						L10090229-03	05:26

OK
 0923/10

1100 90229 00105683

Use B24845-02

L10080800

Dum Due Tuesday Am (9/14/10)

COC NO. LHAAP47-082010-4

Shaw Environmental & Infrastructure, Inc.
1401 Enclave Parkway, Suite 250
Houston, TX 77077
(281) 531-3100

Lab Name: Environmental Waste Solutions C/O Microbac
Address : 158 Starlite Drive, Marietta OH 45750
Contact : Stephanie Mossburg
Phone: 1-800-373-4071

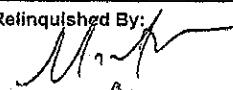
[illegible]

L10086803

COC NO. LHAAP47-082010-3

Shaw Environmental & Infrastructure, Inc.
1401 Enclave Parkway, Suite 250
Houston, TX 77077
(281) 531-3100

Lab Name: Environmental Waste Solutions C/O Microbac
Address : 158 Starlite Drive, Marietta OH 45750
Contact : Stephanie Mossburg
Phone: 1-800-373-4071

PM: Praveen Srivastav (281.531.3188)		TAT: HOLD				# Of Containers	Perchlorate (6850)-28day HT											Comments
Project Contact: Jen Hoang		Phone No: 281-531-3108																
Project Name: LHAAP		Site: SITE 47																
Project #: 117591-009A130		Location: Karnack, TX																
Sampler Print: Allen Willmore (713.247.9292) Susan Oller (281.989.3544)		Sampler Sign: 																
Sample Number	Grab	Date	Time	Matrix														
47SB-C09(4-6)	X	08/26/2010	0750	Soil	1	X												
47SB-C11(4-6)	X	08/26/2010	0830	Soil	1	X												
47SB-E09(4-6)	X	08/26/2010	0915	Soil	1	X												
47SB-G05(4-6)	X	08/26/2010	1235	Soil	1	X												
47SB-G07(4-6)	X	08/26/2010	1005	Soil	1	X												
47SB-K03(4-6)	X	08/26/2010	1430	Soil	1	X												
47SB-K05(4-6)	X	08/26/2010	1515	Soil	1	X												
47SB-K07(4-6)	X	08/26/2010	1550	Soil	1	X												
47SB-I05(4-6)	X	08/26/2010	1520	Soil	1	X												
47SB-I07(4-6)	X	08/26/2010	1100	Soil	1	X												
47SB-I03(4-6)	X	8/27/2010	0820	Soil	1	X											L10086803-11	
Relinquished By: 		Received By:		Special Instructions HOLD FOR INTERVALS (GWVZ) & (9-11) RESULTS														
Date/Time: 8/2/10		Date/Time:		Microbac OVD Received: 08/28/2010 10:18 By: BRENDA GREENWALT 221000008825 Relog 9/10/10 ALK														
Relinquished By:		Received for Laboratory By:		Remarks:														
Date/Time:		Date/Time:																



1000008825

COOLER INSPECTION



Received: 08/28/2010 10:18
 Delivery Method: UPS
 Opened By: Brenda Greenwalt
 Comments:

Login(s): L10090229]

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
001-000428	H	6.0	1Z66V7254498268335	LHAAP47-082010-4	

- 1 Yes Were shipping coolers sealed?
- 2 Yes Were custody seals intact?
- 3 Yes Were cooler temperatures in range of 0-6?
- 4 Yes Was ice present?
- 5 Yes Were COC's received/information complete/signed and dated?
- 6 No Were sample containers and labels intact and match COC?
- 7 Yes Were the correct containers and volumes received?
- 8 Yes Were samples received within EPA hold times?
- 9 NA Were correct preservatives used? (water only)
- 10 NA Were pH ranges acceptable? (voa's excluded)
- 11 NA Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

- 6 17SB-002 (4-6) THE COC SAYS 1105 AND THE BOTTLE SAYS 1110 IDS MATCHES THE COC

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
 158 Starlite Drive
 Marietta, OH 45750
 Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.**Internal Chain of Custody Report****Login:** L10090229**Account:** 2773**Project:** 2773.025**Samples:** 4**Due Date:** 14-SEP-2010**Samplenum Container ID Products****L10090229-01 737032****Bottle: 1**

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	10-SEP-2010 11:35	RLK	
2	ANALYZ	W1	SEM	13-SEP-2010 08:10	WTD	JKT
Comments:Products cancelled.						
3	STORE	SEM	A1	13-SEP-2010 15:44	JKT	WTD
Comments:Products cancelled.						

Samplenum Container ID Products**L10090229-02 737033****Bottle: 1**

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	10-SEP-2010 11:35	RLK	
2	ANALYZ	W1	SEM	13-SEP-2010 08:10	WTD	JKT
Comments:Products cancelled.						
3	STORE	SEM	A1	13-SEP-2010 15:44	JKT	WTD
Comments:Products cancelled.						

Samplenum Container ID Products**L10090229-03 737056 6850 PCT-S****Bottle: 1**

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	10-SEP-2010 13:33	RLK	
2	ANALYZ	W1	SEM	13-SEP-2010 08:10	WTD	JKT
3	STORE	SEM	A1	13-SEP-2010 15:44	JKT	WTD

Samplenum Container ID Products**L10090229-04 737057 6850 PCT-S****Bottle: 1**

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	10-SEP-2010 13:33	RLK	
2	ANALYZ	W1	SEM	13-SEP-2010 08:10	WTD	JKT
3	STORE	SEM	A1	13-SEP-2010 15:44	JKT	WTD

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



NELAP Addendum - May 28, 2010**Non-NELAP LIMS Product and Description**

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄)
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Perchlorate (6850 – LCMS)
 Hexamethylphosphoramide (XMPA-LCMS)
 Thiodiglycol (TDG-LCMS)
 1,4-Dioxane – 8270C (827-DIOXANE)
 Phosphorus – 6010B
 Zirconium - 6010B

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER****OVL HPLC02/HPLC-UV**

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 2, 3, 4, 6-Tetrachlorophenol
 2-Chloronaphthalene
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene

Pentachloroethane

OVL MSSO4/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnol
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropyl ether
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene

Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnol
Simazine
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropylether
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

2.1.1 LC/MS Data (6850)

2.1.1.1 Summary Data

LABORATORY REPORT

00105692

L10090229

09/21/10 16:22

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: for Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-I03 (0-2)	L10090229-01	6850	1	28-AUG-10
47SB-I03 (4-6)	L10090229-02	6850	100	28-AUG-10
47SB-K03 (9-11)	L10090229-03	6850	1	28-AUG-10
47SB-K03 (4-6)	L10090229-04	6850	1	28-AUG-10



Report Number: L10090229

Report Date : September 21, 2010

Sample Number: L10090229-01
Client ID: 47SB-I03 (0-2)
Matrix: Soil
Workgroup Number: WG342599
Collect Date: 08/27/2010 08:15
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/13/2010 11:35
Cal Date: 09/14/2010 00:35
Run Date: 09/14/2010 04:33
File ID: 11M.LM05513
Percent Solid: 95.7

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	7.03		2.04	1.02

L10090229



Report Number: L10090229

Report Date : September 21, 2010

Sample Number: L10090229-02
Client ID: 478B-I03 (4-6)
Matrix: Soil
Workgroup Number: WG342599
Collect Date: 08/27/2010 08:20
Sample Tag: DL01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 100
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/13/2010 11:35
Cal Date: 09/17/2010 20:14
Run Date: 09/18/2010 17:50
File ID: 1LM.LM05872
Percent Solid: 88.3

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	1310		220	110

WTD
092210



Report Number: L10090229

Report Date : September 21, 2010

Sample Number: L10090229-03
Client ID: 47SE-K03 (9-11)
Matrix: Soil
Workgroup Number: WG342599
Collect Date: 08/26/2010 14:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/kg

Instrument: LCMS1
Prep Date: 09/13/2010 11:35
Cal Date: 09/14/2010 00:35
Run Date: 09/14/2010 05:26
File ID: 1LM.LM05515
Percent Solid: 84.9

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	25.3		2.30	1.15

WTD
09/21/10



Report Number: L10090229

Report Date : September 21, 2010

Sample Number: L10090229-04	PrePrep Method: NONE	Instrument: LCMS1
Client ID: 47SB-K03 (4-6)	Prep Method: 6850	Prep Date: 09/13/2010 11:35
Matrix: Soil	Analytical Method: 6850	Cal Date: 09/14/2010 00:09
Workgroup Number: WG342599	Analyst: WTD	Run Date: 09/14/2010 05:52
Collect Date: 08/26/2010 14:30	Dilution: 1	File ID: 1LM.LM05516
Sample Tag: 01	Units: ug/kg	Percent Solid: 84.9

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	7.13		2.30	1.15

WTD



2.1.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10090229 Work Group: WG342599
Blank File ID: 1LM.LM05510 Blank Sample ID: WG342599-02
Prep Date: 09/13/10 11:35 Instrument ID: LCMS1
Analyzed Date: 09/14/10 03:14 Method: 6850
Analyst: WTD

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG342599-05	1LM.LM05508	09/14/10 02:21	01
MCT	WG342599-01	1LM.LM05509	09/14/10 02:47	01
LCS	WG342599-03	1LM.LM05511	09/14/10 03:40	01
LCS2	WG342599-04	1LM.LM05512	09/14/10 04:06	01
47SB-I03 (0-2)	L10090229-01	1LM.LM05513	09/14/10 04:33	01
47SB-K03 (9-11)	L10090229-03	1LM.LM05515	09/14/10 05:26	01
47SB-K03 (4-6)	L10090229-04	1LM.LM05516	09/14/10 05:52	01
QCMRL	WG342599-06	1LM.LM05518	09/14/10 06:45	01
QCMRL	WG342599-07	1LM.LM05870	09/18/10 16:57	01
47SB-I03 (4-6)	L10090229-02	1LM.LM05872	09/18/10 17:50	DL01
QCMRL	WG342599-08	1LM.LM05881	09/18/10 21:48	01



Microbac Laboratories Inc.
METHOD BLANK REPORT

00105699

Login Number: L10090229 Prep Date: 09/13/10 11:35 Sample ID: WG342599-02
Instrument ID: LCMS1 Run Date: 09/14/10 03:14 Prep Method: 6850
File ID: 1LM.LM05510 Analyst: WTD Method: 6850
Workgroup (AAB#): WG342599 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1-14-SEP-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.992	1.98	0.992	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1783581
20-SEP-2010 14:39



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105700

Login Number: L10090229 Analyst: WTD Prep Method: 6850
Instrument ID: LCMS1 Matrix: Soil Method: 6850
Workgroup (AAB#): WG342599 Units: ug/kg
QC Key: STD Lot #: STD41363

Sample ID: WG342599-03 LCS File ID: 1LM.LM05511 Run Date: 09/14/2010 03:40
Sample ID: WG342599-04 LCS2 File ID: 1LM.LM05512 Run Date: 09/14/2010 04:06

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	1.99	1.86	93.5	1.98	2.03	103	8.45	80 - 120	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1783582
Report generated: 09/20/2010 14:39



2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

00105704

L10090229

09/21/10 16:22

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: for Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-I03 (0-2)	L10090229-01	D2216-90	1	28-AUG-10
47SB-I03 (4-6)	L10090229-02	D2216-90	1	28-AUG-10
47SB-K03 (9-11)	L10090229-03	D2216-90	1	28-AUG-10
47SB-K03 (4-6)	L10090229-04	D2216-90	1	28-AUG-10

LI_A_PROD - Modified 03/06/2008

PDF File ID: 1786418

Report generated: 09/21/2010 16:22

1 OF 1



Report Number: L10090229

Report Date : September 21, 2010

Sample Number: L10090229-01
Client ID: 478B-I03 (0-2)
Matrix: Soil
Workgroup Number: WG342545
Collect Date: 08/27/2010 08:15
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDB
Dilution: 1
Units: weight %

Instrument: BAL001
Prep Date: 09/13/2010 10:26
Cal Date:
Run Date: 09/13/2010 10:26
File ID: B1.342545-0116

Analyte	CAS. Number	Result	Qual	PQL	SDI
Percent Solids	10-02-6	95.7		1.00	1.00



Report Number: L10090229

Report Date : September 21, 2010

Sample Number: L10090229-02	PrePrep Method: NONE	Instrument: BAL001
Client ID: 47SB-Y03 (4-6)	Prep Method: D2216-90	Prep Date: 09/13/2010 10:26
Matrix: Soil	Analytical Method: D2216-90	Cal Date:
Workgroup Number: WG342545	Analyst: JDH	Run Date: 09/13/2010 10:26
Collect Date: 08/27/2010 08:20	Dilution: 1	File ID: B1.342545-0117
Sample Tag: 01	Units: weight %	

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	88.3		1.00	1.00



Report Number: L10090229

Report Date : September 21, 2010

Sample Number: L10090229-03
Client ID: 478B-K03 (9-11)
Matrix: Soil
Workgroup Number: WG342545
Collect Date: 08/26/2010 14:25
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDB
Dilution: 1
Units: weight %

Instrument: BAL001
Prep Date: 09/13/2010 10:26
Cal Date:
Run Date: 09/13/2010 10:26
File ID: B1.342545-0118

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	84.9		1.00	1.00



Report Number: L10090229

Report Date : September 21, 2010

Sample Number: L10090229-04
Client ID: 47SB-K03 (4-6)
Matrix: Soil
Workgroup Number: WG342545
Collect Date: 08/26/2010 14:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: JDH
Dilution: 1
Units: weight %

Instrument: BAL001
Prep Date: 09/13/2010 10:26
Cal Date:
Run Date: 09/13/2010 10:26
File ID: B1.342545-0119

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	84.9		1.00	1.00



Validation Qualifier Data Entry Verification

Longhorn Army Ammunition Pl

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Val Qlfr Code:	Reason Codes 1 2 3 4	Lab Sample:	Analysis Time:
47DPT101-100915	SW8260B	SW5030	N 0 1	1,1,1,2-TETRACHLOROETHANE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				1,1,1-TRICHLOROETHANE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				1,1,2,2-TETRACHLOROETHANE	0.200	ug/L	U	N Y	U		L10090358-01	21:44
				1,1,2-TRICHLOROETHANE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				1,1-DICHLOROETHANE	0.125	ug/L	U	N Y	U		L10090358-01	21:44
				1,1-DICHLOROETHENE	0.500	ug/L	U	N Y	U		L10090358-01	21:44
				1,1-DICHLOROPROPENE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				1,2,3-TRICHLOROBENZENE	0.150	ug/L	U	N Y	U		L10090358-01	21:44
				1,2,3-TRICHLOROPROPANE	0.500	ug/L	U	N Y	U		L10090358-01	21:44
				1,2,4-TRICHLOROBENZENE	0.200	ug/L	U	N Y	U		L10090358-01	21:44
				1,2,4-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				1,2-DIBROMO-3-CHLOROPROPANE	1.00	ug/L	U	N Y	U		L10090358-01	21:44
				1,2-DIBROMOETHANE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				1,2-DICHLOROBENZENE	0.125	ug/L	U	N Y	U		L10090358-01	21:44
				1,2-DICHLOROETHANE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				1,2-DICHLOROPROPANE	0.200	ug/L	U	N Y	U		L10090358-01	21:44
				1,3,5-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				1,3-DICHLOROBENZENE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				1,3-DICHLOROPROPANE	0.200	ug/L	U	N Y	U		L10090358-01	21:44
				1,4-DICHLOROBENZENE	0.125	ug/L	U	N Y	U		L10090358-01	21:44
				2,2-DICHLOROPROPANE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				2-BUTANONE	2.50	ug/L	U	N Y	U		L10090358-01	21:44
				2-CHLOROETHYL VINYL ETHER	2.00	ug/L	U	N Y	U		L10090358-01	21:44
				2-CHLOROTOLUENE	0.125	ug/L	U	N Y	U		L10090358-01	21:44
				2-HEXANONE	2.50	ug/L	U	N Y	U		L10090358-01	21:44
				4-CHLOROTOLUENE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				4-METHYL-2-PENTANONE	2.50	ug/L	U	N Y	U		L10090358-01	21:44
				ACETONE	2.50	ug/L	U	N Y	U		L10090358-01	21:44
				BENZENE	0.125	ug/L	U	N Y	U		L10090358-01	21:44
				BROMOBENZENE	0.125	ug/L	U	N Y	U		L10090358-01	21:44
				BROMOCHLOROMETHANE	0.200	ug/L	U	N Y	U		L10090358-01	21:44
				BROMODICHLOROMETHANE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				BROMOFORM	0.500	ug/L	U	N Y	U		L10090358-01	21:44
				BROMOMETHANE	0.500	ug/L	U	N Y	U		L10090358-01	21:44
				CARBON DISULFIDE	0.500	ug/L	U	N Y	U		L10090358-01	21:44
				CARBON TETRACHLORIDE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				CHLOROBENZENE	0.125	ug/L	U	N Y	U		L10090358-01	21:44
				CHLORODIBROMOMETHANE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				CHLOROETHANE	0.500	ug/L	U	N Y	U		L10090358-01	21:44
				CHLOROFORM	0.125	ug/L	U	N Y	U		L10090358-01	21:44
				CHLOROMETHANE	0.500	ug/L	U	N Y	U		L10090358-01	21:44
				CIS-1,2-DICHLOROETHENE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				CIS-1,3-DICHLOROPROPENE	0.250	ug/L	U	N Y	U		L10090358-01	21:44
				DIBROMOMETHANE	0.250	ug/L	U	N Y	U		L10090358-01	21:44

OK
 dr
 0423710

Validation Qualifier Data Entry Verification

Longhorn Army Ammunition Pl

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Sample Number:	Analytical/Extraction Method:		Flt REX Dlt:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
											1	2	3	4		
47DPT101-100915	SW8260B	SW5030	N 0 1	DICHLORODIFLUOROMETHANE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				ETHYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				HEXACHLOROBUTADIENE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				ISOPROPYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				M-P-XYLENE	0.500	ug/L	U	N Y	U						L10090358-01	21:44
				METHYLENE CHLORIDE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				N-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				N-PROPYLBENZENE	0.125	ug/L	U	N Y	U						L10090358-01	21:44
				NAPHTHALENE	0.200	ug/L	U	N Y	U						L10090358-01	21:44
				O-XYLENE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				P-ISOPROPYLTOLUENE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				SEC-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				STYRENE	0.125	ug/L	U	N Y	U						L10090358-01	21:44
				TERT-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				TETRACHLOROETHENE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				TOLUENE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				TRANS-1,2-DICHLOROETHENE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				TRANS-1,3-DICHLOROPROPENE	0.500	ug/L	U	N Y	U						L10090358-01	21:44
				TRICHLOROETHENE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				TRICHLOROFLUOROMETHANE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
				VINYL ACETATE	2.50	ug/L	U	N Y	U						L10090358-01	21:44
				VINYL CHLORIDE	0.250	ug/L	U	N Y	U						L10090358-01	21:44
47DPT111-100915	SW8260B	SW5030	N 0 1	1,1,1,2-TETRACHLOROETHANE	0.250	ug/L	U	N Y	U						L10090358-02	22:16
				1,1,1-TRICHLOROETHANE	0.250	ug/L	U	N Y	U						L10090358-02	22:16
				1,1,2,2-TETRACHLOROETHANE	0.200	ug/L	U	N Y	U						L10090358-02	22:16
				1,1,2-TRICHLOROETHANE	0.250	ug/L	U	N Y	U						L10090358-02	22:16
				1,1-DICHLOROETHANE	0.125	ug/L	U	N Y	U						L10090358-02	22:16
				1,1-DICHLOROETHENE	0.500	ug/L	U	N Y	U						L10090358-02	22:16
				1,1-DICHLOROPROPENE	0.250	ug/L	U	N Y	U						L10090358-02	22:16
				1,2,3-TRICHLOROBENZENE	0.150	ug/L	U	N Y	U						L10090358-02	22:16
				1,2,3-TRICHLOROPROPANE	0.500	ug/L	U	N Y	U						L10090358-02	22:16
				1,2,4-TRICHLOROBENZENE	0.200	ug/L	U	N Y	U						L10090358-02	22:16
				1,2,4-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-02	22:16
				1,2-DIBROMO-3-CHLOROPROPANE	1.00	ug/L	U	N Y	U						L10090358-02	22:16
				1,2-DIBROMOETHANE	0.250	ug/L	U	N Y	U						L10090358-02	22:16
				1,2-DICHLOROBENZENE	0.125	ug/L	U	N Y	U						L10090358-02	22:16
				1,2-DICHLOROETHANE	0.250	ug/L	U	N Y	U						L10090358-02	22:16
				1,2-DICHLOROPROPANE	0.200	ug/L	U	N Y	U						L10090358-02	22:16
				1,3,5-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-02	22:16
				1,3-DICHLOROBENZENE	0.250	ug/L	U	N Y	U						L10090358-02	22:16
				1,3-DICHLOROPROPANE	0.200	ug/L	U	N Y	U						L10090358-02	22:16
				1,4-DICHLOROBENZENE	0.125	ug/L	U	N Y	U						L10090358-02	22:16
				2,2-DICHLOROPROPANE	0.250	ug/L	U	N Y	U						L10090358-02	22:16

Validation Qualifier Data Entry Verification

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use	BCF	Val	Val	Reason Codes				Lab Sample:	Analysis Time:
										Qlfr	Code:	1	2	3	4		
47DPT111-100915	SW8260B	SW5030	N 0 1	2-BUTANONE	2.50	ug/L	U	N	Y	U						L10090358-02	22:16
				2-CHLOROETHYL VINYL ETHER	2.00	ug/L	U	N	Y	U						L10090358-02	22:16
				2-CHLOROTOLUENE	0.125	ug/L	U	N	Y	U						L10090358-02	22:16
				2-HEXANONE	2.50	ug/L	U	N	Y	U						L10090358-02	22:16
				4-CHLOROTOLUENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				4-METHYL-2-PENTANONE	2.50	ug/L	U	N	Y	U						L10090358-02	22:16
				ACETONE	2.66	ug/L	J	Y	Y	J						L10090358-02	22:16
				BENZENE	0.125	ug/L	U	N	Y	U						L10090358-02	22:16
				BROMOBENZENE	0.125	ug/L	U	N	Y	U						L10090358-02	22:16
				BROMOCHLOROMETHANE	0.200	ug/L	U	N	Y	U						L10090358-02	22:16
				BROMODICHLOROMETHANE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				BROMOFORM	0.500	ug/L	U	N	Y	U						L10090358-02	22:16
				BROMOMETHANE	0.500	ug/L	U	N	Y	U						L10090358-02	22:16
				CARBON DISULFIDE	0.500	ug/L	U	N	Y	U						L10090358-02	22:16
				CARBON TETRACHLORIDE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				CHLOROBENZENE	0.125	ug/L	U	N	Y	U						L10090358-02	22:16
				CHLORODIBROMOMETHANE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				CHLOROETHANE	0.500	ug/L	U	N	Y	U						L10090358-02	22:16
				CHLOROFORM	0.125	ug/L	U	N	Y	U						L10090358-02	22:16
				CHLOROMETHANE	0.500	ug/L	U	N	Y	U						L10090358-02	22:16
				CIS-1,2-DICHLOROETHENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				CIS-1,3-DICHLOROPROPENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				DIBROMOMETHANE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				DICHLORODIFLUOROMETHANE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				ETHYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				HEXACHLOROBUTADIENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				ISOPROPYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				M-,P-XYLENE	0.500	ug/L	U	N	Y	U						L10090358-02	22:16
				METHYLENE CHLORIDE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				N-BUTYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				N-PROPYLBENZENE	0.125	ug/L	U	N	Y	U						L10090358-02	22:16
				NAPHTHALENE	0.200	ug/L	U	N	Y	U						L10090358-02	22:16
				O-XYLENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				P-ISOPROPYLTOLUENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				SEC-BUTYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				STYRENE	0.125	ug/L	U	N	Y	U						L10090358-02	22:16
				TERT-BUTYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				TETRACHLOROETHENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				TOLUENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				TRANS-1,2-DICHLOROETHENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				TRANS-1,3-DICHLOROPROPENE	0.500	ug/L	U	N	Y	U						L10090358-02	22:16
				TRICHLOROETHENE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				TRICHLOROFLUOROMETHANE	0.250	ug/L	U	N	Y	U						L10090358-02	22:16
				VINYL ACETATE	2.50	ug/L	U	N	Y	U						L10090358-02	22:16

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											1	2	3	4		
47DPT111-100915	SW8260B	SW5030	N 0 1	VINYL CHLORIDE	0.250	ug/L	U	N Y	U						L10090358-02	22:16
47DPT121-100915	SW8260B	SW5030	N 0 1	1,1,1,2-TETRACHLOROETHANE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				1,1,1-TRICHLOROETHANE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				1,1,2,2-TETRACHLOROETHANE	0.200	ug/L	U	N Y	U						L10090358-03	17:42
				1,1,2-TRICHLOROETHANE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				1,1-DICHLOROETHANE	0.125	ug/L	U	N Y	U						L10090358-03	17:42
				1,1-DICHLOROETHENE	0.500	ug/L	U	N Y	U						L10090358-03	17:42
				1,1-DICHLOROPROPENE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				1,2,3-TRICHLOROBENZENE	0.150	ug/L	U	N Y	U						L10090358-03	17:42
				1,2,3-TRICHLOROPROPANE	0.500	ug/L	U	N Y	U						L10090358-03	17:42
				1,2,4-TRICHLOROBENZENE	0.200	ug/L	U	N Y	U						L10090358-03	17:42
				1,2,4-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				1,2-DIBROMO-3-CHLOROPROPANE	1.00	ug/L	U	N Y	U						L10090358-03	17:42
				1,2-DIBROMOETHANE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				1,2-DICHLOROBENZENE	0.125	ug/L	U	N Y	U						L10090358-03	17:42
				1,2-DICHLOROETHANE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				1,2-DICHLOROPROPANE	0.200	ug/L	U	N Y	U						L10090358-03	17:42
				1,3,5-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				1,3-DICHLOROBENZENE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				1,3-DICHLOROPROPANE	0.200	ug/L	U	N Y	U						L10090358-03	17:42
				1,4-DICHLOROBENZENE	0.125	ug/L	U	N Y	U						L10090358-03	17:42
				2,2-DICHLOROPROPANE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				2-BUTANONE	2.50	ug/L	U	N Y	U						L10090358-03	17:42
				2-CHLOROETHYL VINYL ETHER	2.00	ug/L	U	N Y	U						L10090358-03	17:42
				2-CHLOROTOLUENE	0.125	ug/L	U	N Y	U						L10090358-03	17:42
				2-HEXANONE	2.50	ug/L	U	N Y	U						L10090358-03	17:42
				4-CHLOROTOLUENE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				4-METHYL-2-PENTANONE	2.50	ug/L	U	N Y	U						L10090358-03	17:42
				ACETONE	2.50	ug/L	U	N Y	U						L10090358-03	17:42
				BENZENE	0.125	ug/L	U	N Y	U						L10090358-03	17:42
				BROMOBENZENE	0.125	ug/L	U	N Y	U						L10090358-03	17:42
				BROMOCHLOROMETHANE	0.200	ug/L	U	N Y	U						L10090358-03	17:42
				BROMODICHLOROMETHANE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				BROMOFORM	0.500	ug/L	U	N Y	U						L10090358-03	17:42
				BROMOMETHANE	0.500	ug/L	U	N Y	U						L10090358-03	17:42
				CARBON DISULFIDE	0.500	ug/L	U	N Y	U						L10090358-03	17:42
				CARBON TETRACHLORIDE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				CHLOROBENZENE	0.125	ug/L	U	N Y	U						L10090358-03	17:42
				CHLORODIBROMOMETHANE	0.250	ug/L	U	N Y	U						L10090358-03	17:42
				CHLOROETHANE	0.500	ug/L	U	N Y	U						L10090358-03	17:42
				CHLOROFORM	0.125	ug/L	U	N Y	U						L10090358-03	17:42
				CHLOROMETHANE	0.500	ug/L	U	N Y	U						L10090358-03	17:42
				CIS-1,2-DICHLOROETHENE	0.250	ug/L	U	N Y	U						L10090358-03	17:42

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										Qlfr	Code:	1	2	3	4		
47DPT121-100915	SW8260B	SW5030	N 0 1	CIS-1,3-DICHLOROPROPENE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				DIBROMOMETHANE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				DICHLORODIFLUOROMETHANE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				ETHYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				HEXACHLOROBUTADIENE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				ISOPROPYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				M-,P-XYLENE	0.500	ug/L	U	N	Y	U						L10090358-03	17:42
				METHYLENE CHLORIDE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				N-BUTYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				N-PROPYLBENZENE	0.125	ug/L	U	N	Y	U						L10090358-03	17:42
				NAPHTHALENE	0.200	ug/L	U	N	Y	U						L10090358-03	17:42
				O-XYLENE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				P-ISOPROPYLTOLUENE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				SEC-BUTYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				STYRENE	0.125	ug/L	U	N	Y	U						L10090358-03	17:42
				TERT-BUTYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				TETRACHLOROETHENE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				TOLUENE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				TRANS-1,2-DICHLOROETHENE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				TRANS-1,3-DICHLOROPROPENE	0.500	ug/L	U	N	Y	U						L10090358-03	17:42
				TRICHLOROETHENE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				TRICHLOROFLUOROMETHANE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
				VINYL ACETATE	2.50	ug/L	U	N	Y	U						L10090358-03	17:42
				VINYL CHLORIDE	0.250	ug/L	U	N	Y	U						L10090358-03	17:42
47DPT14-100915	SW6850	NONE	N 0 1	PERCHLORATE	0.100	ug/L	U	N	Y	U						L10090358-04	00:12
				1,1,1,2-TETRACHLOROETHANE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,1,1-TRICHLOROETHANE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,1,2,2-TETRACHLOROETHANE	20.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,1,2-TRICHLOROETHANE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,1-DICHLOROETHANE	12.5	ug/L	U	N	N	R						L10090358-04	15:02
				1,1-DICHLOROETHENE	50.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,1-DICHLOROPROPENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,2,3-TRICHLOROBENZENE	15.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,2,3-TRICHLOROPROPANE	50.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,2,4-TRICHLOROBENZENE	20.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,2,4-TRIMETHYLBENZENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,2-DIBROMO-3-CHLOROPROPANE	100	ug/L	U	N	N	R						L10090358-04	15:02
				1,2-DIBROMOETHANE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,2-DICHLOROBENZENE	12.5	ug/L	U	N	N	R						L10090358-04	15:02
				1,2-DICHLOROETHANE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,2-DICHLOROPROPANE	20.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,3,5-TRIMETHYLBENZENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,3-DICHLOROBENZENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02

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										Qlfr	Code:	1	2	3	4		
47DPT14-100915	SW8260B	SW5030	N 0 100	1,3-DICHLOROPROPANE	20.0	ug/L	U	N	N	R						L10090358-04	15:02
				1,4-DICHLOROBENZENE	12.5	ug/L	U	N	N	R						L10090358-04	15:02
				2,2-DICHLOROPROPANE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				2-BUTANONE	250	ug/L	U	N	N	R						L10090358-04	15:02
				2-CHLOROETHYL VINYL ETHER	200	ug/L	U	N	N	R						L10090358-04	15:02
				2-CHLOROTOLUENE	12.5	ug/L	U	N	N	R						L10090358-04	15:02
				2-HEXANONE	250	ug/L	U	N	N	R						L10090358-04	15:02
				4-CHLOROTOLUENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				4-METHYL-2-PENTANONE	250	ug/L	U	N	N	R						L10090358-04	15:02
				ACETONE	250	ug/L	U	N	N	R						L10090358-04	15:02
				BENZENE	12.5	ug/L	U	N	N	R						L10090358-04	15:02
				BROMOBENZENE	12.5	ug/L	U	N	N	R						L10090358-04	15:02
				BROMOCHLOROMETHANE	20.0	ug/L	U	N	N	R						L10090358-04	15:02
				BROMODICHLOROMETHANE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				BROMOFORM	50.0	ug/L	U	N	N	R						L10090358-04	15:02
				BROMOMETHANE	50.0	ug/L	U	N	N	R						L10090358-04	15:02
				CARBON DISULFIDE	75.9	ug/L	J	Y	N	R						L10090358-04	15:02
				CARBON TETRACHLORIDE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				CHLOROBENZENE	12.5	ug/L	U	N	N	R						L10090358-04	15:02
				CHLORODIBROMOMETHANE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				CHLOROETHANE	50.0	ug/L	U	N	N	R						L10090358-04	15:02
				CHLOROFORM	12.5	ug/L	U	N	N	R						L10090358-04	15:02
				CHLOROMETHANE	50.0	ug/L	U	N	N	R						L10090358-04	15:02
				CIS-1,2-DICHLOROETHENE	1020	ug/L	U	Y	N	R						L10090358-04	15:02
				CIS-1,3-DICHLOROPROPENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				DIBROMOMETHANE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				DICHLORODIFLUOROMETHANE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				ETHYLBENZENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				HEXACHLOROBUTADIENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				ISOPROPYLBENZENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				M-,P-XYLENE	50.0	ug/L	U	N	N	R						L10090358-04	15:02
				METHYLENE CHLORIDE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				N-BUTYLBENZENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				N-PROPYLBENZENE	12.5	ug/L	U	N	N	R						L10090358-04	15:02
				NAPHTHALENE	20.0	ug/L	U	N	N	R						L10090358-04	15:02
				O-XYLENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				P-ISOPROPYLTOLUENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				SEC-BUTYLBENZENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				STYRENE	12.5	ug/L	U	N	N	R						L10090358-04	15:02
				TERT-BUTYLBENZENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				TETRACHLOROETHENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				TOLUENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				TRANS-1,2-DICHLOROETHENE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				TRANS-1,3-DICHLOROPROPENE	50.0	ug/L	U	N	N	R						L10090358-04	15:02

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										Qlfr	Code:	1	2	3	4		
47DPT14-100915	SW8260B	SW5030	N 0 100	TRICHLOROETHENE	13900	ug/L		Y	Y							L10090358-04	15:02
				TRICHLOROFLUOROMETHANE	25.0	ug/L	U	N	N	R						L10090358-04	15:02
				VINYL ACETATE	250	ug/L	U	N	N	R						L10090358-04	15:02
				VINYL CHLORIDE	65.6	ug/L	J	Y	N	R						L10090358-04	15:02
	SW8260B	SW5030	N 1 50	1,1,1,2-TETRACHLOROETHANE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				1,1,1-TRICHLOROETHANE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				1,1,2,2-TETRACHLOROETHANE	10.0	ug/L	U	N	N	R						L10090358-04	12:42
				1,1,2-TRICHLOROETHANE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				1,1-DICHLOROETHANE	6.25	ug/L	U	N	N	R						L10090358-04	12:42
				1,1-DICHLOROETHENE	25.0	ug/L	U	N	N	R						L10090358-04	12:42
				1,1-DICHLOROPROPENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				1,2,3-TRICHLOROBENZENE	7.50	ug/L	U	N	N	R						L10090358-04	12:42
				1,2,3-TRICHLOROPROPANE	25.0	ug/L	U	N	N	R						L10090358-04	12:42
				1,2,4-TRICHLOROBENZENE	10.0	ug/L	U	N	N	R						L10090358-04	12:42
				1,2,4-TRIMETHYLBENZENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				1,2-DIBROMO-3-CHLOROPROPANE	50.0	ug/L	U	N	N	R						L10090358-04	12:42
				1,2-DIBROMOETHANE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				1,2-DICHLOROBENZENE	6.25	ug/L	U	N	N	R						L10090358-04	12:42
				1,2-DICHLOROETHANE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				1,2-DICHLOROPROPANE	10.0	ug/L	U	N	N	R						L10090358-04	12:42
				1,3,5-TRIMETHYLBENZENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				1,3-DICHLOROBENZENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				1,3-DICHLOROPROPANE	10.0	ug/L	U	N	N	R						L10090358-04	12:42
				1,4-DICHLOROBENZENE	6.25	ug/L	U	N	N	R						L10090358-04	12:42
				2,2-DICHLOROPROPANE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				2-BUTANONE	125	ug/L	U	N	N	R						L10090358-04	12:42
				2-CHLOROETHYL VINYL ETHER	100	ug/L	U	N	N	R						L10090358-04	12:42
				2-CHLOROTOLUENE	6.25	ug/L	U	N	N	R						L10090358-04	12:42
				2-HEXANONE	125	ug/L	U	N	N	R						L10090358-04	12:42
				4-CHLOROTOLUENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				4-METHYL-2-PENTANONE	125	ug/L	U	N	N	R						L10090358-04	12:42
				ACETONE	125	ug/L	U	N	N	R						L10090358-04	12:42
				BENZENE	6.25	ug/L	U	N	N	R						L10090358-04	12:42
				BROMOBENZENE	6.25	ug/L	U	N	N	R						L10090358-04	12:42
				BROMOCHLOROMETHANE	10.0	ug/L	U	N	N	R						L10090358-04	12:42
				BROMODICHLOROMETHANE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				BROMOFORM	25.0	ug/L	U	N	N	R						L10090358-04	12:42
				BROMOMETHANE	25.0	ug/L	U	N	N	R						L10090358-04	12:42
				CARBON DISULFIDE	125	ug/L		Y	N	R						L10090358-04	12:42
				CARBON TETRACHLORIDE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				CHLOROBENZENE	6.25	ug/L	U	N	N	R						L10090358-04	12:42
				CHLORODIBROMOMETHANE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				CHLOROETHANE	25.0	ug/L	U	N	N	R						L10090358-04	12:42

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use	BCF	Val	Val	Reason Codes				Lab Sample:	Analysis Time:
										Qlfr	Code:	1	2	3	4		
47DPT14-100915	SW8260B	SW5030	N 1 50	CHLOROFORM	6.25	ug/L	U	N	N	R						L10090358-04	12:42
				CHLOROMETHANE	25.0	ug/L	U	N	N	R						L10090358-04	12:42
				CIS-1,2-DICHLOROETHENE	825	ug/L		Y	Y							L10090358-04	12:42
				CIS-1,3-DICHLOROPROPENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				DIBROMOMETHANE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				DICHLORODIFLUOROMETHANE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				ETHYLBENZENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				HEXACHLOROBUTADIENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				ISOPROPYLBENZENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				M-,P-XYLENE	25.0	ug/L	U	N	N	R						L10090358-04	12:42
				METHYLENE CHLORIDE	15.1	ug/L	J	Y	N	R						L10090358-04	12:42
				N-BUTYLBENZENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				N-PROPYLBENZENE	6.25	ug/L	U	N	N	R						L10090358-04	12:42
				NAPHTHALENE	10.0	ug/L	U	N	N	R						L10090358-04	12:42
				O-XYLENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				P-ISOPROPYLTOLUENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				SEC-BUTYLBENZENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				STYRENE	6.25	ug/L	U	N	N	R						L10090358-04	12:42
				TERT-BUTYLBENZENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				TETRACHLOROETHENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				TOLUENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				TRANS-1,2-DICHLOROETHENE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				TRANS-1,3-DICHLOROPROPENE	25.0	ug/L	U	N	N	R						L10090358-04	12:42
				TRICHLOROETHENE	10700	ug/L	E	Y	N	R						L10090358-04	12:42
				TRICHLOROFLUOROMETHANE	12.5	ug/L	U	N	N	R						L10090358-04	12:42
				VINYL ACETATE	125	ug/L	U	N	N	R						L10090358-04	12:42
				VINYL CHLORIDE	37.7	ug/L	J	Y	N	R						L10090358-04	12:42
	SW8260B	SW5030	N 2 1	1,1,1,2-TETRACHLOROETHANE	0.250	ug/L	U	N	Y	U						L10090358-04	18:12
				1,1,1-TRICHLOROETHANE	0.250	ug/L	U	N	Y	U						L10090358-04	18:12
				1,1,2,2-TETRACHLOROETHANE	0.200	ug/L	U	N	Y	U						L10090358-04	18:12
				1,1,2-TRICHLOROETHANE	0.250	ug/L	U	N	Y	U						L10090358-04	18:12
				1,1-DICHLOROETHANE	3.92	ug/L		Y	Y							L10090358-04	18:12
				1,1-DICHLOROETHENE	14.0	ug/L		Y	Y							L10090358-04	18:12
				1,1-DICHLOROPROPENE	0.250	ug/L	U	N	Y	U						L10090358-04	18:12
				1,2,3-TRICHLOROBENZENE	0.150	ug/L	U	N	Y	U						L10090358-04	18:12
				1,2,3-TRICHLOROPROPANE	0.500	ug/L	U	N	Y	U						L10090358-04	18:12
				1,2,4-TRICHLOROBENZENE	0.200	ug/L	U	N	Y	U						L10090358-04	18:12
				1,2,4-TRIMETHYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-04	18:12
				1,2-DIBROMO-3-CHLOROPROPANE	1.00	ug/L	U	N	Y	U						L10090358-04	18:12
				1,2-DIBROMOETHANE	0.250	ug/L	U	N	Y	U						L10090358-04	18:12
				1,2-DICHLOROBENZENE	0.125	ug/L	U	N	Y	U						L10090358-04	18:12
				1,2-DICHLOROETHANE	0.250	ug/L	U	N	Y	U						L10090358-04	18:12
				1,2-DICHLOROPROPANE	0.200	ug/L	U	N	Y	U						L10090358-04	18:12

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF	Val Qlfr	Val Code:	Reason Codes				Lab Sample:	Analysis Time:
											1	2	3	4		
47DPT14-100915	SW8260B	SW5030	N 2 1	1,3,5-TRIMETHYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				1,3-DICHLOROBENZENE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				1,3-DICHLOROPROPANE	0.200	ug/L	U	N Y	U						L10090358-04	18:12
				1,4-DICHLOROBENZENE	0.125	ug/L	U	N Y	U						L10090358-04	18:12
				2,2-DICHLOROPROPANE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				2-BUTANONE	2.50	ug/L	U	N Y	U						L10090358-04	18:12
				2-CHLOROETHYL VINYL ETHER	2.00	ug/L	U	N Y	U						L10090358-04	18:12
				2-CHLOROTOLUENE	0.125	ug/L	U	N Y	U						L10090358-04	18:12
				2-HEXANONE	2.50	ug/L	U	N Y	U						L10090358-04	18:12
				4-CHLOROTOLUENE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				4-METHYL-2-PENTANONE	2.50	ug/L	U	N Y	U						L10090358-04	18:12
				ACETONE	3.31	ug/L	J	Y Y	J						L10090358-04	18:12
				BENZENE	0.590	ug/L	J	Y Y	J						L10090358-04	18:12
				BROMOBENZENE	0.125	ug/L	U	N Y	U						L10090358-04	18:12
				BROMOCHLOROMETHANE	0.200	ug/L	U	N Y	U						L10090358-04	18:12
				BROMODICHLOROMETHANE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				BROMOFORM	0.500	ug/L	U	N Y	U						L10090358-04	18:12
				BROMOMETHANE	0.500	ug/L	U	N Y	U						L10090358-04	18:12
				CARBON DISULFIDE	0.500	ug/L	U	N Y	U						L10090358-04	18:12
				CARBON TETRACHLORIDE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				CHLOROBENZENE	0.125	ug/L	U	N Y	U						L10090358-04	18:12
				CHLORODIBROMOMETHANE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				CHLOROETHANE	0.500	ug/L	U	N Y	U						L10090358-04	18:12
				CHLOROFORM	0.125	ug/L	U	N Y	U						L10090358-04	18:12
				CHLOROMETHANE	0.500	ug/L	U	N Y	U						L10090358-04	18:12
				CIS-1,2-DICHLOROETHENE	986	ug/L	E	Y N	R						L10090358-04	18:12
				CIS-1,3-DICHLOROPROPENE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				DIBROMOMETHANE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				DICHLORODIFLUOROMETHANE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				ETHYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				HEXACHLOROBUTADIENE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				ISOPROPYLBENZENE	0.355	ug/L	J	Y Y	J						L10090358-04	18:12
				M-,P-XYLENE	0.500	ug/L	U	N Y	U						L10090358-04	18:12
				METHYLENE CHLORIDE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				N-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				N-PROPYLBENZENE	0.125	ug/L	U	N Y	U						L10090358-04	18:12
				NAPHTHALENE	0.200	ug/L	U	N Y	U						L10090358-04	18:12
				O-XYLENE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				P-ISOPROPYLTOLUENE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				SEC-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				STYRENE	0.125	ug/L	U	N Y	U						L10090358-04	18:12
				TERT-BUTYLBENZENE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				TETRACHLOROETHENE	0.250	ug/L	U	N Y	U						L10090358-04	18:12
				TOLUENE	0.357	ug/L	J	Y Y	J						L10090358-04	18:12

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use	BCF	Val	Val	Reason Codes				Lab Sample:	Analysis Time:
										Qlfr	Code:	1	2	3	4		
47DPT14-100915	SW8260B	SW5030	N 2 1	TRANS-1,2-DICHLOROETHENE	2.30	ug/L		Y	Y							L10090358-04	18:12
				TRANS-1,3-DICHLOROPROPENE	0.500	ug/L	U	N	Y		U					L10090358-04	18:12
				TRICHLOROETHENE	2900	ug/L	E	Y	N		R					L10090358-04	18:12
				TRICHLOROFLUOROMETHANE	0.250	ug/L	U	N	Y		U					L10090358-04	18:12
				VINYL ACETATE	2.50	ug/L	U	N	Y		U					L10090358-04	18:12
				VINYL CHLORIDE	67.5	ug/L		Y	Y							L10090358-04	18:12
47DPT15-100915	SW6850	NONE	N 0 1000	PERCHLORATE	1580	ug/L		Y	Y							L10090358-05	00:39
				1,1,1,2-TETRACHLOROETHANE	0.250	ug/L	U	N	Y		U					L10090358-05	13:43
	SW8260B	SW5030	N 0 1	1,1,1-TRICHLOROETHANE	0.250	ug/L	U	N	Y		U					L10090358-05	13:43
				1,1,2,2-TETRACHLOROETHANE	0.200	ug/L	U	N	Y		U					L10090358-05	13:43
				1,1,2-TRICHLOROETHANE	0.250	ug/L	U	N	Y		U					L10090358-05	13:43
				1,1-DICHLOROETHANE	0.125	ug/L	U	N	Y		U					L10090358-05	13:43
				1,1-DICHLOROETHENE	0.500	ug/L	U	N	Y		U					L10090358-05	13:43
				1,1-DICHLOROPROPENE	0.250	ug/L	U	N	Y		U					L10090358-05	13:43
				1,2,3-TRICHLOROBENZENE	0.150	ug/L	U	N	Y		U					L10090358-05	13:43
				1,2,3-TRICHLOROPROPANE	0.500	ug/L	U	N	Y		U					L10090358-05	13:43
				1,2,4-TRICHLOROBENZENE	0.200	ug/L	U	N	Y		U					L10090358-05	13:43
				1,2,4-TRIMETHYLBENZENE	0.250	ug/L	U	N	Y		U					L10090358-05	13:43
				1,2-DIBROMO-3-CHLOROPROPANE	1.00	ug/L	U	N	Y		U					L10090358-05	13:43
				1,2-DIBROMOETHANE	0.250	ug/L	U	N	Y		U					L10090358-05	13:43
				1,2-DICHLOROBENZENE	0.125	ug/L	U	N	Y		U					L10090358-05	13:43
				1,2-DICHLOROETHANE	0.250	ug/L	U	N	Y		U					L10090358-05	13:43
				1,2-DICHLOROPROPANE	0.200	ug/L	U	N	Y		U					L10090358-05	13:43
				1,3,5-TRIMETHYLBENZENE	0.250	ug/L	U	N	Y		U					L10090358-05	13:43
				1,3-DICHLOROBENZENE	0.250	ug/L	U	N	Y		U					L10090358-05	13:43
				1,3-DICHLOROPROPANE	0.200	ug/L	U	N	Y		U					L10090358-05	13:43
				1,4-DICHLOROBENZENE	0.125	ug/L	U	N	Y		U					L10090358-05	13:43
				2,2-DICHLOROPROPANE	0.250	ug/L	U	N	Y		U					L10090358-05	13:43
				2-BUTANONE	2.50	ug/L	U	N	Y		U					L10090358-05	13:43
				2-CHLOROETHYL VINYL ETHER	2.00	ug/L	U	N	Y		U					L10090358-05	13:43
				2-CHLOROTOLUENE	0.125	ug/L	U	N	Y		U					L10090358-05	13:43
				2-HEXANONE	2.50	ug/L	U	N	Y		U					L10090358-05	13:43
				4-CHLOROTOLUENE	0.250	ug/L	U	N	Y		U					L10090358-05	13:43
				4-METHYL-2-PENTANONE	2.50	ug/L	U	N	Y		U					L10090358-05	13:43
				ACETONE	2.65	ug/L	J	Y	Y		J					L10090358-05	13:43
				BENZENE	0.125	ug/L	U	N	Y		U					L10090358-05	13:43
				BROMOBENZENE	0.125	ug/L	U	N	Y		U					L10090358-05	13:43
				BROMOCHLOROMETHANE	0.200	ug/L	U	N	Y		U					L10090358-05	13:43
				BROMODICHLOROMETHANE	0.250	ug/L	U	N	Y		U					L10090358-05	13:43
				BROMOFORM	0.500	ug/L	U	N	Y		U					L10090358-05	13:43
				BROMOMETHANE	0.500	ug/L	U	N	Y		U					L10090358-05	13:43
				CARBON DISULFIDE	0.500	ug/L	U	N	Y		U					L10090358-05	13:43
				CARBON TETRACHLORIDE	0.250	ug/L	U	N	Y		U					L10090358-05	13:43

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Sample Number:	Analytical/Extraction Method:		Flt REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use	BCF	Val	Val	Reason Codes				Lab Sample:	Analysis Time:
										Qlfr	Code:	1	2	3	4		
47DPT15-100915	SWR260B	SW5030	N 0 1	CHLOROBENZENE	0.125	ug/L	U	N	Y	U						L10090358-05	13:43
				CHLORODIBROMOMETHANE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				CHLOROETHANE	0.500	ug/L	U	N	Y	U						L10090358-05	13:43
				CHLOROFORM	0.125	ug/L	U	N	Y	U						L10090358-05	13:43
				CHLOROMETHANE	0.500	ug/L	U	N	Y	U						L10090358-05	13:43
				CIS-1,2-DICHLOROETHENE	0.378	ug/L	J	Y	Y	J						L10090358-05	13:43
				CIS-1,3-DICHLOROPROPENE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				DIBROMOMETHANE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				DICHLORODIFLUOROMETHANE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				ETHYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				HEXACHLOROBUTADIENE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				ISOPROPYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				M-P-XYLENE	0.500	ug/L	U	N	Y	U						L10090358-05	13:43
				METHYLENE CHLORIDE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				N-BUTYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				N-PROPYLBENZENE	0.125	ug/L	U	N	Y	U						L10090358-05	13:43
				NAPHTHALENE	0.200	ug/L	U	N	Y	U						L10090358-05	13:43
				O-XYLENE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				P-ISOPROPYLTOLUENE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				SEC-BUTYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				STYRENE	0.125	ug/L	U	N	Y	U						L10090358-05	13:43
				TERT-BUTYLBENZENE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				TETRACHLOROETHENE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				TOLUENE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				TRANS-1,2-DICHLOROETHENE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				TRANS-1,3-DICHLOROPROPENE	0.500	ug/L	U	N	Y	U						L10090358-05	13:43
				TRICHLOROETHENE	2.07	ug/L		Y	Y							L10090358-05	13:43
				TRICHLOROFLUOROMETHANE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43
				VINYL ACETATE	2.50	ug/L	U	N	Y	U						L10090358-05	13:43
				VINYL CHLORIDE	0.250	ug/L	U	N	Y	U						L10090358-05	13:43

40090358

00105720

NO. 6031

Chain of Custody



Shaw® Shaw Environmental & Infrastructure, Inc.
3010 Briarpark Drive, Suite 400
Houston, TX 77042
(713) 996-4400

Laboratory Name: <u>Environmental Waste Solutions C/O MICROBAC</u>		Address: <u>158 Starlite Dr. Marietta, OH 45750</u>		Contact: <u>Stephanie MOSSBURG</u>							
Project Name: <u>LHAAP</u>		Project Location: <u>KARNACK, TX.</u>		Analysis and Method Desired (Indicate separate containers)							
Project No.: <u>117591.0009A130.</u>		Project Contact: <u>Jen Hoang</u>		Project Telephone No.: <u>281-531-3108</u>							
Point of Contact: <u>Scott Beesinger</u>		Project Manager/Supervisor: <u>Praveen SRINIVASU</u>		Telephone No.: <u>403-679-3448</u>							
Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	VOL	Perchlorate method	Remarks
1	47DPT10I-100915	9/6/10	11:05		✓	W	Site 47	2	2		
2	47DPT11I-100915	9/6/10	14:00		✓	W	" "	2	2		
3	47DPT12I-100915	9/15/10	14:10		✓	W	" "	2	2		
4	47DPT14-100915	9/15/10	14:30		✓	W	" "	3	2	1	
5	47DPT15-100915	9/15/10	14:45		✓	W	" "	3	2	1	
6	47-TB-100915	9/15/10			✓	W	" "	2	2		
7											
8											
9											
10											
Transfers Relinquished By (signature): <u>Scott Beesinger</u>		Date/Time: <u>9/15/10 16:00</u>		Transfers Accepted By (signature):		Date/Time:		Special Instructions: <u>24 HR. TAT</u>			
								FedEx Airbill No.:			
								Sampler's Signature: <u>Scott Beesinger</u>			
								Good Condition ☐ Y ☐ N ☐ Cold			



Microbac OVD

221000008933

Received: 09/16/2010 09:44

By: BRENDA GREENWALT

TAT: _____ Standard _____ Rush Date _____

Brenda Greenwalt

White - Lab Copy Canary - Field Copy Pink - File Copy

Form Number: 433_2

Rev. 10-19-07



1000008933

COOLER INSPECTION



Received: 09/16/2010 09:44
 Delivery Method: UPS
 Opened By: Brenda Greenwalt
 Comments:

Login(s): L10090358|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0013517	G	3.0	1Z66V7250192986856	6031	

- 1 Yes Were shipping coolers sealed?
- 2 Yes Were custody seals intact?
- 3 Yes Were cooler temperatures in range of 0-6?
- 4 Yes Was ice present?
- 5 Yes Were COC's received/information complete/signed and dated?
- 6 Yes Were sample containers and labels intact and match COC?
- 7 Yes Were the correct containers and volumes received?
- 8 Yes Were samples received within EPA hold times?
- 9 Yes Were correct preservatives used? (water only)
- 10 NA Were pH ranges acceptable? (voa's excluded)
- 11 NA Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
 158 Starlite Drive
 Marietta, OH 45750
 Tel: (740)373-4071 Fax: (740)373-4835

Microbac Laboratories Inc.**Internal Chain of Custody Report**

Login: L10090358

Account: 2773

Project: 2773.025

Samples: 6

Due Date: 17-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090358-01	738601	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	16-SEP-2010 11:37	RLK	
2	ANALYZ	V1	ORG4	16-SEP-2010 11:43	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	16-SEP-2010 11:37	RLK	
2	ANALYZ	V1	ORG4	16-SEP-2010 11:43	JKT	MRT

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090358-02	738602	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	16-SEP-2010 11:37	RLK	
2	ANALYZ	V1	ORG4	16-SEP-2010 11:43	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	16-SEP-2010 11:37	RLK	
2	ANALYZ	V1	ORG4	16-SEP-2010 11:43	JKT	MRT

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090358-03	738603	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	16-SEP-2010 11:37	RLK	
2	ANALYZ	V1	ORG4	16-SEP-2010 11:43	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	16-SEP-2010 11:37	RLK	
2	ANALYZ	V1	ORG4	16-SEP-2010 11:43	JKT	MRT

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L10090358

Account: 2773

Project: 2773.025

Samples: 6

Due Date: 17-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090358-04	738604	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	16-SEP-2010 11:37	RLK	
2	ANALYZ	V1	ORG4	16-SEP-2010 11:43	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	16-SEP-2010 11:37	RLK	
2	ANALYZ	V1	ORG4	16-SEP-2010 11:43	JKT	MRT

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090358-04	738605	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	16-SEP-2010 11:37	RLK	
2	ANALYZ	W1	SEM	16-SEP-2010 15:03	ADC	RLK
3	STORE	SEM	A2	20-SEP-2010 14:50	JKT	WTD

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090358-05	738606	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	16-SEP-2010 11:37	RLK	
2	ANALYZ	V1	ORG4	16-SEP-2010 11:44	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	16-SEP-2010 11:37	RLK	
2	ANALYZ	V1	ORG4	16-SEP-2010 11:44	JKT	MRT

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090358-05	738607	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	16-SEP-2010 11:37	RLK	
2	ANALYZ	W1	SEM	16-SEP-2010 15:03	ADC	RLK
3	STORE	SEM	A2	20-SEP-2010 14:50	JKT	WTD

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Microbac Laboratories Inc.**Internal Chain of Custody Report****Login:** L10090358**Account:** 2773**Project:** 2773.025**Samples:** 6**Due Date:** 17-SEP-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090358-06	738608	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	16-SEP-2010 11:37	RLK	
2	ANALYZ	V1	ORG4	16-SEP-2010 11:44	JKT	MRT

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	16-SEP-2010 11:37	RLK	
2	ANALYZ	V1	ORG4	16-SEP-2010 11:44	JKT	MRT

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



NELAP Addendum - May 28, 2010**Non-NELAP LIMS Product and Description**

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄)
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Perchlorate (6850 – LCMS)
 Hexamethylphosphoramide (XMPA-LCMS)
 Thiodiglycol (TDG-LCMS)
 1,4-Dioxane – 8270C (827-DIOXANE)
 Phosphorus – 6010B
 Zirconium - 6010B

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER****OVL HPLC02/HPLC-UV**

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 2, 3, 4, 6-Tetrachlorophenol
 2-Chloronaphthalene
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene

Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnell
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropyl ether
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene

Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnel
Simazine
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropylether
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

LABORATORY REPORT

00105730

L10090358

09/21/10 16:23

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: for Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47DPT10I-100915	L10090358-01	8260B	1	16-SEP-10
47DPT11I-100915	L10090358-02	8260B	1	16-SEP-10
47DPT12I-100915	L10090358-03	8260B	1	16-SEP-10
47DPT14-100915	L10090358-04	8260B	1	16-SEP-10
47DPT14-100915	L10090358-04	8260B	50	16-SEP-10
47DPT14-100915	L10090358-04	8260B	100	16-SEP-10
47DPT15-100915	L10090358-05	8260B	1	16-SEP-10
47-TB-100915	L10090358-06	8260B	1	16-SEP-10



Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-01
 Client ID: 47DPT101-100915
 Matrix: Water
 Workgroup Number: WG342998
 Collect Date: 09/15/2010 11:05
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS8
 Prep Date: 09/16/2010 21:44
 Cal Date: 08/05/2010 19:10
 Run Date: 09/16/2010 21:44
 File ID: 8M364129

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

1 of 16

Microbac

Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-01
Client ID: 47DPT10I-100915
Matrix: Water
Workgroup Number: WG342998
Collect Date: 09/15/2010 11:05
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B/5030C/5035
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

Instrument: HPMS8
Prep Date: 09/16/2010 21:44
Cal Date: 08/05/2010 19:10
Run Date: 09/16/2010 21:44
File ID: 8M364129

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	102	86	118		
1,2-Dichloroethane-d4	108	80	120		
Toluene-d8	100	88	110		
4-Bromofluorobenzene	97.8	86	115		

U Not detected at or above adjusted sample detection limit



Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-02
 Client ID: 47DPT111-100915
 Matrix: Water
 Workgroup Number: WG342998
 Collect Date: 09/15/2010 14:00
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS8
 Prep Date: 09/16/2010 22:16
 Cal Date: 08/05/2010 19:10
 Run Date: 09/16/2010 22:16
 File ID: 8M364130

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	2.66	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

3 of 16



Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-02

Client ID: 47DPT111-100915

Matrix: Water

Workgroup Number: WG342998

Collect Date: 09/15/2010 14:00

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 5030B/5030C/5035

Analytical Method: 8260B

Analyst: MES

Dilution: 1

Units: ug/L

Instrument: HPMS8

Prep Date: 09/16/2010 22:16

Cal Date: 08/05/2010 19:10

Run Date: 09/16/2010 22:16

File ID: 8M364130

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	102	86	118		
1,2-Dichloroethane-d4	108	80	120		
Toluene-d8	101	88	110		
4-Bromofluorobenzene	98.5	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-03
 Client ID: 47DPT121-100915
 Matrix: Water
 Workgroup Number: WG342984
 Collect Date: 09/15/2010 14:10
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 09/16/2010 17:42
 Cal Date: 08/26/2010 19:45
 Run Date: 09/16/2010 17:42
 File ID: 11M69008

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

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Microbac

Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-03

Client ID: 47DPT12I-100915

Matrix: Water

Workgroup Number: WG342984

Collect Date: 09/15/2010 14:10

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 5030B/5030C/5035

Analytical Method: 8260B

Analyst: MES

Dilution: 1

Units: ug/L

Instrument: HPMS11

Prep Date: 09/16/2010 17:42

Cal Date: 08/26/2010 19:45

Run Date: 09/16/2010 17:42

File ID: 11M69008

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	103	86	118		
1,2-Dichloroethane-d4	99.8	80	120		
Toluene-d8	105	88	110		
4-Bromofluorobenzene	109	86	115		

U Not detected at or above adjusted sample detection limit

Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-04

Client ID: 47DPT14-100915

Matrix: Water

Workgroup Number: WG342984

Collect Date: 09/15/2010 14:30

Sample Tag: 01

PrePrep Method: NONE

Prep Method: 5030B/5030C/5035

Analytical Method: 8260B

Analyst: MES

Dilution: 1

Units: ug/L

Instrument: HPMS11

Prep Date: 09/16/2010 18:12

Cal Date: 08/26/2010 19:45

Run Date: 09/16/2010 18:12

File ID: 11M69009

Analyte	CAS. Number	Result	Qual	POL	SDL
Acetone	67-64-1	3.31	J	10.0	2.50
Benzene	71-43-2	0.590	J	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3	3.92	U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4	14.0	U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	986	I	1.00	0.250
trans-1,2-Dichloroethene	156-60-5	2.30	U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8	0.355	J	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.357	J	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	2900	I	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

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Microbac

Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-04
Client ID: 47DPT14-100915
Matrix: Water
Workgroup Number: WG342984
Collect Date: 09/15/2010 14:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 5030B/5030C/5035
Analytical Method: 8260B
Analyst: MES
Dilution: 1
Units: ug/L

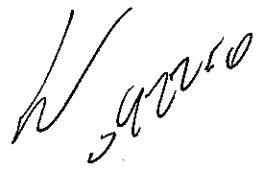
Instrument: HPMS11
Prep Date: 09/16/2010 18:12
Cal Date: 08/26/2010 19:45
Run Date: 09/16/2010 18:12
File ID: 11M69009

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4	67.5		1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-p-Xylene	179601-23-1		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	105	86	118		
1,2-Dichloroethane-d4	99.9	80	120		
Toluene-d8	102	88	110		
4-Bromofluorobenzene	109	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

I Semiquantitative result (out of instrument calibration range)



Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-04
Client ID: 47DPT14-100915
Matrix: Water
Workgroup Number: WG343092
Collect Date: 09/15/2010 14:30
Sample Tag: DL02

PrePrep Method: NONE
Prep Method: 5030B/5030C/5035
Analytical Method: 8260B
Analyst: MES
Dilution: 50
Units: ug/L

Instrument: HPMS11
Prep Date: 09/17/2010 12:42
Cal Date: 08/26/2010 19:45
Run Date: 09/17/2010 12:42
File ID: 11M69023

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	500	125
Benzene	71-43-2		U	50.0	6.25
Bromobenzene	108-86-1		U	50.0	6.25
Bromochloromethane	74-97-5		U	50.0	10.0
Bromodichloromethane	75-27-4		U	50.0	12.5
Bromoform	75-25-2		U	50.0	25.0
Bromomethane	74-83-9		U	50.0	25.0
2-Butanone	78-93-3		U	500	125
n-Butylbenzene	104-51-8		U	50.0	12.5
sec-Butylbenzene	135-98-8		U	50.0	12.5
tert-Butylbenzene	98-06-6		U	50.0	12.5
Carbon disulfide	75-15-0	125		50.0	25.0
Carbon tetrachloride	56-23-5		U	50.0	12.5
Chlorobenzene	108-90-7		U	50.0	6.25
Chlorodibromomethane	124-48-1		U	50.0	12.5
Chloroethane	75-00-3		U	50.0	25.0
2-Chloroethyl vinyl ether	110-75-8		U	500	100
Chloroform	67-66-3		U	50.0	6.25
Chloromethane	74-87-3		U	50.0	25.0
2-Chlorotoluene	95-49-8		U	50.0	6.25
4-Chlorotoluene	106-43-4		U	50.0	12.5
1,2-Dibromo-3-chloropropane	96-12-8		U	250	50.0
1,2-Dibromoethane	106-93-4		U	50.0	12.5
Dibromomethane	74-95-3		U	50.0	12.5
1,2-Dichlorobenzene	95-50-1		U	50.0	6.25
1,3-Dichlorobenzene	541-73-1		U	50.0	12.5
1,4-Dichlorobenzene	106-46-7		U	50.0	6.25
Dichlorodifluoromethane	75-71-8		U	50.0	12.5
1,1-Dichloroethane	75-34-3		U	50.0	6.25
1,2-Dichloroethane	107-06-2		U	50.0	12.5
1,1-Dichloroethene	75-35-4		U	50.0	25.0
cis-1,2-Dichloroethene	156-59-2	825		50.0	12.5
trans-1,2-Dichloroethene	156-60-5		U	50.0	12.5
1,2-Dichloropropane	78-87-5		U	50.0	10.0
1,3-Dichloropropane	142-28-9		U	50.0	10.0
2,2-Dichloropropane	594-20-7		U	50.0	12.5
cis-1,3-Dichloropropene	10061-01-5		U	50.0	12.5
trans-1,3-Dichloropropene	10061-02-6		U	50.0	25.0
1,1-Dichloropropene	563-58-6		U	50.0	12.5
Ethylbenzene	100-41-4		U	50.0	12.5
2-Hexanone	591-78-6		U	500	125
Hexachlorobutadiene	87-68-3		U	50.0	12.5
Isopropylbenzene	98-82-8		U	50.0	12.5
p-Isopropyltoluene	99-87-6		U	50.0	12.5
4-Methyl-2-pentanone	108-10-1		U	500	125
Methylene chloride	75-09-2	15.1	J	250	12.5
Naphthalene	91-20-3		U	50.0	10.0
n-Propylbenzene	103-65-1		U	50.0	6.25
Styrene	100-42-5		U	50.0	6.25
1,1,1,2-Tetrachloroethane	630-20-6		U	50.0	12.5
1,1,2,2-Tetrachloroethane	79-34-5		U	50.0	10.0
Tetrachloroethene	127-18-4		U	50.0	12.5
Toluene	108-88-3		U	50.0	12.5
1,2,3-Trichlorobenzene	87-61-6		U	50.0	7.50
1,2,4-Trichlorobenzene	120-82-1		U	50.0	10.0
1,1,1-Trichloroethane	71-55-6		U	50.0	12.5
1,1,2-Trichloroethane	79-00-5		U	50.0	12.5
Trichloroethene	79-01-6	10700	I	50.0	12.5
Trichlorofluoromethane	75-69-4		U	50.0	12.5

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Microbac

Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-04
 Client ID: 47DPT14-100915
 Matrix: Water
 Workgroup Number: WG343092
 Collect Date: 09/15/2010 14:30
 Sample Tag: DL02

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 50
 Units: ug/L

Instrument: HPMS11
 Prep Date: 09/17/2010 12:42
 Cal Date: 08/26/2010 19:45
 Run Date: 09/17/2010 12:42
 File ID: 11M69023

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	50.0	25.0
1,2,4-Trimethylbenzene	95-63-6		U	50.0	12.5
1,3,5-Trimethylbenzene	108-67-8		U	50.0	12.5
Vinyl acetate	108-05-4		U	500	125
Vinyl chloride	75-01-4	37.7	J	50.0	12.5
o-Xylene	95-47-6		U	50.0	12.5
m-,p-Xylene	179601-23-1		U	50.0	25.0
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	103	86	118		
1,2-Dichloroethane-d4	97.6	80	120		
Toluene-d8	105	88	110		
4-Bromofluorobenzene	112	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

I Semiquantitative result (out of instrument calibration range)

Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-04

Client ID: 47DPT14-100915

Matrix: Water

Workgroup Number: WG343170

Collect Date: 09/15/2010 14:30

Sample Tag: DL01

PrePrep Method: NONE

Prep Method: 5030B/5030C/5035

Analytical Method: 8260B

Analyst: MES

Dilution: 100

Units: ug/L

Instrument: HPMS6

Prep Date: 09/18/2010 15:02

Cal Date: 09/10/2010 14:25

Run Date: 09/18/2010 15:02

File ID: 6M93888

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1		U	1000	250
Benzene	71-43-2		U	100	12.5
Bromobenzene	108-86-1		U	100	12.5
Bromochloromethane	74-97-5		U	100	20.0
Bromodichloromethane	75-27-4		U	100	25.0
Bromoform	75-25-2		U	100	50.0
Bromomethane	74-83-9		U	100	50.0
2-Butanone	78-93-3		U	1000	250
n-Butylbenzene	104-51-8		U	100	25.0
sec-Butylbenzene	135-98-8		U	100	25.0
tert-Butylbenzene	98-06-6		U	100	25.0
Carbon disulfide	75-15-0	75.9	U	100	50.0
Carbon tetrachloride	56-23-5		U	100	25.0
Chlorobenzene	108-90-7		U	100	12.5
Chlorodibromomethane	124-48-1		U	100	25.0
Chloro-ethane	75-00-3		U	100	50.0
2-Chloroethyl vinyl ether	110-75-8		U	1000	200
Chloroform	67-66-3		U	100	12.5
Chloromethane	74-87-3		U	100	50.0
2-Chlorotoluene	95-49-8		U	100	12.5
4-Chlorotoluene	106-43-4		U	100	25.0
1,2-Dibromo-3-chloropropane	96-12-8		U	500	100
1,2-Dibromoethane	106-93-4		U	100	25.0
Dibromomethane	74-95-3		U	100	25.0
1,2-Dichlorobenzene	95-50-1		U	100	12.5
1,3-Dichlorobenzene	541-73-1		U	100	25.0
1,4-Dichlorobenzene	106-46-7		U	100	12.5
Dichlorodifluoromethane	75-71-8		U	100	25.0
1,1-Dichloroethane	75-34-3		U	100	12.5
1,2-Dichloroethane	107-06-2		U	100	25.0
1,1-Dichloroethene	75-35-4		U	100	50.0
cis-1,2-Dichloroethene	156-59-2	1020	U	100	25.0
trans-1,2-Dichloroethene	156-60-5		U	100	25.0
1,2-Dichloropropane	78-87-5		U	100	20.0
1,3-Dichloropropane	142-28-9		U	100	20.0
2,2-Dichloropropane	594-20-7		U	100	25.0
cis-1,3-Dichloropropene	10061-01-5		U	100	25.0
trans-1,3-Dichloropropene	10061-02-6		U	100	50.0
1,1-Dichloropropene	563-58-6		U	100	25.0
Ethylbenzene	100-41-4		U	100	25.0
2-Hexanone	591-78-6		U	1000	250
Hexachlorobutadiene	87-68-3		U	100	25.0
Isopropylbenzene	98-82-8		U	100	25.0
p-Isopropyltoluene	99-87-6		U	100	25.0
4-Methyl-2-pentanone	108-10-1		U	1000	250
Methylene chloride	75-09-2		U	500	25.0
Naphthalene	91-20-3		U	100	20.0
n-Propylbenzene	103-65-1		U	100	12.5
Styrene	100-42-5		U	100	12.5
1,1,1,2-Tetrachloroethane	630-20-6		U	100	25.0
1,1,2,2-Tetrachloroethane	79-34-5		U	100	20.0
Tetrachloroethene	127-18-4		U	100	25.0
Toluene	108-88-3		U	100	25.0
1,2,3-Trichlorobenzene	87-61-6		U	100	15.0
1,2,4-Trichlorobenzene	120-82-1		U	100	20.0
1,1,1-Trichloroethane	71-55-6		U	100	25.0
1,1,2-Trichloroethane	79-00-5		U	100	25.0
Trichloroethene	79-01-6	13900	U	100	25.0
Trichlorofluoromethane	75-69-4		U	100	25.0

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Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-04
Client ID: 47DPT14-100915
Matrix: Water
Workgroup Number: WG343170
Collect Date: 09/15/2010 14:30
Sample Tag: DL01

PrePrep Method: NONE
Prep Method: 5030B/5030C/5035
Analytical Method: 8260B
Analyst: MES
Dilution: 100
Units: ug/L

Instrument: HPMS6
Prep Date: 09/18/2010 15:02
Cal Date: 09/10/2010 14:25
Run Date: 09/18/2010 15:02
File ID: 6M93888

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	100	50.0
1,2,4-Trimethylbenzene	95-63-6		U	100	25.0
1,3,5-Trimethylbenzene	108-67-8		U	100	25.0
Vinyl acetate	108-05-4		U	1000	250
Vinyl chloride	75-01-4	65.6	J	100	25.0
o-Xylene	95-47-6		U	100	25.0
m-,p-Xylene	179601-23-1		U	100	50.0
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	96.5	86	118		
1,2-Dichloroethane-d4	88.9	80	120		
Toluene-d8	99.6	88	110		
4-Bromofluorobenzene	106	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-05
 Client ID: 47DPT15-100915
 Matrix: Water
 Workgroup Number: WG343092
 Collect Date: 09/15/2010 14:45
 Sample Tag: 02

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 09/17/2010 13:43
 Cal Date: 08/26/2010 19:45
 Run Date: 09/17/2010 13:43
 File ID: 11M69025

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	2.65	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.378	J	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6	2.07	U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

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Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-05
 Client ID: 47DPT15-100915
 Matrix: Water
 Workgroup Number: WG343092
 Collect Date: 09/15/2010 14:45
 Sample Tag: 02

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 09/17/2010 13:43
 Cal Date: 08/26/2010 19:45
 Run Date: 09/17/2010 13:43
 File ID: 11M69025

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	104	86	118		
1,2-Dichloroethane-d4	98.2	80	120		
Toluene-d8	104	88	110		
4-Bromofluorobenzene	109	86	115		

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

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Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-06
 Client ID: 47-TB-100915
 Matrix: Water
 Workgroup Number: WG342984
 Collect Date: 09/15/2010 00:01
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 09/16/2010 12:38
 Cal Date: 08/26/2010 19:45
 Run Date: 09/16/2010 12:38
 File ID: 11M68998

Analyte	CAS. Number	Result	Qual	PQL	SDL
Acetone	67-64-1	U	U	10.0	2.50
Benzene	71-43-2	U	U	1.00	0.125
Bromobenzene	108-86-1	U	U	1.00	0.125
Bromochloromethane	74-97-5	U	U	1.00	0.200
Bromodichloromethane	75-27-4	U	U	1.00	0.250
Bromoform	75-25-2	U	U	1.00	0.500
Bromomethane	74-83-9	U	U	1.00	0.500
2-Butanone	78-93-3	U	U	10.0	2.50
n-Butylbenzene	104-51-8	U	U	1.00	0.250
sec-Butylbenzene	135-98-8	U	U	1.00	0.250
tert-Butylbenzene	98-06-6	U	U	1.00	0.250
Carbon disulfide	75-15-0	U	U	1.00	0.500
Carbon tetrachloride	56-23-5	U	U	1.00	0.250
Chlorobenzene	108-90-7	U	U	1.00	0.125
Chlorodibromomethane	124-48-1	U	U	1.00	0.250
Chloroethane	75-00-3	U	U	1.00	0.500
2-Chloroethyl vinyl ether	110-75-8	U	U	10.0	2.00
Chloroform	67-66-3	U	U	1.00	0.125
Chloromethane	74-87-3	U	U	1.00	0.500
2-Chlorotoluene	95-49-8	U	U	1.00	0.125
4-Chlorotoluene	106-43-4	U	U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	U	U	5.00	1.00
1,2-Dibromoethane	106-93-4	U	U	1.00	0.250
Dibromomethane	74-95-3	U	U	1.00	0.250
1,2-Dichlorobenzene	95-50-1	U	U	1.00	0.125
1,3-Dichlorobenzene	541-73-1	U	U	1.00	0.250
1,4-Dichlorobenzene	106-46-7	U	U	1.00	0.125
Dichlorodifluoromethane	75-71-8	U	U	1.00	0.250
1,1-Dichloroethane	75-34-3	U	U	1.00	0.125
1,2-Dichloroethane	107-06-2	U	U	1.00	0.250
1,1-Dichloroethene	75-35-4	U	U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	U	U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5	U	U	1.00	0.250
1,2-Dichloropropane	78-87-5	U	U	1.00	0.200
1,3-Dichloropropane	142-28-9	U	U	1.00	0.200
2,2-Dichloropropane	594-20-7	U	U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	U	U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	U	U	1.00	0.500
1,1-Dichloropropene	563-58-6	U	U	1.00	0.250
Ethylbenzene	100-41-4	U	U	1.00	0.250
2-Hexanone	591-78-6	U	U	10.0	2.50
Hexachlorobutadiene	87-68-3	U	U	1.00	0.250
Isopropylbenzene	98-82-8	U	U	1.00	0.250
p-Isopropyltoluene	99-87-6	U	U	1.00	0.250
4-Methyl-2-pentanone	108-10-1	U	U	10.0	2.50
Methylene chloride	75-09-2	U	U	5.00	0.250
Naphthalene	91-20-3	U	U	1.00	0.200
n-Propylbenzene	103-65-1	U	U	1.00	0.125
Styrene	100-42-5	U	U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6	U	U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	U	U	1.00	0.200
Tetrachloroethene	127-18-4	U	U	1.00	0.250
Toluene	108-88-3	U	U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	U	U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1	U	U	1.00	0.200
1,1,1-Trichloroethane	71-55-6	U	U	1.00	0.250
1,1,2-Trichloroethane	79-00-5	U	U	1.00	0.250
Trichloroethene	79-01-6	U	U	1.00	0.250
Trichlorofluoromethane	75-69-4	U	U	1.00	0.250

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Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-06
 Client ID: 47-TB-100915
 Matrix: Water
 Workgroup Number: WG342984
 Collect Date: 09/15/2010 00:01
 Sample Tag: 01

PrePrep Method: NONE
 Prep Method: 5030B/5030C/5035
 Analytical Method: 8260B
 Analyst: MES
 Dilution: 1
 Units: ug/L

Instrument: HPMS11
 Prep Date: 09/16/2010 12:38
 Cal Date: 08/26/2010 19:45
 Run Date: 09/16/2010 12:38
 File ID: 11M68998

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
Surrogate	% Recovery	Lower	Upper	Qual	
Dibromofluoromethane	103	86	118		
1,2-Dichloroethane-d4	96.6	80	120		
Toluene-d8	105	88	110		
4-Bromofluorobenzene	111	86	115		

U Not detected at or above adjusted sample detection limit

2.1.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10090358
Blank File ID: 11M68992
Prep Date: 09/16/10 10:07
Analyzed Date: 09/16/10 10:07
Analyst: MES

Work Group: WG342984
Blank Sample ID: WG342984-01
Instrument ID: HPMS11
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG342984-02	11M68993	09/16/10 10:37	01
47-TB-100915	L10090358-06	11M68998	09/16/10 12:38	01
47DPT12I-100915	L10090358-03	11M69008	09/16/10 17:42	01
47DPT14-100915	L10090358-04	11M69009	09/16/10 18:12	01

Report Name: BLANK SUMMARY
PDF File ID: 1786359
Report generated 09/21/2010 15:15



METHOD BLANK SUMMARY

Login Number: L10090358
Blank File ID: 11M69020
Prep Date: 09/17/10 11:11
Analyzed Date: 09/17/10 11:11
Analyst: MES

Work Group: WG343092
Blank Sample ID: WG343092-01
Instrument ID: HPMS11
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG343092-02	11M69021	09/17/10 11:42	01
LCS2	WG343092-03	11M69022	09/17/10 12:12	01
47DPT14-100915	L10090358-04	11M69023	09/17/10 12:42	DL02
47DPT15-100915	L10090358-05	11M69025	09/17/10 13:43	02

Report Name: BLANK SUMMARY
PDF File ID: 1786359
Report generated 09/21/2010 15:15



METHOD BLANK SUMMARY

Login Number: L10090358 Work Group: WG343170
Blank File ID: 6M93885 Blank Sample ID: WG343170-01
Prep Date: 09/18/10 13:25 Instrument ID: HPMS6
Analyzed Date: 09/18/10 13:25 Method: 8260B
Analyst: MES

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG343170-02	6M93886	09/18/10 13:57	01
LCS2	WG343170-03	6M93887	09/18/10 14:29	01
47DPT14-100915	L10090358-04	6M93888	09/18/10 15:02	DL01

Report Name: BLANK SUMMARY
PDF File ID: 1786359
Report generated 09/21/2010 15:15



METHOD BLANK SUMMARY

Login Number: L10090358 Work Group: WG342998
Blank File ID: 8M364111 Blank Sample ID: WG342998-01
Prep Date: 09/16/10 12:04 Instrument ID: HPMS8
Analyzed Date: 09/16/10 12:04 Method: 8260B
Analyst: MES

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG342998-02	8M364112	09/16/10 12:37	01
47DPT10I-100915	L10090358-01	8M364129	09/16/10 21:44	01
47DPT11I-100915	L10090358-02	8M364130	09/16/10 22:16	01

Report Name: BLANK SUMMARY
PDF File ID: 1786359
Report generated 09/21/2010 15:15



METHOD BLANK REPORT

Login Number: L10090358 Prep Date: 09/16/10 10:07 Sample ID: WG342984-01
 Instrument ID: HPMS11 Run Date: 09/16/10 10:07 Prep Method: 5030B/5030C/503
 File ID: 11M68992 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG342984 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS11-26-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U

Report Name: BLANK

PDF ID: 1786360

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Microbac Laboratories Inc.
METHOD BLANK REPORT

00105753

Login Number: L10090358 Prep Date: 09/16/10 10:07 Sample ID: WG342984-01
Instrument ID: HPMS11 Run Date: 09/16/10 10:07 Prep Method: 5030B/5030C/503
File ID: 11M68992 Analyst: MES Method: 8260B
Workgroup (AAB#): WG342984 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS11-26-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	102	86 - 118	PASS
1,2-Dichloroethane-d4	95.7	80 - 120	PASS
Toluene-d8	105	88 - 110	PASS
4-Bromofluorobenzene	111	86 - 115	PASS

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
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Microbac Laboratories Inc.
METHOD BLANK REPORT

00105754

Login Number: L10090358 Prep Date: 09/17/10 11:11 Sample ID: WG343092-01
Instrument ID: HPMS11 Run Date: 09/17/10 11:11 Prep Method: 5030B/5030C/503
File ID: 11M69020 Analyst: MES Method: 8260B
Workgroup (AAB#): WG343092 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS11-26-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U

Report Name: BLANK
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METHOD BLANK REPORT

Login Number: L10090358 Prep Date: 09/17/10 11:11 Sample ID: WG343092-01
 Instrument ID: HPMS11 Run Date: 09/17/10 11:11 Prep Method: 5030B/5030C/503
 File ID: 11M69020 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG343092 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS11-26-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	102	86 - 118	PASS
1,2-Dichloroethane-d4	95.7	80 - 120	PASS
Toluene-d8	105	88 - 110	PASS
4-Bromofluorobenzene	111	86 - 115	PASS

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1786360

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METHOD BLANK REPORT

Login Number: L10090358 Prep Date: 09/18/10 13:25 Sample ID: WG343170-01
 Instrument ID: HPMS6 Run Date: 09/18/10 13:25 Prep Method: 5030B/5030C/503
 File ID: 6M93885 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG343170 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS6-10-SEP-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U

Report Name: BLANK

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Microbac Laboratories Inc.
METHOD BLANK REPORT

00105757

Login Number: L10090358 Prep Date: 09/18/10 13:25 Sample ID: WG343170-01
Instrument ID: HPMS6 Run Date: 09/18/10 13:25 Prep Method: 5030B/5030C/503
File ID: 6M93885 Analyst: MES Method: 8260B
Workgroup (AAB#): WG343170 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS6-10-SEP-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	95.5	86 - 118	PASS
1,2-Dichloroethane-d4	86.6	80 - 120	PASS
Toluene-d8	100	88 - 110	PASS
4-Bromofluorobenzene	107	86 - 115	PASS

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
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METHOD BLANK REPORT

Login Number: L10090358 Prep Date: 09/16/10 12:04 Sample ID: WG342998-01
 Instrument ID: HPMS8 Run Date: 09/16/10 12:04 Prep Method: 5030B/5030C/503
 File ID: 8M364111 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG342998 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS8-05-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	1.00	0.500	1	U
2-Chloroethyl vinyl ether	2.00	10.0	2.00	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U

Report Name: BLANK

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METHOD BLANK REPORT

Login Number: L10090358 Prep Date: 09/16/10 12:04 Sample ID: WG342998-01
 Instrument ID: HPMS8 Run Date: 09/16/10 12:04 Prep Method: 5030B/5030C/503
 File ID: 8M364111 Analyst: MES Method: 8260B
 Workgroup (AAB#): WG342998 Matrix: Water Units: ug/L
 Contract #: DACA56-94-D-0020 Cal ID: HPMS8-05-AUG-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Isopropylbenzene	0.250	1.00	0.250	1	U
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	5.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	1.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl acetate	2.50	10.0	2.50	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits		Qualifier
Dibromofluoromethane	101	86	118	PASS
1,2-Dichloroethane-d4	104	80	120	PASS
Toluene-d8	98.5	88	110	PASS
4-Bromofluorobenzene	94.4	86	115	PASS

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105760

Login Number: L10090358 Run Date: 09/16/2010 Sample ID: WG342984-02
Instrument ID: HPMS11 Run Time: 10:37 Prep Method: 5030B/5030C/503
File ID: 11M68993 Analyst: MES Method: 8260B
Workgroup (AAB#): WG342984 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD41393 Cal ID: HPMS11-26-AUG-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	21.4	107	40 ~ 180	
Benzene	20.0	20.2	101	80 ~ 121	
Bromobenzene	20.0	20.0	100	80 ~ 120	
Bromochloromethane	20.0	20.7	103	65 ~ 130	
Bromodichloromethane	20.0	21.9	110	80 ~ 131	
Bromoform	20.0	17.1	85.7	70 ~ 130	
Bromomethane	20.0	19.0	94.9	30 ~ 145	
2-Butanone	20.0	21.1	106	10 ~ 170	
n-Butylbenzene	20.0	20.2	101	80 ~ 131	
sec-Butylbenzene	20.0	20.2	101	80 ~ 127	
tert-Butylbenzene	20.0	19.8	99.0	80 ~ 126	
Carbon disulfide	20.0	19.8	99.1	58 ~ 128	
Carbon tetrachloride	20.0	20.9	105	65 ~ 140	
Chlorobenzene	20.0	19.5	97.5	80 ~ 120	
Chlorodibromomethane	20.0	21.7	108	60 ~ 135	
Chloroethane	20.0	21.9	110	60 ~ 135	
2-Chloroethyl vinyl ether	20.0	22.4	112	45 ~ 160	
Chloroform	20.0	19.8	99.1	80 ~ 125	
Chloromethane	20.0	14.7	73.4	40 ~ 125	
2-Chlorotoluene	20.0	21.1	106	80 ~ 127	
4-Chlorotoluene	20.0	19.8	99.1	80 ~ 126	
1,2-Dibromo-3-chloropropane	20.0	19.8	99.2	50 ~ 130	
1,2-Dibromoethane	20.0	20.7	103	80 ~ 129	
Dibromomethane	20.0	20.8	104	75 ~ 125	
1,2-Dichlorobenzene	20.0	20.1	101	80 ~ 125	
1,3-Dichlorobenzene	20.0	20.1	101	80 ~ 120	
1,4-Dichlorobenzene	20.0	19.2	96.0	80 ~ 120	
Dichlorodifluoromethane	20.0	23.2	116	40 ~ 160	
1,1-Dichloroethane	20.0	20.7	104	80 ~ 125	
1,2-Dichloroethane	20.0	20.6	103	80 ~ 129	
1,1-Dichloroethene	20.0	20.1	101	80 ~ 132	
cis-1,2-Dichloroethene	20.0	20.3	102	70 ~ 125	
trans-1,2-Dichloroethene	20.0	20.9	104	80 ~ 127	
1,2-Dichloropropane	20.0	21.5	108	80 ~ 120	
1,3-Dichloropropane	20.0	21.2	106	80 ~ 120	
2,2-Dichloropropane	20.0	19.9	99.5	80 ~ 133	
cis-1,3-Dichloropropene	20.0	20.3	101	70 ~ 130	
trans-1,3-Dichloropropene	20.0	19.2	96.2	80 ~ 130	
1,1-Dichloropropene	20.0	20.2	101	75 ~ 130	
Ethylbenzene	20.0	19.8	98.9	80 ~ 122	
2-Hexanone	20.0	20.2	101	55 ~ 130	

LCS - Modified 03/06/2008
PDF File ID: 1783665
Report generated: 09/17/2010 10:03



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105761

Login Number: L10090358 Run Date: 09/16/2010 Sample ID: WG342984-02
Instrument ID: HPMS11 Run Time: 10:37 Prep Method: 5030B/5030C/503
File ID: 11M68993 Analyst: MES Method: 8260B
Workgroup (AAB#): WG342984 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD41393 Cal ID: HPMS11-26-AUG-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Hexachlorobutadiene	20.0	18.8	94.0	72 - 132	
Isopropylbenzene	20.0	18.0	90.0	80 - 122	
p-Isopropyltoluene	20.0	19.9	99.4	80 - 122	
4-Methyl-2-pentanone	20.0	18.9	94.5	64 - 140	
Methylene chloride	20.0	19.8	98.8	80 - 123	
Naphthalene	20.0	18.8	94.0	59 - 149	
n-Propylbenzene	20.0	20.9	104	80 - 129	
Styrene	20.0	18.3	91.7	80 - 123	
1,1,1,2-Tetrachloroethane	20.0	20.2	101	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	20.7	104	79 - 125	
Tetrachloroethene	20.0	20.7	104	80 - 124	
Toluene	20.0	20.1	101	80 - 124	
1,2,3-Trichlorobenzene	20.0	17.2	86.1	55 - 140	
1,2,4-Trichlorobenzene	20.0	18.4	92.0	65 - 135	
1,1,1-Trichloroethane	20.0	20.4	102	80 - 134	
1,1,2-Trichloroethane	20.0	21.1	105	80 - 125	
Trichloroethene	20.0	20.1	100	80 - 122	
Trichlorofluoromethane	20.0	21.2	106	62 - 151	
1,2,3-Trichloropropane	20.0	21.2	106	75 - 125	
1,2,4-Trimethylbenzene	20.0	20.4	102	80 - 125	
1,3,5-Trimethylbenzene	20.0	20.6	103	80 - 127	
Vinyl acetate	20.0	8.39	42.0	10 - 190	
Vinyl chloride	20.0	18.6	93.1	50 - 170	
o-Xylene	20.0	19.7	98.3	80 - 122	
m-,p-Xylene	40.0	40.1	100	80 - 122	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	103	86 - 118	PASS
1,2-Dichloroethane-d4	98.9	80 - 120	PASS
Toluene-d8	103	88 - 110	PASS
4-Bromofluorobenzene	107	86 - 115	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105762

Login Number: L10090358 Run Date: 09/16/2010 Sample ID: WG342998-02
Instrument ID: HPMS8 Run Time: 12:37 Prep Method: 5030B/5030C/503
File ID: 8M364112 Analyst: MES Method: 8260B
Workgroup (AAB#): WG342998 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD41393 Cal ID: HPMS8-05-AUG-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	24.7	123	40 - 180	
Benzene	20.0	21.4	107	80 - 121	
Bromobenzene	20.0	22.2	111	80 - 120	
Bromochloromethane	20.0	24.0	120	65 - 130	
Bromodichloromethane	20.0	23.8	119	80 - 131	
Bromoform	20.0	22.5	113	70 - 130	
Bromomethane	20.0	26.4	132	30 - 145	
2-Butanone	20.0	25.9	129	10 - 170	
n-Butylbenzene	20.0	22.2	111	80 - 131	
sec-Butylbenzene	20.0	22.4	112	80 - 127	
tert-Butylbenzene	20.0	22.6	113	80 - 126	
Carbon disulfide	20.0	24.2	121	58 - 128	
Carbon tetrachloride	20.0	24.2	121	65 - 140	
Chlorobenzene	20.0	22.2	111	80 - 120	
Chlorodibromomethane	20.0	22.8	114	60 - 135	
Chloroethane	20.0	25.3	127	60 - 135	
2-Chloroethyl vinyl ether	20.0	23.1	115	45 - 160	
Chloroform	20.0	21.6	108	80 - 125	
Chloromethane	20.0	23.8	119	40 - 125	
2-Chlorotoluene	20.0	19.9	99.4	80 - 127	
4-Chlorotoluene	20.0	23.8	119	80 - 126	
1,2-Dibromo-3-chloropropane	20.0	20.7	103	50 - 130	
1,2-Dibromoethane	20.0	22.2	111	80 - 129	
Dibromomethane	20.0	23.2	116	75 - 125	
1,2-Dichlorobenzene	20.0	22.4	112	80 - 125	
1,3-Dichlorobenzene	20.0	22.5	112	80 - 120	
1,4-Dichlorobenzene	20.0	22.3	112	80 - 120	
Dichlorodifluoromethane	20.0	28.4	142	40 - 160	
1,1-Dichloroethane	20.0	23.6	118	80 - 125	
1,2-Dichloroethane	20.0	22.8	114	80 - 129	
1,1-Dichloroethene	20.0	24.2	121	80 - 132	
cis-1,2-Dichloroethene	20.0	23.2	116	70 - 125	
trans-1,2-Dichloroethene	20.0	23.5	118	80 - 127	
1,2-Dichloropropane	20.0	23.1	115	80 - 120	
1,3-Dichloropropane	20.0	21.9	109	80 - 120	
2,2-Dichloropropane	20.0	22.7	113	80 - 133	
cis-1,3-Dichloropropene	20.0	21.9	109	70 - 130	
trans-1,3-Dichloropropene	20.0	19.7	98.5	80 - 130	
1,1-Dichloropropene	20.0	22.3	112	75 - 130	
Ethylbenzene	20.0	22.2	111	80 - 122	
2-Hexanone	20.0	22.8	114	55 - 130	

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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105763

Login Number: L10090358 Run Date: 09/16/2010 Sample ID: WG342998-02
Instrument ID: HPMS8 Run Time: 12:37 Prep Method: 5030B/5030C/503
File ID: 8M364112 Analyst: MES Method: 8260B
Workgroup (AAB#): WG342998 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD41393 Cal ID: HPMS8-05-AUG-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Hexachlorobutadiene	20.0	23.2	116	72 - 132	
Isopropylbenzene	20.0	20.0	100	80 - 122	
p-Isopropyltoluene	20.0	22.0	110	80 - 122	
4-Methyl-2-pentanone	20.0	23.9	119	64 - 140	
Methylene chloride	20.0	20.9	105	80 - 123	
Naphthalene	20.0	22.5	113	59 - 149	
n-Propylbenzene	20.0	21.9	109	80 - 129	
Styrene	20.0	21.8	109	80 - 123	
1,1,1,2-Tetrachloroethane	20.0	23.2	116	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	22.4	112	79 - 125	
Tetrachloroethene	20.0	23.2	116	80 - 124	
Toluene	20.0	21.5	108	80 - 124	
1,2,3-Trichlorobenzene	20.0	21.5	108	55 - 140	
1,2,4-Trichlorobenzene	20.0	22.2	111	65 - 135	
1,1,1-Trichloroethane	20.0	23.6	118	80 - 134	
1,1,2-Trichloroethane	20.0	22.1	111	80 - 125	
Trichloroethene	20.0	22.6	113	80 - 122	
Trichlorofluoromethane	20.0	25.3	127	62 - 151	
1,2,3-Trichloropropane	20.0	21.8	109	75 - 125	
1,2,4-Trimethylbenzene	20.0	22.2	111	80 - 125	
1,3,5-Trimethylbenzene	20.0	22.0	110	80 - 127	
Vinyl acetate	20.0	20.7	103	10 - 190	
Vinyl chloride	20.0	24.9	124	50 - 170	
o-Xylene	20.0	22.1	111	80 - 122	
m,p-Xylene	40.0	44.9	112	80 - 122	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	101	86 - 118	PASS
1,2-Dichloroethane-d4	102	80 - 120	PASS
Toluene-d8	97.6	88 - 110	PASS
4-Bromofluorobenzene	93.4	86 - 115	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 1783665
Report generated: 09/17/2010 10:03



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105764

Login Number: L10090358 Analyst: MES Prep Method: 5030B/5030C/503
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG343170 Units: ug/L
QC Key: STD Lot #: STD41393

Sample ID: WG343170-02 LCS File ID: 6M93886 Run Date: 09/18/2010 13:57

Sample ID: WG343170-03 LCS2 File ID: 6M93887 Run Date: 09/18/2010 14:29

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Acetone	20.0	19.8	99.0	20.0	19.7	98.4	0.638	40 - 180	20	
Benzene	20.0	20.0	99.8	20.0	19.9	99.3	0.593	80 - 121	20	
Bromobenzene	20.0	20.5	102	20.0	20.3	102	0.779	80 - 120	20	
Bromochloromethane	20.0	18.9	94.6	20.0	18.7	93.4	1.34	65 - 130	20	
Bromodichloromethane	20.0	21.0	105	20.0	20.2	101	3.56	80 - 131	20	
Bromoform	20.0	19.4	97.0	20.0	18.9	94.3	2.78	70 - 130	20	
Bromomethane	20.0	18.8	94.0	20.0	19.0	94.9	0.933	30 - 145	20	
2-Butanone	20.0	20.0	100	20.0	18.5	92.7	7.75	10 - 170	20	
n-Butylbenzene	20.0	20.8	104	20.0	20.6	103	1.29	80 - 131	20	
sec-Butylbenzene	20.0	21.1	106	20.0	21.1	105	0.197	80 - 127	20	
tert-Butylbenzene	20.0	20.9	104	20.0	20.9	105	0.277	80 - 126	20	
Carbon disulfide	20.0	18.1	90.3	20.0	18.2	91.2	0.983	58 - 128	20	
Carbon tetrachloride	20.0	19.7	98.6	20.0	19.6	98.1	0.503	65 - 140	20	
Chlorobenzene	20.0	19.8	99.2	20.0	19.4	97.1	2.15	80 - 120	20	
Chlorodibromomethane	20.0	20.1	101	20.0	19.9	99.5	1.16	60 - 135	20	
Chloroethane	20.0	20.3	101	20.0	19.9	99.7	1.69	60 - 135	20	
2-Chloroethyl vinyl ether	20.0	19.6	97.8	20.0	19.0	94.9	3.01	45 - 160	20	
Chloroform	20.0	19.2	96.1	20.0	18.9	94.4	1.83	80 - 125	20	
Chloromethane	20.0	21.2	106	20.0	19.9	99.6	6.04	40 - 125	20	
2-Chlorotoluene	20.0	21.0	105	20.0	20.9	105	0.0583	80 - 127	20	
4-Chlorotoluene	20.0	20.3	101	20.0	20.6	103	1.26	80 - 126	20	
1,2-Dibromo-3-chloropropane	20.0	18.1	90.5	20.0	17.8	89.1	1.53	50 - 130	20	
1,2-Dibromoethane	20.0	19.4	97.2	20.0	18.8	93.9	3.39	80 - 129	20	
Dibromomethane	20.0	20.6	103	20.0	20.3	102	1.42	75 - 125	20	
1,2-Dichlorobenzene	20.0	19.9	99.3	20.0	19.6	97.9	1.39	80 - 125	20	
1,3-Dichlorobenzene	20.0	19.7	98.4	20.0	20.0	100	1.79	80 - 120	20	
1,4-Dichlorobenzene	20.0	18.8	93.9	20.0	18.8	94.0	0.0739	80 - 120	20	
Dichlorodifluoromethane	20.0	24.9	125	20.0	23.9	120	4.11	40 - 160	20	
1,1-Dichloroethane	20.0	19.2	96.2	20.0	19.3	96.7	0.555	80 - 125	20	
1,2-Dichloroethane	20.0	18.2	90.9	20.0	18.4	92.2	1.44	80 - 129	20	
1,1-Dichloroethene	20.0	18.5	92.7	20.0	18.6	93.1	0.446	80 - 132	20	
cis-1,2-Dichloroethene	20.0	19.6	98.0	20.0	19.5	97.6	0.401	70 - 125	20	
trans-1,2-Dichloroethene	20.0	18.9	94.4	20.0	18.9	94.3	0.0462	80 - 127	20	
1,2-Dichloropropane	20.0	20.3	101	20.0	20.1	100	1.07	80 - 120	20	
1,3-Dichloropropane	20.0	20.4	102	20.0	19.6	98.0	3.92	80 - 120	20	
2,2-Dichloropropane	20.0	19.6	98.2	20.0	19.3	96.3	1.93	80 - 133	20	
cis-1,3-Dichloropropene	20.0	21.0	105	20.0	20.8	104	0.967	70 - 130	20	
trans-1,3-Dichloropropene	20.0	18.3	91.6	20.0	17.8	88.9	3.03	80 - 130	20	
1,1-Dichloropropene	20.0	19.9	99.4	20.0	19.7	98.4	0.983	75 - 130	20	
Ethylbenzene	20.0	20.6	103	20.0	20.2	101	1.98	80 - 122	20	

LCS LCS2 - Modified 03/06/2008
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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105765

Login Number: L10090358 Analyst: MES Prep Method: 5030B/5030C/503
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG343170 Units: ug/L
QC Key: STD Lot #: STD41393

Sample ID: WG343170-02 LCS File ID: 6M93886 Run Date: 09/18/2010 13:57
Sample ID: WG343170-03 LCS2 File ID: 6M93887 Run Date: 09/18/2010 14:29

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
2-Hexanone	20.0	19.2	96.1	20.0	18.5	92.3	4.03	55 - 130	20	
Hexachlorobutadiene	20.0	19.8	98.8	20.0	20.2	101	2.35	72 - 132	20	
Isopropylbenzene	20.0	17.5	87.6	20.0	17.2	85.8	2.05	80 - 122	20	
p-Isopropyltoluene	20.0	20.3	101	20.0	20.3	101	0.0490	80 - 122	20	
4-Methyl-2-pentanone	20.0	20.6	103	20.0	19.9	99.3	3.54	64 - 140	20	
Methylene chloride	20.0	19.7	98.3	20.0	19.1	95.3	3.12	80 - 123	20	
Naphthalene	20.0	20.9	104	20.0	20.3	101	2.70	59 - 149	20	
n-Propylbenzene	20.0	21.5	108	20.0	21.4	107	0.838	80 - 129	20	
Styrene	20.0	21.0	105	20.0	20.6	103	2.15	80 - 123	20	
1,1,1,2-Tetrachloroethane	20.0	19.9	99.4	20.0	19.5	97.6	1.86	80 - 130	20	
1,1,2,2-Tetrachloroethane	20.0	19.9	99.7	20.0	19.2	96.2	3.59	79 - 125	20	
Tetrachloroethene	20.0	20.5	103	20.0	20.3	102	0.948	80 - 124	20	
Toluene	20.0	20.3	101	20.0	19.9	99.5	1.80	80 - 124	20	
1,2,3-Trichlorobenzene	20.0	19.3	96.3	20.0	19.1	95.4	0.968	55 - 140	20	
1,2,4-Trichlorobenzene	20.0	19.4	96.9	20.0	19.4	96.8	0.194	65 - 135	20	
1,1,1-Trichloroethane	20.0	19.8	99.2	20.0	19.6	97.8	1.35	80 - 134	20	
1,1,2-Trichloroethane	20.0	19.6	98.1	20.0	19.6	98.0	0.122	80 - 125	20	
Trichloroethene	20.0	20.0	99.8	20.0	19.8	99.2	0.606	80 - 122	20	
Trichlorofluoromethane	20.0	19.3	96.3	20.0	18.8	94.1	2.35	62 - 151	20	
1,2,3-Trichloropropane	20.0	20.7	103	20.0	20.9	104	0.998	75 - 125	20	
1,2,4-Trimethylbenzene	20.0	21.2	106	20.0	21.4	107	0.929	80 - 125	20	
1,3,5-Trimethylbenzene	20.0	19.0	95.2	20.0	19.1	95.3	0.155	80 - 127	20	
Vinyl acetate	20.0	21.6	108	20.0	21.3	106	1.21	10 - 190	20	
Vinyl chloride	20.0	21.7	108	20.0	21.0	105	3.11	50 - 170	20	
o-Xylene	20.0	20.9	104	20.0	20.5	103	1.79	80 - 122	20	
m-,p-Xylene	40.0	41.0	102	40.0	40.6	101	0.930	80 - 122	20	

Surrogates	LCS	LCS2	Surrogate Limits		Qualifier
	% Recovery	% Recovery			
1,2-Dichloroethane-d4	87.6	86.3	80	- 120	PASS
Dibromofluoromethane	96.1	93.8	86	- 118	PASS
4-Bromofluorobenzene	107	105	86	- 115	PASS
Toluene-d8	99.6	99.2	88	- 110	PASS

* EXCEEDS %REC LIMIT

EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L10090358 Analyst: MES Prep Method: 5030B/5030C/503
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG343092 Units: ug/L
QC Key: STD Lot #: STD41393

Sample ID: WG343092-02 LCS File ID: 11M69021 Run Date: 09/17/2010 11:42
Sample ID: WG343092-03 LCS2 File ID: 11M69022 Run Date: 09/17/2010 12:12

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Acetone	20.0	22.9	114	20.0	22.2	111	3.00	40 - 180	20	
Benzene	20.0	19.9	99.3	20.0	19.9	99.4	0.170	80 - 121	20	
Bromobenzene	20.0	20.1	101	20.0	20.6	103	2.17	80 - 120	20	
Bromochloromethane	20.0	20.6	103	20.0	20.9	104	1.54	65 - 130	20	
Bromodichloromethane	20.0	21.7	108	20.0	21.9	109	0.839	80 - 131	20	
Bromoform	20.0	16.5	82.5	20.0	17.5	87.6	5.91	70 - 130	20	
Bromomethane	20.0	18.1	90.6	20.0	18.3	91.7	1.18	30 - 145	20	
2-Butanone	20.0	21.3	107	20.0	22.6	113	5.50	10 - 170	20	
n-Butylbenzene	20.0	19.9	99.5	20.0	20.3	102	2.09	80 - 131	20	
sec-Butylbenzene	20.0	20.0	100	20.0	20.2	101	0.944	80 - 127	20	
tert-Butylbenzene	20.0	19.5	97.7	20.0	19.8	99.1	1.45	80 - 126	20	
Carbon disulfide	20.0	19.6	97.9	20.0	20.2	101	2.92	58 - 128	20	
Carbon tetrachloride	20.0	20.6	103	20.0	20.6	103	0.178	65 - 140	20	
Chlorobenzene	20.0	19.3	96.3	20.0	19.6	98.0	1.66	80 - 120	20	
Chlorodibromomethane	20.0	21.0	105	20.0	21.5	108	2.52	60 - 135	20	
Chloroethane	20.0	21.6	108	20.0	21.8	109	0.980	60 - 135	20	
2-Chloroethyl vinyl ether	20.0	21.8	109	20.0	22.3	111	2.24	45 - 160	20	
Chloroform	20.0	19.8	98.9	20.0	19.8	98.9	0.0037	80 - 125	20	
Chloromethane	20.0	14.6	73.0	20.0	14.8	73.8	1.08	40 - 125	20	
2-Chlorotoluene	20.0	20.9	105	20.0	21.6	108	2.91	80 - 127	20	
4-Chlorotoluene	20.0	19.6	97.8	20.0	19.3	96.7	1.12	80 - 126	20	
1,2-Dibromo-3-chloropropane	20.0	20.1	100	20.0	21.6	108	7.25	50 - 130	20	
1,2-Dibromoethane	20.0	20.4	102	20.0	21.5	108	5.40	80 - 129	20	
Dibromomethane	20.0	20.6	103	20.0	21.0	105	1.61	75 - 125	20	
1,2-Dichlorobenzene	20.0	20.0	100	20.0	20.4	102	1.97	80 - 125	20	
1,3-Dichlorobenzene	20.0	20.0	100	20.0	20.2	101	0.623	80 - 120	20	
1,4-Dichlorobenzene	20.0	19.2	96.0	20.0	19.4	97.2	1.18	80 - 120	20	
Dichlorodifluoromethane	20.0	22.1	110	20.0	22.0	110	0.430	40 - 160	20	
1,1-Dichloroethane	20.0	20.5	103	20.0	20.8	104	1.36	80 - 125	20	
1,2-Dichloroethane	20.0	20.2	101	20.0	20.7	103	2.20	80 - 129	20	
1,1-Dichloroethene	20.0	19.8	98.9	20.0	20.1	100	1.42	80 - 132	20	
cis-1,2-Dichloroethene	20.0	19.8	99.1	20.0	20.0	100	1.09	70 - 125	20	
trans-1,2-Dichloroethene	20.0	20.6	103	20.0	20.6	103	0.0233	80 - 127	20	
1,2-Dichloropropane	20.0	21.2	106	20.0	21.3	106	0.457	80 - 120	20	
1,3-Dichloropropane	20.0	20.6	103	20.0	21.1	105	2.41	80 - 120	20	
2,2-Dichloropropane	20.0	19.5	97.6	20.0	19.4	97.1	0.529	80 - 133	20	
cis-1,3-Dichloropropene	20.0	20.0	100	20.0	20.5	102	2.23	70 - 130	20	
trans-1,3-Dichloropropene	20.0	18.7	93.4	20.0	19.1	95.5	2.20	80 - 130	20	
1,1-Dichloropropene	20.0	19.9	99.7	20.0	20.2	101	1.29	75 - 130	20	
Ethylbenzene	20.0	19.5	97.6	20.0	19.6	98.2	0.613	80 - 122	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1786361
Report generated: 09/21/2010 15:15



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105767

Login Number: L10090358 Analyst: MES Prep Method: 5030B/5030C/503
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG343092 Units: ug/L
QC Key: STD Lot #: STD41393

Sample ID: WG343092-02 LCS File ID: 11M69021 Run Date: 09/17/2010 11:42

Sample ID: WG343092-03 LCS2 File ID: 11M69022 Run Date: 09/17/2010 12:12

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
2-Hexanone	20.0	19.8	99.2	20.0	21.0	105	5.84	55 - 130	20	
Hexachlorobutadiene	20.0	19.4	97.2	20.0	20.1	101	3.42	72 - 132	20	
Isopropylbenzene	20.0	17.6	88.0	20.0	17.8	89.1	1.22	80 - 122	20	
p-Isopropyltoluene	20.0	19.5	97.7	20.0	19.9	99.5	1.77	80 - 122	20	
4-Methyl-2-pentanone	20.0	19.7	98.6	20.0	20.4	102	3.66	64 - 140	20	
Methylene chloride	20.0	19.1	95.3	20.0	19.2	95.8	0.526	80 - 123	20	
Naphthalene	20.0	20.6	103	20.0	22.0	110	6.61	59 - 149	20	
n-Propylbenzene	20.0	20.6	103	20.0	20.9	105	1.72	80 - 129	20	
Styrene	20.0	18.1	90.4	20.0	18.1	90.7	0.316	80 - 123	20	
1,1,1,2-Tetrachloroethane	20.0	19.5	97.4	20.0	19.9	99.5	2.12	80 - 130	20	
1,1,2,2-Tetrachloroethane	20.0	20.4	102	20.0	21.6	108	5.38	79 - 125	20	
Tetrachloroethene	20.0	20.3	101	20.0	20.4	102	0.568	80 - 124	20	
Toluene	20.0	19.7	98.3	20.0	20.0	100	1.63	80 - 124	20	
1,2,3-Trichlorobenzene	20.0	19.3	96.3	20.0	20.0	99.8	3.55	55 - 140	20	
1,2,4-Trichlorobenzene	20.0	19.9	99.3	20.0	20.0	100	0.966	65 - 135	20	
1,1,1-Trichloroethane	20.0	20.2	101	20.0	20.4	102	1.23	80 - 134	20	
1,1,2-Trichloroethane	20.0	20.4	102	20.0	20.9	104	2.13	80 - 125	20	
Trichloroethene	20.0	19.9	99.3	20.0	20.2	101	1.57	80 - 122	20	
Trichlorofluoromethane	20.0	20.5	102	20.0	20.6	103	0.768	62 - 151	20	
1,2,3-Trichloropropane	20.0	21.1	105	20.0	21.8	109	3.40	75 - 125	20	
1,2,4-Trimethylbenzene	20.0	20.3	101	20.0	20.5	103	1.06	80 - 125	20	
1,3,5-Trimethylbenzene	20.0	20.4	102	20.0	20.6	103	0.738	80 - 127	20	
Vinyl acetate	20.0	22.7	114	20.0	23.6	118	3.61	10 - 190	20	
Vinyl chloride	20.0	17.5	87.4	20.0	17.3	86.3	1.27	50 - 170	20	
o-Xylene	20.0	19.7	98.7	20.0	20.0	100	1.45	80 - 122	20	
m-,p-Xylene	40.0	39.4	98.4	40.0	39.6	98.9	0.526	80 - 122	20	

Surogates	LCS	LCS2	Surrogate Limits		Qualifier
	% Recovery	% Recovery			
1,2-Dichloroethane-d4	98.7	101	80	- 120	PASS
Dibromofluoromethane	104	104	86	- 118	PASS
4-Bromofluorobenzene	107	107	86	- 115	PASS
Toluene-d8	102	102	88	- 110	PASS

* EXCEEDS %REC LIMIT

EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1786361
Report generated: 09/21/2010 15:15



2.2.1 LC/MS Data (6850)

2.2.1.1 Summary Data

LABORATORY REPORT

00105770

L10090358

09/21/10 16:23

Submitted By

Microbac Laboratories Inc.

158 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: for Shaw E & I, Inc.

1401 Enclave Parkway

Suite 250

Houston, TX 77077

Attention: Jennifer Hoang

Project Number: 2773.025

Project: Longhorn AAP

Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47DPT14-100915	L10090358-04	6850	1	16-SEP-10
47DPT15-100915	L10090358-05	6850	1000	16-SEP-10



Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-04
Client ID: 47DPT14-100915
Matrix: Water
Workgroup Number: WG343045
Collect Date: 09/15/2010 14:30
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1
Units: ug/L

Instrument: LCMS1
Prep Date: 09/16/2010 16:00
Cal Date:
Run Date: 09/18/2010 00:12
File ID: 1LM.LM05832

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	0.200	0.100

U Not detected at or above adjusted sample detection limit

*W
292210*

Report Number: L10090358

Report Date : September 21, 2010

Sample Number: L10090358-05
Client ID: 47DPT15-100915
Matrix: Water
Workgroup Number: WG343045
Collect Date: 09/15/2010 14:45
Sample Tag: DL01

PrePrep Method: NONE
Prep Method: 6850
Analytical Method: 6850
Analyst: WTD
Dilution: 1000
Units: ug/L

Instrument: LCMS1
Prep Date: 09/16/2010 16:00
Cal Date:
Run Date: 09/18/2010 00:39
File ID: ILM.LM05833

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	1580		200	100

L. 09/18/10

2.2.1.2 QC Summary Data

METHOD BLANK SUMMARY

Login Number: L10090358
Blank File ID: 1LM.LM05829
Prep Date: 09/16/10 16:00
Analyzed Date: 09/17/10 22:53
Analyst: WTD

Work Group: WG343045
Blank Sample ID: WG343045-02
Instrument ID: LCMS1
Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG343045-05	1LM.LM05827	09/17/10 22:00	01
MCT	WG343045-01	1LM.LM05828	09/17/10 22:27	01
LCS	WG343045-03	1LM.LM05830	09/17/10 23:19	01
LCS2	WG343045-04	1LM.LM05831	09/17/10 23:46	01
47DPT14-100915	L10090358-04	1LM.LM05832	09/18/10 00:12	01
47DPT15-100915	L10090358-05	1LM.LM05833	09/18/10 00:39	DL01
QCMRL	WG343045-06	1LM.LM05837	09/18/10 02:25	01

Report Name: BLANK SUMMARY
PDF File ID: 1785071
Report generated 09/20/2010 14:44



METHOD BLANK REPORT

Login Number: L10090358 Prep Date: 09/16/10 16:00 Sample ID: WG343045-02
Instrument ID: LCMS1 Run Date: 09/17/10 22:53 Prep Method: 6850
File ID: 1LM.LM05829 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343045 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: LCMS1-17-SEP-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.100	0.200	0.100	1	U

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1785072

20-SEP-2010 14:44



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105776

Login Number: L10090358 Analyst: WTD Prep Method: 6850
Instrument ID: LCMS1 Matrix: Water Method: 6850
Workgroup (AAB#): WG343045 Units: ug/L
QC Key: STD Lot #: STD41363
Sample ID: WG343045-03 LCS File ID: 1LM.LM05830 Run Date: 09/17/2010 23:19
Sample ID: WG343045-04 LCS2 File ID: 1LM.LM05831 Run Date: 09/17/2010 23:46

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	0.200	0.202	101	0.200	0.234	117	14.7	80 - 120	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1785074
Report generated: 09/20/2010 14:44





158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • <http://www.microbac.com>

Laboratory Report Number: L10090490

Client: Jennifer Hoang, 1401 Enclave Parkway, Houston, TX, 77077
Contract #: DACA56-94-D-0020

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Kathy Albertson	<i>Team Chemist/Data Specialist</i>	Kathy.Albertson@microbac.com
Stephanie Mossburg	<i>Team Chemist/Data Specialist</i>	Stephanie.Mossburg@microbac.com
Tony Long	<i>Team Chemist/Data Specialist</i>	Tony.Long@microbac.com
Amanda Fickiesen	<i>Client Services Specialist</i>	Amanda.Fickiesen@microbac.com
Annie Brown	<i>Client Services Specialist</i>	Annie.Brown@microbac.com

This report was reviewed on October 06, 2010.

A handwritten signature in cursive script that reads "Stephanie Mossburg".

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on October 06, 2010.

A handwritten signature in cursive script that reads "David E. Vandenberg".

David Vandenberg - Managing Director

State of origin: Texas

Accrediting authority: Texas Commission on Environmental Quality ID:T104704252-07-TX

QAPP: Microbac OVD

This report contains a total of 77 pages.

Look closer. Go further. Do more.



The Microbac logo consists of the word "Microbac" in a white serif font, centered within a dark teal rectangular box.

Microbac Laboratories, Inc.
Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750

Phone: 800.373.4071
Fax: 740.373.4835

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User ID: jdoe@abc.com

Password: demo

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LOOK CLOSER, GO FURTHER, DO MORE.

Microbac REPORT L10090490
PREPARED FOR Shaw E I, Inc.
WORK ID:

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1.0 Introduction



Login Number: L10090490

Department: Login

Analyst: N/A

Chain of Custody:

Shipment Conditions

COC #	Cooler #	Temperature
lhaap47-091710-5	0014668	5.0

Sample Management: All samples were received intact.

Sample Identification

Lab ID	Client ID
L10090490-01	DUP01-100917
L10090490-02	DUP02-100917
L10090490-03	DUP03-100917
L10090490-04	DUP04-100917
L10090490-05	DUP05-100917

Narrative ID: 11888

Approved By: Stephanie Mossburg

Stephanie Mossburg



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090490
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Laboratory Data Package Cover Page

R1	Field chain-of-custody documentation;
R2	Sample identification cross-reference;
R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a. if required for the project, tentatively identified compounds (TICs).
R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
R5	Test reports/summary forms for blank samples;
R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Mike Cochran		Semivolatiles Lab Supervisor	10/06/2010



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090490
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090490
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
Were all COCs included in the LCS?	X				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?		X			
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC	X				



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090490
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
limits?					
Were percent RSDs or correlation coefficient criteria met?	X				
Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090490
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte,



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090490
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspection by ☐ TCEQ or ☐ _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

2.1 General Chromatography Data

2.1.1 LC/MS Data (6850)

2.1.1.1 Summary Data

LABORATORY REPORT

L10090490

00105792

10/06/10 15:15

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
DUP01-100917	L10090490-01	6850	10	21-SEP-10
DUP02-100917	L10090490-02	6850	10	21-SEP-10
DUP03-100917	L10090490-03	6850	100	21-SEP-10
DUP04-100917	L10090490-04	6850	10	21-SEP-10
DUP05-100917	L10090490-05	6850	10	21-SEP-10



Report Number: **L10090490**Report Date : **October 6, 2010**

00105793

Sample Number: **L10090490-01**
Client ID: **DUP01-100917**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 00:01**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **10**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/25/2010 19:05**
File ID: **1LM.LM06091**
Percent Solid: **84.3**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	459		22.8	11.4

Report Number: **L10090490**Report Date : **October 6, 2010**

00105794

Sample Number: **L10090490-02**
Client ID: **DUP02-100917**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 00:01**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **10**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/25/2010 19:31**
File ID: **1LM.LM06092**
Percent Solid: **87.6**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	451		22.8	11.4

Report Number: **L10090490**Report Date : **October 6, 2010**

00105795

Sample Number: **L10090490-03**
Client ID: **DUP03-100917**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 00:01**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **100**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/25/2010 19:57**
File ID: **1LM.LM06093**
Percent Solid: **80.6**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	2620		247	124

Report Number: **L10090490**Report Date : **October 6, 2010**

00105796

Sample Number: **L10090490-04**
Client ID: **DUP04-100917**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 00:01**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **10**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/25/2010 20:24**
File ID: **1LM.LM06094**
Percent Solid: **81.7**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	910		23.5	11.8

Report Number: **L10090490**Report Date : **October 6, 2010**

00105797

Sample Number: **L10090490-05**
Client ID: **DUP05-100917**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 00:01**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **10**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/25/2010 20:50**
File ID: **1LM.LM06095**
Percent Solid: **81.8**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	324		24.2	12.1

2.1.1.2 QC Summary Data

Example Calculation 6850 - Perchlorate**Concentration from Linear Regression****Step 1: Retrieve Curve Data From Plot, $y = mx + b$**

y = response ratio = response of analyte / response of internal standard (IS) = R_x/R_{istd}

x = amount ratio = concentration analyte/concentration internal standard (IS) = C_x / C_{istd}

m = slope from curve (1.45)

b = intercept from curve (-0.00242)

$y = 1.45x + -0.00242$

Step 2: Substitute the value for y

where $y = 12600/226000 = 0.055752$

Step 3: Solve for x

$x = (y - b)/m = 0.0040119$

Step 4: Solve for analyte concentration C_x

$C_x = (C_{is})(x) = (5 \text{ ug/L})(0.0040119) = 0.0200594 \text{ ug/L}$

Example Calculation - Water:

Slope from curve, m :	1.45
Intercept from curve, b :	-0.00242
Response of analyte, R_x :	12600
Response of Internal Standard, R_{istd} :	226000
Concentration of IS, C_{istd} (ug/L):	5.00
Response Ratio:	0.05575
Amount Ratio:	0.04012
Analyte Concentration, C_x (ug/L) :	0.200594

Example Calculation - Soil:

Analyte Concentration, C_x (ug/L):	0.20059
Amount of soil extracted (g):	5.00
Final volume of extract (mL):	50.00
Percent solids (Pct wt.)	100
Concentration in soil (ug/kg):	2.005938

Microbac Laboratories Inc.
Instrument Run Log

00105800

Instrument: LCMS1 Dataset: 092210_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343455

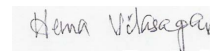
CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA Calibration STD STD41363

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM05975	WG343476-01 CCB	1	1		09/22/10 11:49
2	1LM.LM05976	WG343476-02 0.1ug/L STD	1	1	STD41363	09/22/10 12:16
3	1LM.LM05977	WG343476-03 0.2ug/L STD	1	1	STD41363	09/22/10 12:42
4	1LM.LM05978	WG343476-04 0.5ug/L STD	1	1	STD41363	09/22/10 13:09
5	1LM.LM05979	WG343476-05 1.0ug/L STD	1	1	STD41363	09/22/10 13:35
6	1LM.LM05980	WG343476-06 2.0ug/L STD	1	1	STD41363	09/22/10 14:02
7	1LM.LM05981	WG343476-07 5.0ug/L STD	1	1	STD41363	09/22/10 14:28
8	1LM.LM05982	WG343476-08 10ug/L STD	1	1	STD41363	09/22/10 14:55
9	1LM.LM05983	WG343476-09 1.0ug/L ALT SRC	1	1	STD41365	09/22/10 15:21
10	1LM.LM05984	WG343477-01 CCB	1	1		09/22/10 15:48
11	1LM.LM05985	WG343477-02 1.0ug/L CCV	1	1	STD41363	09/22/10 16:14
12	1LM.LM05986	WG343455-10 2.0ug/kg QCMRL	7	1	STD41363	09/22/10 16:40
13	1LM.LM05987	WG343455-01 2.0ug/kg MCT	7	1	STD41363	09/22/10 17:07
14	1LM.LM05988	WG343455-02 MET BLANK	7	1		09/22/10 17:33
15	1LM.LM05989	WG343455-03 2.0ug/kg LCS	7	1	STD41363	09/22/10 18:00
16	1LM.LM05990	L10090501-01	7	1		09/22/10 18:26
17	1LM.LM05991	L10090501-02	7	1		09/22/10 18:53
18	1LM.LM05992	L10090501-03	7	1		09/22/10 19:19
19	1LM.LM05993	L10090501-04	7	1		09/22/10 19:46
20	1LM.LM05994	L10090501-05	7	1		09/22/10 20:12
21	1LM.LM05995	L10090501-06	7	1		09/22/10 20:39
22	1LM.LM05996	L10090501-07	7	1		09/22/10 21:05
23	1LM.LM05997	WG343477-03 1.0ug/L CCV	1	1	STD41363	09/22/10 21:31
24	1LM.LM05998	WG343455-11 2.0ug/kg QCMRL	7	1	STD41363	09/22/10 21:58
25	1LM.LM05999	WG343477-04 CCB	1	1		09/22/10 22:24
26	1LM.LM06000	L10090501-08	7	1		09/22/10 22:51
27	1LM.LM06001	L10090501-09	7	1		09/22/10 23:17
28	1LM.LM06002	L10090501-10	7	1		09/22/10 23:44
29	1LM.LM06003	L10090501-11	7	1	STD41363	09/23/10 00:10
30	1LM.LM06004	L10090501-12	7	1	STD41363	09/23/10 00:37
31	1LM.LM06005	L10090501-13	7	1		09/23/10 01:03
32	1LM.LM06006	L10090501-14	7	1		09/23/10 01:29
33	1LM.LM06007	L10090501-15	7	1		09/23/10 01:56
34	1LM.LM06008	WG343477-05 1.0ug/L CCV	1	1	STD41363	09/23/10 02:22

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Approved: 23-SEP-10




Microbac Laboratories Inc.
Instrument Run Log

00105801

Instrument: LCMS1 Dataset: 092210_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343455

CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA STD41363

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
35	1LM.LM06009	WG3434455-12 2.0ug/kg QCMRL	7	1	STD41363	09/23/10 02:49
36	1LM.LM06010	WG343477-06 CCB	1	1		09/23/10 03:15
37	1LM.LM06011	L10090501-16	7	1		09/23/10 03:42
38	1LM.LM06012	L10090501-17	7	1	STD41363	09/23/10 04:08
39	1LM.LM06013	L10090501-18	7	1	STD41363	09/23/10 04:35
40	1LM.LM06014	WG343477-07 1.0ug/kg CCV	1	1	STD41363	09/23/10 05:01
41	1LM.LM06015	WG343455-13 2.0ug/kg QCMRL	7	1	STD41363	09/23/10 05:28
42	1LM.LM06016	WG343477-08 CCB	1	1		09/23/10 05:54

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Hema Velasquez



Microbac Laboratories Inc.
Instrument Run Log

00105802

Instrument: LCMS1 Dataset: 092310_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575, 343578, 343579

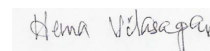
CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA Calibration STD STD41363

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06017	WG343573-01 CCB	1	1		09/23/10 11:33
2	1LM.LM06018	WG343573-02 1.0ug/L CCV	1	1	STD41363	09/23/10 12:00
3	1LM.LM06019	WG343579-07 0.2ug/L QCMRL	1	1	STD41364	09/23/10 12:26
4	1LM.LM06020	WG343579-01 0.2ug/L MCT	1	1	STD41363	09/23/10 12:58
5	1LM.LM06021	WG343579-02 MET BLANK	1	1		09/23/10 13:25
6	1LM.LM06022	WG343579-03 0.2ug/L LCS	1	1	STD41363	09/23/10 13:51
7	1LM.LM06023	L10090539-01	1	1		09/23/10 14:17
8	1LM.LM06024	L10090539-03	1	1		09/23/10 14:44
9	1LM.LM06025	L10090539-05	1	1		09/23/10 15:10
10	1LM.LM06026	L10090539-07	1	1		09/23/10 15:37
11	1LM.LM06027	L10090539-09	1	1		09/23/10 16:03
12	1LM.LM06028	L10090539-11	1	1		09/23/10 16:30
13	1LM.LM06029	WG343573-03 1.0ug/L CCV	1	1	STD41363	09/23/10 16:56
14	1LM.LM06030	WG343579-08 0.2ug/L QCMRL	1	1	STD41363	09/23/10 17:23
15	1LM.LM06031	WG343573-04 CCB	1	1		09/23/10 17:49
60	1LM.LM06032	L10090539-13	1	1		09/23/10 18:15
61	1LM.LM06033	L10090539-15 MS	1	1	STD41363	09/23/10 18:42
62	1LM.LM06034	L10090539-17 MSD	1	1	STD41363	09/23/10 19:08
19	1LM.LM06035	L10090539-19	1	1		09/23/10 19:35
20	1LM.LM06036	L10090539-21	1	1		09/23/10 20:01
21	1LM.LM06037	L10090539-23	1	1		09/23/10 20:28
22	1LM.LM06038	WG343573-05 1.0ug/L CCV	1	1	STD41363	09/23/10 20:54
63	1LM.LM06039	WG343578-05 0.2ug/L QCMRL	1	1	STD41363	09/23/10 21:21
24	1LM.LM06040	WG343573-06 CCB	1	1		09/23/10 21:47
25	1LM.LM06041	WG343578-01 0.2ug/L MCT	1	1	STD41363	09/23/10 22:14
26	1LM.LM06042	WG343578-02 MET BLANK	1	1		09/23/10 22:40
27	1LM.LM06043	WG343578-03 0.2ug/L LCS	1	1	STD41363	09/23/10 23:06
28	1LM.LM06044	WG343578-04 0.2ug/L LCSD	1	1	STD41363	09/23/10 23:33
29	1LM.LM06045	L10090493-01	1	1		09/23/10 23:59
30	1LM.LM06046	L10090493-03	1	1		09/24/10 00:26
31	1LM.LM06047	L10090493-05	1	1		09/24/10 00:52
32	1LM.LM06048	L10090493-07	1	1		09/24/10 01:19
33	1LM.LM06049	L10090493-09	1	1		09/24/10 01:45
34	1LM.LM06050	L10090493-11	1	1		09/24/10 02:12

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Approved: 29-SEP-10




Microbac Laboratories Inc.
Instrument Run Log

00105803

Instrument: LCMS1 Dataset: 092310_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575, 343578, 343579

CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA STD41363

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
35	1LM.LM06051	WG343573-07 1.0ug/L CCV	1	1	STD41363	09/24/10 02:38
36	1LM.LM06052	WG343578-06 0.2ug/L QCMRL	1	1	STD41363	09/24/10 03:05
37	1LM.LM06053	WG343573-08 CCB	1	1		09/24/10 03:31
38	1LM.LM06054	L10090493-13	1	1		09/24/10 03:57
39	1LM.LM06055	L10090493-15	1	1		09/24/10 04:24
40	1LM.LM06056	L10090493-17	1	1		09/24/10 04:50
41	1LM.LM06057	L10090493-19	1	1		09/24/10 05:17
42	1LM.LM06058	L10090493-21	1	1		09/24/10 05:43
43	1LM.LM06059	L10090493-23	1	1		09/24/10 06:10
44	1LM.LM06060	WG343573-09 1.0ug/L CCV	1	1	STD41363	09/24/10 06:36
45	1LM.LM06061	WG343578-07 0.2ug/L QCMRL	1	1	STD41363	09/24/10 07:03
46	1LM.LM06062	WG343573-10 CCB	1	1		09/24/10 07:29
47	1LM.LM06063	WG343575-01 2.0ug/kg MCT	7	1	STD41363	09/24/10 07:55
48	1LM.LM06064	WG343575-02 MET BLANK	7	1		09/24/10 08:22
49	1LM.LM06065	WG343575-03 2.0ug/kg LCS	7	1	STD41363	09/24/10 08:48
50	1LM.LM06066	WG343575-04 2.0ug/kg LCSD	7	1	STD41363	09/24/10 09:15
51	1LM.LM06067	L10090490-01	7	1		09/24/10 09:41
52	1LM.LM06068	L10090490-02	7	1		09/24/10 10:08
53	1LM.LM06069	L10090490-03	7	1		09/24/10 10:34
54	1LM.LM06070	L10090490-04	7	1		09/24/10 11:01
55	1LM.LM06071	L10090490-05	7	1		09/24/10 11:27
56	1LM.LM06072	L10090491-01	7	1		09/24/10 11:53
57	1LM.LM06073	WG343573-11 1.0ug/L CCV	1	1	STD41363	09/24/10 12:20
58	1LM.LM06074	WG343575-06 0.2ug/L QCMRL	7	1	STD41363	09/24/10 12:46
59	1LM.LM06075	WG343573-12 CCB	1	1		09/24/10 13:13

Comments

Seq.	Rerun	Dil.	Reason	Analytes
51	X	10	Over Calibration Range	Perchlorate
			L10090490-01	
52	X	10	Over Calibration Range	Perchlorate
			L10090490-02	
53	X	100	Over Calibration Range	Perchlorate
			L10090490-03	
54	X	10		Perchlorate
			L10090490-04	
55	X	10	Over Calibration Range	Perchlorate

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Approved: 29-SEP-10

Hema Velasquez



Microbac Laboratories Inc.
Instrument Run Log

00105804

Instrument: LCMS1 Dataset: 092310_WTD.TXT
Analyst1: WTD Analyst2: NA
Method: 6850 SOP: HPLC06 Rev: 2

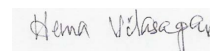
Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA
Workgroups: 343575, 343578, 343579

CCV Std: STD41363 LCS STD: STD41363
Internal STD: COA14815 Surrogate STD: NA STD41363

Comments

Seq.	Rerun	Dil.	Reason	Analytes
<u>L10090450-05</u>				
56	X	10	Over Calibration Range	Perchlorate
<u>L10090491-01</u>				



Microbac Laboratories Inc.
Instrument Run Log

00105805

Instrument: LCMS1 Dataset: 092510_WTD.TXT
 Analyst1: WTD Analyst2: ADC
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575

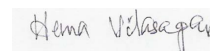
CCV Std: STD41363 LCS STD: _____
 Internal STD: COA14815 Surrogate STD: NA Calibration STD STD41363

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06076	WG343776-01 CCB	1	1		09/25/10 12:28
2	1LM.LM06077	WG343776-02 1.0 ug/L CCV	1	1	STD41363	09/25/10 12:54
3	1LM.LM06078	WG343575-07 2.0ug/kg QCMRL	7	1	STD41363	09/25/10 13:21
4	1LM.LM06079	NO SAMPLE	7	1		09/25/10 13:47
5	1LM.LM06080	NO SAMPLE	7	1		09/25/10 14:14
6	1LM.LM06081	NO SAMPLE	7	1		09/25/10 14:40
7	1LM.LM06082	NO SAMPLE	7	1		09/25/10 15:07
8	1LM.LM06083	NO SAMPLE	7	1		09/25/10 15:33
9	1LM.LM06084	L10090492-02	7	1		09/25/10 16:00
10	1LM.LM06085	L10090492-03	7	1		09/25/10 16:26
11	1LM.LM06086	L10090492-04	7	1		09/25/10 16:52
12	1LM.LM06087	L10090492-05	7	1		09/25/10 17:19
13	1LM.LM06088	WG343776-03 1.0ug/L CCV	1	1	STD41363	09/25/10 17:45
14	1LM.LM06089	WG343575-08 2.0ug/kg QCMRL	7	1	STD41363	09/25/10 18:12
15	1LM.LM06090	WG343776-04 CCB	1	1		09/25/10 18:38
16	1LM.LM06091	L10090490-01 10X	7	10		09/25/10 19:05
17	1LM.LM06092	L10090490-02 10X	7	10		09/25/10 19:31
18	1LM.LM06093	L10090490-03 100X	7	100		09/25/10 19:57
19	1LM.LM06094	L10090490-04 10X	7	10		09/25/10 20:24
20	1LM.LM06095	L10090490-05 10X	7	10		09/25/10 20:50
21	1LM.LM06096	L10090491-01 10X	7	10		09/25/10 21:17
22	1LM.LM06097	L10090491-02 10X	7	10		09/25/10 21:43
23	1LM.LM06098	L10090491-03 100X	7	100		09/25/10 22:10
24	1LM.LM06099	L10090491-04 100X	7	100		09/25/10 22:36
25	1LM.LM06100	L10090491-05 10X	7	10		09/25/10 23:03
26	1LM.LM06101	WG343776-05 1.0ug/L CCV	1	1	STD41363	09/25/10 23:29
27	1LM.LM06102	WG343575-09 2.0ug/kg QCMRL	7	1	STD41363	09/25/10 23:56
28	1LM.LM06103	WG343776-06 CCB	1	1		09/26/10 00:22
29	1LM.LM06104	L10090492-01 10X	7	10		09/26/10 00:48
30	1LM.LM06105	L10090492-02 10X	7	10		09/26/10 01:15
31	1LM.LM06106	L10090492-03 10X	7	10		09/26/10 01:41
32	1LM.LM06107	L10090492-04 10X	7	10		09/26/10 02:08
33	1LM.LM06108	L10090492-05 10X	7	10		09/26/10 02:34
34	1LM.LM06109	L10090492-01 100X	7	100		09/26/10 03:01

Page: 1

Approved: 01-OCT-10




Microbac Laboratories Inc.
Instrument Run Log

00105806

Instrument: LCMS1 Dataset: 092510_WTD.TXT
 Analyst1: WTD Analyst2: ADC
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575

CCV Std: STD41363 LCS STD: _____
 Internal STD: COA14815 Surrogate STD: NA STD41363

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
35	1LM.LM06110	L10090492-02 100X	7	100		09/26/10 03:27
36	1LM.LM06111	L10090492-03 100X	7	100		09/26/10 03:54
37	1LM.LM06112	L10090492-04 100X	7	100		09/26/10 04:20
38	1LM.LM06113	L10090492-05 100X	7	100		09/26/10 04:46
39	1LM.LM06114	WG343776-07 1.0ug/L CCV	1	1	STD41363	09/26/10 05:13
40	1LM.LM06115	WG343575-10 2.0ug/kg QCMRL	7	1	STD41363	09/26/10 05:39
41	1LM.LM06116	WG343776-08 CCB	1	1		09/26/10 06:06

Comments

Seq.	Rerun	Dil.	Reason	Analytes
10	X	100	Over Calibration Range	Perchlorate
			L10090492-03	
29				
			Not needed.	
30				
			Not needed.	
31	X	100	Over Calibration Range	Perchlorate
			L10090492-03	
32				
			Not needed.	
33				
			Not needed.	
35				
			Not needed.	
37	X			
			Not needed.	
38				
			Not needed.	

Hema Velasquez



Microbac Laboratories Inc.
Instrument Run Log

00105807

Instrument: LCMS1 Dataset: 092710_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575

CCV Std: STD41363 LCS STD: _____
 Internal STD: COA14815 Surrogate STD: NA Calibration STD STD41363

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06165	WG343873-01 CCB	1	1		09/27/10 11:52
2	1LM.LM06166	WG343873-02 1.0ug/L CCV	1	1	STD41363	09/27/10 12:18
3	1LM.LM06167	WG343575-11 2.0ug/kg QCMRL	7	1	STD41363	09/27/10 12:45
4	1LM.LM06168	L10090492-01	7	1		09/27/10 13:19
5	1LM.LM06169	WG343873-03 1.0ug/L CCV	1	1	STD41363	09/27/10 13:47
6	1LM.LM06170	WG343575-12 2.0ug/kg QCMRL	7	1	STD41363	09/27/10 14:14
7	1LM.LM06171	WG343873-04 CCB	1	1		09/27/10 14:40

Comments

Seq.	Rerun	Dil.	Reason	Analytes




Microbac Laboratories Inc.

00105808

Data Checklist

Date: 22-SEP-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

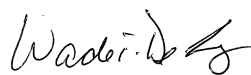
Curve Workgroup: NA

Runlog ID: 36546

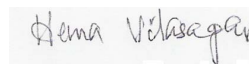
Analytical Workgroups: L10090501

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	HAV

Primary Reviewer:
23-SEP-2010



Secondary Reviewer:
23-SEP-2010




Microbac Laboratories Inc.

00105809

Data Checklist

Date: 23-SEP-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

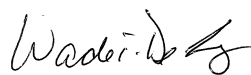
Curve Workgroup: NA

Runlog ID: 36593

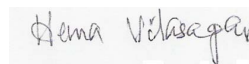
Analytical Workgroups: L10090490, L10090491, L10090492, L10090493, L10090539

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	HAV

Primary Reviewer:
27-SEP-2010



Secondary Reviewer:
29-SEP-2010



Microbac Laboratories Inc.

00105810

Data Checklist

Date: 25-SEP-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

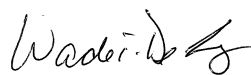
Curve Workgroup: NA

Runlog ID: 36604

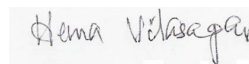
Analytical Workgroups: 343575

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Interference check sample (ICS) (LCMS)	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	X
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	HAV

Primary Reviewer:
27-SEP-2010



Secondary Reviewer:
01-OCT-2010




Microbac Laboratories Inc.

00105811

Data Checklist

Date: 27-SEP-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

Curve Workgroup: NA

Runlog ID: 36614

Analytical Workgroups: L10090492

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Interference check sample (ICS) (LCMS)	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
27-SEP-2010

Secondary Reviewer:
29-SEP-2010



Analytical Method: 6850

AAB#: WG343575

Login Number: L10090490

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
DUP01-100917	01	09/17/10					09/23/10	6.6	28		09/25/10	2.2	28	
DUP02-100917	02	09/17/10					09/23/10	6.6	28		09/25/10	2.2	28	
DUP03-100917	03	09/17/10					09/23/10	6.6	28		09/25/10	2.2	28	
DUP04-100917	04	09/17/10					09/23/10	6.6	28		09/25/10	2.3	28	
DUP05-100917	05	09/17/10					09/23/10	6.6	28		09/25/10	2.3	28	

* = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L10090490
 Blank File ID: 1LM.LM06064
 Prep Date: 09/23/10 14:00
 Analyzed Date: 09/24/10 08:22
 Analyst: WTD

Work Group: WG343575
 Blank Sample ID: WG343575-02
 Instrument ID: LCMS1
 Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
MCT	WG343575-01	1LM.LM06063	09/24/10 07:55	01
LCS	WG343575-03	1LM.LM06065	09/24/10 08:48	01
LCS2	WG343575-04	1LM.LM06066	09/24/10 09:15	01
QCMRL	WG343575-06	1LM.LM06074	09/24/10 12:46	01
QCMRL	WG343575-07	1LM.LM06078	09/25/10 13:21	01
QCMRL	WG343575-08	1LM.LM06089	09/25/10 18:12	01
DUP01-100917	L10090490-01	1LM.LM06091	09/25/10 19:05	DL01
DUP02-100917	L10090490-02	1LM.LM06092	09/25/10 19:31	DL01
DUP03-100917	L10090490-03	1LM.LM06093	09/25/10 19:57	DL01
DUP04-100917	L10090490-04	1LM.LM06094	09/25/10 20:24	DL01
DUP05-100917	L10090490-05	1LM.LM06095	09/25/10 20:50	DL01
QCMRL	WG343575-09	1LM.LM06102	09/25/10 23:56	01
QCMRL	WG343575-10	1LM.LM06115	09/26/10 05:39	01
QCMRL	WG343575-11	1LM.LM06167	09/27/10 12:45	01
QCMRL	WG343575-12	1LM.LM06170	09/27/10 14:14	01

Login Number: L10090490 Prep Date: 09/23/10 14:00 Sample ID: WG343575-02
Instrument ID: LCMS1 Run Date: 09/24/10 08:22 Prep Method: 6850
File ID: 1LM.LM06064 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	1.00	2.00	1.00	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1790022
05-OCT-2010 15:50



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00105815

Login Number: L10090490 Analyst: WTD Prep Method: 6850
Instrument ID: LCMS1 Matrix: Soil Method: 6850
Workgroup (AAB#): WG343575 Units: ug/kg
QC Key: STD Lot #: STD41363
Sample ID: WG343575-03 LCS File ID: 1LM.LM06065 Run Date: 09/24/2010 08:48
Sample ID: WG343575-04 LCS2 File ID: 1LM.LM06066 Run Date: 09/24/2010 09:15

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	1.95	1.97	101	1.99	1.67	84.0	16.7	80 - 120	15	#

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 1790023
Report generated: 10/05/2010 15:50



Conductivity Probe
Calibration Check:
1344 /1410 μ S/cm

Perchlorate Conductivity Check

Working MCT Level:
10,000 μ S/cm

Sample	Conductivity (μ S/cm)	Pretreatment or Dilution Needed
W6343575-01 met	10,180	NA
-02 B12	8.9	
-03 LCS	8.1	
-04 LCS2	9.5	
L10090490-01	10.3	
-02	5.5	
-03	12.9	
-04	12.0	
-05	9.9	
L10090491-01	15.8	
-02	4.8	
-03	14.1	
-04	14.3	
-05	9.2	
L10090492-01	7.7	
-02	3.2	
-03	11.7	
-04	2.3	
-05	6.3	

Wade T. DeLo
Analyst

9-24-10 / 11:40
Date/Time

DCN#84518



Login Number: L10090490
Analytical Method: 6850
ICAL Workgroup: WG343476

Instrument ID: LCMS1
Initial Calibration Date: 22-SEP-10 14:55
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Perchlorate		1.650	14.9	1.00000	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

Login Number: L10090490
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 22-SEP-10 14:55
Column ID: F

Analyte	WG343476-02			WG343476-03			WG343476-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	8650.00000	2.013	0.200	16500.0000	1.932	0.500	32700.0000	1.527

Login Number: L10090490
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 22-SEP-10 14:55
Column ID: F

Analyte	WG343476-05			WG343476-06			WG343476-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	63800.0000	1.520	2.00	131000.000	1.562	5.00	312000.000	1.524

Login Number: L10090490
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 22-SEP-10 14:55
Column ID: F

Analyte	WG343476-08		
	CONC	RESP	RF
Perchlorate	10.0	612000.000	1.472

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

00105821

Login Number: L10090490 Run Date: 09/22/2010 Sample ID: WG343476-09
Instrument ID: LCMS1 Run Time: 15:21 Method: 6850
File ID: 1LM.LM05983 Analyst: WTD QC Key: STD
ICal Workgroup: WG343476 Cal ID: LCMS1 - 22-SEP-10

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	1.00	ug/L	1.55	0	15	

* Exceeds %D Limit



Login Number: L10090490 Run Date: 09/24/2010 Sample ID: WG343573-10
Instrument ID: LCMS1 Run Time: 07:29 Method: 6850
File ID: 1LM.LM06062 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090490 Run Date: 09/24/2010 Sample ID: WG343573-12
Instrument ID: LCMS1 Run Time: 13:13 Method: 6850
File ID: 1LM.LM06075 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090490 Run Date: 09/25/2010 Sample ID: WG343776-04
Instrument ID: LCMS1 Run Time: 18:38 Method: 6850
File ID: 1LM.LM06090 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090490 Run Date: 09/26/2010 Sample ID: WG343776-06
Instrument ID: LCMS1 Run Time: 00:22 Method: 6850
File ID: 1LM.LM06103 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090490 Run Date: 09/24/2010 Sample ID: WG343573-09
Instrument ID: LCMS1 Run Time: 06:36 Method: 6850
File ID: 1LM.LM06060 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.996	ug/L	1.54	0.400	15	

* Exceeds %D Criteria

Login Number: L10090490 Run Date: 09/24/2010 Sample ID: WG343573-11
Instrument ID: LCMS1 Run Time: 12:20 Method: 6850
File ID: 1LM.LM06073 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.993	ug/L	1.54	0.700	15	

* Exceeds %D Criteria

Login Number: L10090490 Run Date: 09/25/2010 Sample ID: WG343776-03
Instrument ID: LCMS1 Run Time: 17:45 Method: 6850
File ID: 1LM.LM06088 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	1.00	ug/L	1.55	0	15	

* Exceeds %D Criteria

Login Number: L10090490 Run Date: 09/25/2010 Sample ID: WG343776-05
Instrument ID: LCMS1 Run Time: 23:29 Method: 6850
File ID: 1LM.LM06101 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.945	ug/L	1.46	5.50	15	

* Exceeds %D Criteria

Login Number: L10090490 Run Date: 09/24/2010 Sample ID: WG343575-06
Instrument ID: LCMS1 Run Time: 12:46 Prep Method: 6850
File ID: 1LM.LM06074 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.93	96.5	70 - 130	

Login Number: L10090490 Run Date: 09/25/2010 Sample ID: WG343575-08
Instrument ID: LCMS1 Run Time: 18:12 Prep Method: 6850
File ID: 1LM.LM06089 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	2.02	101	70 - 130	

Login Number: L10090490 Run Date: 09/25/2010 Sample ID: WG343575-09
Instrument ID: LCMS1 Run Time: 23:56 Prep Method: 6850
File ID: 1LM.LM06102 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.91	95.5	70 - 130	

Login Number: L10090490
Instrument ID: LCMS1
Workgroup (AAB#): WG343575

ICAL CCV Number: WG343476-05
CAL ID: LCMS1 - 22-SEP-10
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1
WG343476	NA	NA	210000
Upper Limit	NA	NA	315000
Lower Limit	NA	NA	105000
L10090490-01	10.0	DL01	233000
L10090490-02	10.0	DL01	233000
L10090490-03	100	DL01	232000
L10090490-04	10.0	DL01	231000
L10090490-05	10.0	DL01	237000
WG343575-02	1.00	01	250000
WG343575-03	1.00	01	257000
WG343575-04	1.00	01	258000

IS-1 - 018LP

Underline = Response outside limits

2.2 General Chemistry Data

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

L10090490

00105837

10/06/10 15:15

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
DUP01-100917	L10090490-01	D2216-90	1	21-SEP-10
DUP02-100917	L10090490-02	D2216-90	1	21-SEP-10
DUP03-100917	L10090490-03	D2216-90	1	21-SEP-10
DUP04-100917	L10090490-04	D2216-90	1	21-SEP-10
DUP05-100917	L10090490-05	D2216-90	1	21-SEP-10



Report Number: **L10090490**Report Date : **October 6, 2010**

00105838

Sample Number: **L10090490-01**
Client ID: **DUP01-100917**
Matrix: **Soil**
Workgroup Number: **WG344053**
Collect Date: **09/17/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0106**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	84.3		1.00	1.00

1 of 5



Report Number: **L10090490**Report Date : **October 6, 2010**

00105839

Sample Number: **L10090490-02**
Client ID: **DUP02-100917**
Matrix: **Soil**
Workgroup Number: **WG344053**
Collect Date: **09/17/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0107**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	87.6		1.00	1.00

2 of 5



Report Number: **L10090490**Report Date : **October 6, 2010**

00105840

Sample Number: **L10090490-03**
Client ID: **DUP03-100917**
Matrix: **Soil**
Workgroup Number: **WG344053**
Collect Date: **09/17/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0108**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	80.6		1.00	1.00

Report Number: **L10090490**Report Date : **October 6, 2010**

00105841

Sample Number: **L10090490-04**
Client ID: **DUP04-100917**
Matrix: **Soil**
Workgroup Number: **WG344053**
Collect Date: **09/17/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0109**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	81.7		1.00	1.00

Report Number: **L10090490**Report Date : **October 6, 2010**

00105842

Sample Number: **L10090490-05**
Client ID: **DUP05-100917**
Matrix: **Soil**
Workgroup Number: **WG344053**
Collect Date: **09/17/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0110**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	81.8		1.00	1.00

5 of 5



Example Percent Solids Calculations**1.0 Calculating the percent solids of a sample.**

$$\%Solids = \frac{WT3 - WT1}{WT2 - WT1} \times F$$

Where:

WT1 = Weight, in grams, of the empty container 1.30 g

WT2 = Weight, in grams, of the container and wet sample 21.274 g

WT3 = Weight, in grams, of the container and dried sample 5.21 g

F = Factor to get units as percent weight 100

%Solids = Percent solids present in sample. 19.58%

2.0 Calculating the percent moisture of a sample.

$$\% \text{ Moisture} = 100 - \% \text{ Solids from 1.0 calculation}$$

PERCENT SOLIDS

00105844

Workgroup (AAB#): WG344053
 Method: D2216-90
 SOP: K0003 Rev: 10

Analyst: JDH
 Instrument: BAL001

ADT(on): 09/28/2010 15:45
 ADT(off): 09/29/2010 10:39

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE
L10090486-01	1.3	35.39	35.32			99.79	
L10090486-02	1.31	38.67	38.53			99.63	
L10090486-03	1.32	16.21	16.12			99.40	
L10090486-04	1.3	31.26	30.74			98.26	
L10090486-05	1.31	29.98	29.44			98.12	
L10090486-06	1.3	38.38	37.63			97.98	
L10090486-07	1.32	35.31	35			99.09	
L10090490-01	1.32	21.75	18.54			84.29	
L10090490-02	1.3	33.21	29.26			87.62	
L10090490-03	1.29	35.26	28.67			80.60	
L10090490-04	1.31	25.47	21.04			81.66	
L10090490-05	1.3	29.92	24.71			81.80	
L10090491-01	1.31	24.46	20.45			82.68	
L10090491-02	1.32	40.15	35.03			86.81	
L10090491-03	1.34	26.03	21.4			81.25	
L10090491-04	1.31	23.08	18.82			80.43	
L10090491-05	1.29	19.04	15.84			81.97	
L10090492-01	1.31	21.35	18.29			84.73	
L10090492-02	1.31	31.07	27.17			86.90	
L10090492-03	1.32	13.5	11.99			87.60	
L10090492-04	1.31	26.19	22.69			85.93	
L10090492-05	1.31	31.6	26.79			84.12	
L10090543-02	1.31	30.55	23.78			76.85	
L10090543-04	1.3	33.22	24.99			74.22	
L10090576-01	1.29	17.03	16.69			97.84	
L10090576-02	1.3	10.32	9.59			91.91	
L10090576-03	1.31	22.03	20.61			93.15	
L10090576-04	1.3	28.4	27.07			95.09	
L10090576-05	1.3	28.56	27.25			95.19	
WG344053-01	1.29	17.03	16.69			97.84	2.160
WG344053-02	1.32	35.31	35			99.09	0.9120
WG344053-03	1.3	12.98	12.65			97.17	2.825
WG344053-04	1.31	30.33	30.1			99.21	0.7926

Analyst: Justin H. Hannon

3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
October 6, 2010

ADC - ANTHONY D. CANTER	AJF - AMANDA J. FICKIESEN	ALB - ANNIE L. BROWN
ALV - AMY L. VALENTINE	AML - TONY M. LONG	AZH - AFTER HOURS
BLG - BRENDA L. GREENWALT	BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES	CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS	CPD - CHAD P. DAVIS
CSH - CHRIS S. HILL	DDE - DEBRA D. ELLIOTT	DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG	DGB - DOUGLAS G. BUTCHER	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE	DLR - DIANNA L. RAUCH
ECL - ERIC C. LAWSON	EDA - ERIN D. AGEE	ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN	HAV - HEMA VILASAGAR	HJR - HOLLY J. REED
JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON	JKT - JANE K. THOMPSON
JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES	JYH - JI Y. HU
KEB - KATIE E. BARNES	KHR - KIM H. RHODES	KRA - KATHY R. ALBERTSON
LKN - LINDA K. NEDEFF	LSB - LESLIE S. BUCINA	MDA - MIKE D. ALBERTSON
MDC - MIKE D. COCHRAN	MES - MARY E. SCHILLING	MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR	MSW - MATT S. WILSON	PDM - PIERCE D. MORRIS
PWD - PAUL W. DENT	RAH - ROY A. HALSTEAD	RB - BOB BUCHANAN
REK - BOB E. KYER	RLK - ROBIN L. KLINGER	RWC - RODNEY W. CAMPBELL
SLM - STEPHANIE L. MOSSBURG	SLP - SHERI L. PFALZGRAF	TIP - TAE I. PARRISH
TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS	VC - VICKI COLLIER
WTD - WADE T. DELONG		

Qualkey: STD_ND=U

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Not detected at or above adjusted sample detection limit
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent.



COC NO. LHAAP47-091710-5

[illegible]

 Cara Strickler

COOLER INSPECTION



Received: 09/21/2010 10:24
Delivery Method: UPS
Opened By: Cara Strickler
Comments:

Login(s): L10090490|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0014668	G	5.0	1Z66V7250191026573	Ihaap47-091710-5	

1	Yes	Were shipping coolers sealed?
2	Yes	Were custody seals intact?
3	Yes	Were cooler temperatures in range of 0-6?
4	Yes	Was ice present?
5	Yes	Were COC's received/information complete/signed and dated?
6	Yes	Were sample containers and labels intact and match COC?
7	Yes	Were the correct containers and volumes received?
8	Yes	Were samples received within EPA hold times?
9	NA	Were correct preservatives used? (water only)
10	NA	Were pH ranges acceptable? (voa's excluded)
11	NA	Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Internal Chain of Custody Report

00105850

Login: L10090490

Account: 2773

Project: 2773.025

Samples: 5

Due Date: 01-OCT-2010

Samplenum **Container ID** **Products**
L10090490-01 740452 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:35	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:14	RLK	JDH

Samplenum **Container ID** **Products**
L10090490-02 740453 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:35	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:14	RLK	JDH

Samplenum **Container ID** **Products**
L10090490-03 740454 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:35	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:14	RLK	JDH

Samplenum **Container ID** **Products**
L10090490-04 740455 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:34	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:14	RLK	JDH

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Internal Chain of Custody Report

00105851

Login: L10090490**Account:** 2773**Project:** 2773.025**Samples:** 5**Due Date:** 01-OCT-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090490-05	740456	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:34	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:14	RLK	JDH

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



NELAP Addendum - May 28, 2010

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄)
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Perchlorate (6850 – LCMS)
 Hexamethylphosphoramide (XMPA-LCMS)
 Thiodiglycol (TDG-LCMS)
 1,4-Dioxane – 8270C (827-DIOXANE)
 Phosphorus – 6010B
 Zirconium - 6010B

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL HPLC02/HPLC-UV

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 2, 3, 4, 6-Tetrachlorophenol
 2-Chloronaphthalene
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene

Pentachloroethane

OVL MSSO4/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnol
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropyl ether
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene

Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnal
Simazine
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1.3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropylether
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)



158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • <http://www.microbac.com>

Laboratory Report Number: L10090491

Client: Jennifer Hoang, 1401 Enclave Parkway, Houston, TX, 77077

Contract #: DACA56-94-D-0020

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Kathy Albertson	<i>Team Chemist/Data Specialist</i>	Kathy.Albertson@microbac.com
Stephanie Mossburg	<i>Team Chemist/Data Specialist</i>	Stephanie.Mossburg@microbac.com
Tony Long	<i>Team Chemist/Data Specialist</i>	Tony.Long@microbac.com
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Annie Brown	<i>Client Services Specialist</i>	Annie.Brown@microbac.com

This report was reviewed on October 06, 2010.

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on October 06, 2010.

David Vandenberg - Managing Director

State of origin: Texas

Accrediting authority: Texas Commission on Environmental Quality ID:T104704252-07-TX

QAPP: Microbac OVD

This report contains a total of 78 pages.

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The Microbac logo consists of the word "Microbac" in a white serif font, centered within a dark teal rectangular box. The text is underlined by a thin white line.

Microbac Laboratories, Inc.
Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750

Phone: 800.373.4071
Fax: 740.373.4835

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Microbac REPORT L10090491
PREPARED FOR Shaw E I, Inc.
WORK ID:

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1.0 Introduction



Login Number: L10090491

Department: Login

Analyst: N/A

Chain of Custody:

Shipment Conditions

COC #	Cooler #	Temperature
lhaap17-094710-1	0014668	5.0

Sample Management: All samples were received intact.

Sample Identification

Lab ID	Client ID
L10090491-01	47SB-J5 (17.5-18.5)
L10090491-02	47SB-H4 (12-13)
L10090491-03	47SB-H6 (20-21)
L10090491-04	47SB-H7 (18-19)
L10090491-05	47SB-H8 (14-15)

Narrative ID: 11889

Approved By: Stephanie Mossburg

Stephanie Mossburg



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090491
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Laboratory Data Package Cover Page

R1	Field chain-of-custody documentation;
R2	Sample identification cross-reference;
R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a. if required for the project, tentatively identified compounds (TICs).
R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
R5	Test reports/summary forms for blank samples;
R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Mike Cochran		Semivolatiles Lab Supervisor	10/06/2010



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090491
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090491
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
Were all COCs included in the LCS?	X				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?		X			
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC	X				



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090491
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
limits?					
Were percent RSDs or correlation coefficient criteria met?	X				
Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090491
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte,



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090491
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspection by ☐ TCEQ or ☐ _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

2.1 General Chromatography Data

2.1.1 LC/MS Data (6850)

2.1.1.1 Summary Data

LABORATORY REPORT

L10090491

00105869

10/06/10 15:14

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta, OH 45750
(740) 373-4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-J5 (17.5-18.5)	L10090491-01	6850	10	21-SEP-10
47SB-H4 (12-13)	L10090491-02	6850	10	21-SEP-10
47SB-H6 (20-21)	L10090491-03	6850	100	21-SEP-10
47SB-H7 (18-19)	L10090491-04	6850	100	21-SEP-10
47SB-H8 (14-15)	L10090491-05	6850	10	21-SEP-10



Report Number: **L10090491**Report Date : **October 6, 2010**

00105870

Sample Number: **L10090491-01**
Client ID: **47SB-J5 (17.5-18.5)**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 08:45**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **10**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/25/2010 21:17**
File ID: **1LM.LM06096**
Percent Solid: **82.7**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	521		24.1	12.0

Report Number: **L10090491**Report Date : **October 6, 2010**

00105871

Sample Number: **L10090491-02**
Client ID: **47SB-H4 (12-13)**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 09:35**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **10**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/25/2010 21:43**
File ID: **1LM.LM06097**
Percent Solid: **86.8**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	603		22.9	11.4

Report Number: **L10090491**Report Date : **October 6, 2010**

00105872

Sample Number: **L10090491-03**
Client ID: **47SB-H6 (20-21)**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 10:05**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **100**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/25/2010 22:10**
File ID: **1LM.LM06098**
Percent Solid: **81.2**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	2740		238	119

Report Number: **L10090491**Report Date : **October 6, 2010**

00105873

Sample Number: **L10090491-04**
Client ID: **47SB-H7 (18-19)**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 10:50**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **100**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/25/2010 22:36**
File ID: **1LM.LM06099**
Percent Solid: **80.4**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	3060		241	121

Report Number: **L10090491**Report Date : **October 6, 2010**

00105874

Sample Number: **L10090491-05**
Client ID: **47SB-H8 (14-15)**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 11:40**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **10**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/25/2010 23:03**
File ID: **1LM.LM06100**
Percent Solid: **82.0**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	221		24.3	12.1

5 of 5



2.1.1.2 QC Summary Data

Example Calculation 6850 - Perchlorate**Concentration from Linear Regression****Step 1: Retrieve Curve Data From Plot, $y = mx + b$**

y = response ratio = response of analyte / response of internal standard (IS) = R_x/R_{istd}

x = amount ratio = concentration analyte/concentration internal standard (IS) = C_x / C_{istd}

m = slope from curve (1.45)

b = intercept from curve (-0.00242)

$y = 1.45x + -0.00242$

Step 2: Substitute the value for y

where $y = 12600/226000 = 0.055752$

Step 3: Solve for x

$x = (y - b)/m = 0.0040119$

Step 4: Solve for analyte concentration C_x

$C_x = (C_{is})(x) = (5 \text{ ug/L})(0.0040119) = 0.0200594 \text{ ug/L}$

Example Calculation - Water:

Slope from curve, m :	1.45
Intercept from curve, b :	-0.00242
Response of analyte, R_x :	12600
Response of Internal Standard, R_{istd} :	226000
Concentration of IS, C_{istd} (ug/L):	5.00
Response Ratio:	0.05575
Amount Ratio:	0.04012
Analyte Concentration, C_x (ug/L) :	0.200594

Example Calculation - Soil:

Analyte Concentration, C_x (ug/L):	0.20059
Amount of soil extracted (g):	5.00
Final volume of extract (mL):	50.00
Percent solids (Pct wt.)	100
Concentration in soil (ug/kg):	2.005938

Microbac Laboratories Inc.
Instrument Run Log

00105877

Instrument: LCMS1 Dataset: 092210_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343455

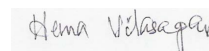
CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA Calibration STD STD41363

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM05975	WG343476-01 CCB	1	1		09/22/10 11:49
2	1LM.LM05976	WG343476-02 0.1ug/L STD	1	1	STD41363	09/22/10 12:16
3	1LM.LM05977	WG343476-03 0.2ug/L STD	1	1	STD41363	09/22/10 12:42
4	1LM.LM05978	WG343476-04 0.5ug/L STD	1	1	STD41363	09/22/10 13:09
5	1LM.LM05979	WG343476-05 1.0ug/L STD	1	1	STD41363	09/22/10 13:35
6	1LM.LM05980	WG343476-06 2.0ug/L STD	1	1	STD41363	09/22/10 14:02
7	1LM.LM05981	WG343476-07 5.0ug/L STD	1	1	STD41363	09/22/10 14:28
8	1LM.LM05982	WG343476-08 10ug/L STD	1	1	STD41363	09/22/10 14:55
9	1LM.LM05983	WG343476-09 1.0ug/L ALT SRC	1	1	STD41365	09/22/10 15:21
10	1LM.LM05984	WG343477-01 CCB	1	1		09/22/10 15:48
11	1LM.LM05985	WG343477-02 1.0ug/L CCV	1	1	STD41363	09/22/10 16:14
12	1LM.LM05986	WG343455-10 2.0ug/kg QCMRL	7	1	STD41363	09/22/10 16:40
13	1LM.LM05987	WG343455-01 2.0ug/kg MCT	7	1	STD41363	09/22/10 17:07
14	1LM.LM05988	WG343455-02 MET BLANK	7	1		09/22/10 17:33
15	1LM.LM05989	WG343455-03 2.0ug/kg LCS	7	1	STD41363	09/22/10 18:00
16	1LM.LM05990	L10090501-01	7	1		09/22/10 18:26
17	1LM.LM05991	L10090501-02	7	1		09/22/10 18:53
18	1LM.LM05992	L10090501-03	7	1		09/22/10 19:19
19	1LM.LM05993	L10090501-04	7	1		09/22/10 19:46
20	1LM.LM05994	L10090501-05	7	1		09/22/10 20:12
21	1LM.LM05995	L10090501-06	7	1		09/22/10 20:39
22	1LM.LM05996	L10090501-07	7	1		09/22/10 21:05
23	1LM.LM05997	WG343477-03 1.0ug/L CCV	1	1	STD41363	09/22/10 21:31
24	1LM.LM05998	WG343455-11 2.0ug/kg QCMRL	7	1	STD41363	09/22/10 21:58
25	1LM.LM05999	WG343477-04 CCB	1	1		09/22/10 22:24
26	1LM.LM06000	L10090501-08	7	1		09/22/10 22:51
27	1LM.LM06001	L10090501-09	7	1		09/22/10 23:17
28	1LM.LM06002	L10090501-10	7	1		09/22/10 23:44
29	1LM.LM06003	L10090501-11	7	1	STD41363	09/23/10 00:10
30	1LM.LM06004	L10090501-12	7	1	STD41363	09/23/10 00:37
31	1LM.LM06005	L10090501-13	7	1		09/23/10 01:03
32	1LM.LM06006	L10090501-14	7	1		09/23/10 01:29
33	1LM.LM06007	L10090501-15	7	1		09/23/10 01:56
34	1LM.LM06008	WG343477-05 1.0ug/L CCV	1	1	STD41363	09/23/10 02:22

Page: 1

Approved: 23-SEP-10




Microbac Laboratories Inc.
Instrument Run Log

00105878

Instrument: LCMS1 Dataset: 092210_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343455

CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA STD41363

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
35	1LM.LM06009	WG3434455-12 2.0ug/kg QCMRL	7	1	STD41363	09/23/10 02:49
36	1LM.LM06010	WG343477-06 CCB	1	1		09/23/10 03:15
37	1LM.LM06011	L10090501-16	7	1		09/23/10 03:42
38	1LM.LM06012	L10090501-17	7	1	STD41363	09/23/10 04:08
39	1LM.LM06013	L10090501-18	7	1	STD41363	09/23/10 04:35
40	1LM.LM06014	WG343477-07 1.0ug/kg CCV	1	1	STD41363	09/23/10 05:01
41	1LM.LM06015	WG343455-13 2.0ug/kg QCMRL	7	1	STD41363	09/23/10 05:28
42	1LM.LM06016	WG343477-08 CCB	1	1		09/23/10 05:54

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Hema Velasquez



Microbac Laboratories Inc.
Instrument Run Log

00105879

Instrument: LCMS1 Dataset: 092310_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575, 343578, 343579

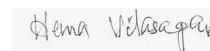
CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA Calibration STD STD41363

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06017	WG343573-01 CCB	1	1		09/23/10 11:33
2	1LM.LM06018	WG343573-02 1.0ug/L CCV	1	1	STD41363	09/23/10 12:00
3	1LM.LM06019	WG343579-07 0.2ug/L QCMRL	1	1	STD41364	09/23/10 12:26
4	1LM.LM06020	WG343579-01 0.2ug/L MCT	1	1	STD41363	09/23/10 12:58
5	1LM.LM06021	WG343579-02 MET BLANK	1	1		09/23/10 13:25
6	1LM.LM06022	WG343579-03 0.2ug/L LCS	1	1	STD41363	09/23/10 13:51
7	1LM.LM06023	L10090539-01	1	1		09/23/10 14:17
8	1LM.LM06024	L10090539-03	1	1		09/23/10 14:44
9	1LM.LM06025	L10090539-05	1	1		09/23/10 15:10
10	1LM.LM06026	L10090539-07	1	1		09/23/10 15:37
11	1LM.LM06027	L10090539-09	1	1		09/23/10 16:03
12	1LM.LM06028	L10090539-11	1	1		09/23/10 16:30
13	1LM.LM06029	WG343573-03 1.0ug/L CCV	1	1	STD41363	09/23/10 16:56
14	1LM.LM06030	WG343579-08 0.2ug/L QCMRL	1	1	STD41363	09/23/10 17:23
15	1LM.LM06031	WG343573-04 CCB	1	1		09/23/10 17:49
60	1LM.LM06032	L10090539-13	1	1		09/23/10 18:15
61	1LM.LM06033	L10090539-15 MS	1	1	STD41363	09/23/10 18:42
62	1LM.LM06034	L10090539-17 MSD	1	1	STD41363	09/23/10 19:08
19	1LM.LM06035	L10090539-19	1	1		09/23/10 19:35
20	1LM.LM06036	L10090539-21	1	1		09/23/10 20:01
21	1LM.LM06037	L10090539-23	1	1		09/23/10 20:28
22	1LM.LM06038	WG343573-05 1.0ug/L CCV	1	1	STD41363	09/23/10 20:54
63	1LM.LM06039	WG343578-05 0.2ug/L QCMRL	1	1	STD41363	09/23/10 21:21
24	1LM.LM06040	WG343573-06 CCB	1	1		09/23/10 21:47
25	1LM.LM06041	WG343578-01 0.2ug/L MCT	1	1	STD41363	09/23/10 22:14
26	1LM.LM06042	WG343578-02 MET BLANK	1	1		09/23/10 22:40
27	1LM.LM06043	WG343578-03 0.2ug/L LCS	1	1	STD41363	09/23/10 23:06
28	1LM.LM06044	WG343578-04 0.2ug/L LCSD	1	1	STD41363	09/23/10 23:33
29	1LM.LM06045	L10090493-01	1	1		09/23/10 23:59
30	1LM.LM06046	L10090493-03	1	1		09/24/10 00:26
31	1LM.LM06047	L10090493-05	1	1		09/24/10 00:52
32	1LM.LM06048	L10090493-07	1	1		09/24/10 01:19
33	1LM.LM06049	L10090493-09	1	1		09/24/10 01:45
34	1LM.LM06050	L10090493-11	1	1		09/24/10 02:12

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Approved: 29-SEP-10




Microbac Laboratories Inc.
Instrument Run Log

00105880

Instrument: LCMS1 Dataset: 092310_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575, 343578, 343579

CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA STD41363

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
35	1LM.LM06051	WG343573-07 1.0ug/L CCV	1	1	STD41363	09/24/10 02:38
36	1LM.LM06052	WG343578-06 0.2ug/L QCMRL	1	1	STD41363	09/24/10 03:05
37	1LM.LM06053	WG343573-08 CCB	1	1		09/24/10 03:31
38	1LM.LM06054	L10090493-13	1	1		09/24/10 03:57
39	1LM.LM06055	L10090493-15	1	1		09/24/10 04:24
40	1LM.LM06056	L10090493-17	1	1		09/24/10 04:50
41	1LM.LM06057	L10090493-19	1	1		09/24/10 05:17
42	1LM.LM06058	L10090493-21	1	1		09/24/10 05:43
43	1LM.LM06059	L10090493-23	1	1		09/24/10 06:10
44	1LM.LM06060	WG343573-09 1.0ug/L CCV	1	1	STD41363	09/24/10 06:36
45	1LM.LM06061	WG343578-07 0.2ug/L QCMRL	1	1	STD41363	09/24/10 07:03
46	1LM.LM06062	WG343573-10 CCB	1	1		09/24/10 07:29
47	1LM.LM06063	WG343575-01 2.0ug/kg MCT	7	1	STD41363	09/24/10 07:55
48	1LM.LM06064	WG343575-02 MET BLANK	7	1		09/24/10 08:22
49	1LM.LM06065	WG343575-03 2.0ug/kg LCS	7	1	STD41363	09/24/10 08:48
50	1LM.LM06066	WG343575-04 2.0ug/kg LCSD	7	1	STD41363	09/24/10 09:15
51	1LM.LM06067	L10090490-01	7	1		09/24/10 09:41
52	1LM.LM06068	L10090490-02	7	1		09/24/10 10:08
53	1LM.LM06069	L10090490-03	7	1		09/24/10 10:34
54	1LM.LM06070	L10090490-04	7	1		09/24/10 11:01
55	1LM.LM06071	L10090490-05	7	1		09/24/10 11:27
56	1LM.LM06072	L10090491-01	7	1		09/24/10 11:53
57	1LM.LM06073	WG343573-11 1.0ug/L CCV	1	1	STD41363	09/24/10 12:20
58	1LM.LM06074	WG343575-06 0.2ug/L QCMRL	7	1	STD41363	09/24/10 12:46
59	1LM.LM06075	WG343573-12 CCB	1	1		09/24/10 13:13

Comments

Seq.	Rerun	Dil.	Reason	Analytes
51	X	10	Over Calibration Range	Perchlorate
			L10090490-01	
52	X	10	Over Calibration Range	Perchlorate
			L10090490-02	
53	X	100	Over Calibration Range	Perchlorate
			L10090490-03	
54	X	10		Perchlorate
			L10090490-04	
55	X	10	Over Calibration Range	Perchlorate

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Approved: 29-SEP-10

Hema Velasquez



Microbac Laboratories Inc.
Instrument Run Log

00105881

Instrument: LCMS1 Dataset: 092310_WTD.TXT
Analyst1: WTD Analyst2: NA
Method: 6850 SOP: HPLC06 Rev: 2

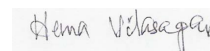
Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA
Workgroups: 343575, 343578, 343579

CCV Std: STD41363 LCS STD: STD41363
Internal STD: COA14815 Surrogate STD: NA STD41363

Comments

Seq.	Rerun	Dil.	Reason	Analytes
<u>L10090450-05</u>				
56	X	10	Over Calibration Range	Perchlorate
<u>L10090491-01</u>				



Microbac Laboratories Inc.
Instrument Run Log

00105882

Instrument: LCMS1 Dataset: 092510_WTD.TXT
 Analyst1: WTD Analyst2: ADC
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575

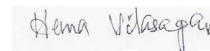
CCV Std: STD41363 LCS STD: _____
 Internal STD: COA14815 Surrogate STD: NA Calibration STD STD41363

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06076	WG343776-01 CCB	1	1		09/25/10 12:28
2	1LM.LM06077	WG343776-02 1.0 ug/L CCV	1	1	STD41363	09/25/10 12:54
3	1LM.LM06078	WG343575-07 2.0ug/kg QCMRL	7	1	STD41363	09/25/10 13:21
4	1LM.LM06079	NO SAMPLE	7	1		09/25/10 13:47
5	1LM.LM06080	NO SAMPLE	7	1		09/25/10 14:14
6	1LM.LM06081	NO SAMPLE	7	1		09/25/10 14:40
7	1LM.LM06082	NO SAMPLE	7	1		09/25/10 15:07
8	1LM.LM06083	NO SAMPLE	7	1		09/25/10 15:33
9	1LM.LM06084	L10090492-02	7	1		09/25/10 16:00
10	1LM.LM06085	L10090492-03	7	1		09/25/10 16:26
11	1LM.LM06086	L10090492-04	7	1		09/25/10 16:52
12	1LM.LM06087	L10090492-05	7	1		09/25/10 17:19
13	1LM.LM06088	WG343776-03 1.0ug/L CCV	1	1	STD41363	09/25/10 17:45
14	1LM.LM06089	WG343575-08 2.0ug/kg QCMRL	7	1	STD41363	09/25/10 18:12
15	1LM.LM06090	WG343776-04 CCB	1	1		09/25/10 18:38
16	1LM.LM06091	L10090490-01 10X	7	10		09/25/10 19:05
17	1LM.LM06092	L10090490-02 10X	7	10		09/25/10 19:31
18	1LM.LM06093	L10090490-03 100X	7	100		09/25/10 19:57
19	1LM.LM06094	L10090490-04 10X	7	10		09/25/10 20:24
20	1LM.LM06095	L10090490-05 10X	7	10		09/25/10 20:50
21	1LM.LM06096	L10090491-01 10X	7	10		09/25/10 21:17
22	1LM.LM06097	L10090491-02 10X	7	10		09/25/10 21:43
23	1LM.LM06098	L10090491-03 100X	7	100		09/25/10 22:10
24	1LM.LM06099	L10090491-04 100X	7	100		09/25/10 22:36
25	1LM.LM06100	L10090491-05 10X	7	10		09/25/10 23:03
26	1LM.LM06101	WG343776-05 1.0ug/L CCV	1	1	STD41363	09/25/10 23:29
27	1LM.LM06102	WG343575-09 2.0ug/kg QCMRL	7	1	STD41363	09/25/10 23:56
28	1LM.LM06103	WG343776-06 CCB	1	1		09/26/10 00:22
29	1LM.LM06104	L10090492-01 10X	7	10		09/26/10 00:48
30	1LM.LM06105	L10090492-02 10X	7	10		09/26/10 01:15
31	1LM.LM06106	L10090492-03 10X	7	10		09/26/10 01:41
32	1LM.LM06107	L10090492-04 10X	7	10		09/26/10 02:08
33	1LM.LM06108	L10090492-05 10X	7	10		09/26/10 02:34
34	1LM.LM06109	L10090492-01 100X	7	100		09/26/10 03:01

Page: 1

Approved: 01-OCT-10




Microbac Laboratories Inc.
Instrument Run Log

00105883

Instrument: LCMS1 Dataset: 092510_WTD.TXT
 Analyst1: WTD Analyst2: ADC
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575

CCV Std: STD41363 LCS STD: _____
 Internal STD: COA14815 Surrogate STD: NA STD41363

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
35	1LM.LM06110	L10090492-02 100X	7	100		09/26/10 03:27
36	1LM.LM06111	L10090492-03 100X	7	100		09/26/10 03:54
37	1LM.LM06112	L10090492-04 100X	7	100		09/26/10 04:20
38	1LM.LM06113	L10090492-05 100X	7	100		09/26/10 04:46
39	1LM.LM06114	WG343776-07 1.0ug/L CCV	1	1	STD41363	09/26/10 05:13
40	1LM.LM06115	WG343575-10 2.0ug/kg QCMRL	7	1	STD41363	09/26/10 05:39
41	1LM.LM06116	WG343776-08 CCB	1	1		09/26/10 06:06

Comments

Seq.	Rerun	Dil.	Reason	Analytes
10	X	100	Over Calibration Range	Perchlorate
			L10090492-03	
29				
			Not needed.	
30				
			Not needed.	
31	X	100	Over Calibration Range	Perchlorate
			L10090492-03	
32				
			Not needed.	
33				
			Not needed.	
35				
			Not needed.	
37	X			
			Not needed.	
38				
			Not needed.	

Hema Velasquez



Microbac Laboratories Inc.
Instrument Run Log

00105884

Instrument: LCMS1 Dataset: 092710_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575

CCV Std: STD41363 LCS STD: _____
 Internal STD: COA14815 Surrogate STD: NA Calibration STD STD41363

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06165	WG343873-01 CCB	1	1		09/27/10 11:52
2	1LM.LM06166	WG343873-02 1.0ug/L CCV	1	1	STD41363	09/27/10 12:18
3	1LM.LM06167	WG343575-11 2.0ug/kg QCMRL	7	1	STD41363	09/27/10 12:45
4	1LM.LM06168	L10090492-01	7	1		09/27/10 13:19
5	1LM.LM06169	WG343873-03 1.0ug/L CCV	1	1	STD41363	09/27/10 13:47
6	1LM.LM06170	WG343575-12 2.0ug/kg QCMRL	7	1	STD41363	09/27/10 14:14
7	1LM.LM06171	WG343873-04 CCB	1	1		09/27/10 14:40

Comments

Seq.	Rerun	Dil.	Reason	Analytes




Data Checklist

Date: 22-SEP-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

Curve Workgroup: NA

Runlog ID: 36546

Analytical Workgroups: L10090501

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	HAV

Primary Reviewer:
23-SEP-2010

Wade D. [Signature]

Secondary Reviewer:
23-SEP-2010

Hema Velasquez

Microbac Laboratories Inc.

00105886

Data Checklist

Date: 23-SEP-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

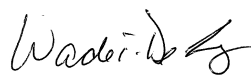
Curve Workgroup: NA

Runlog ID: 36593

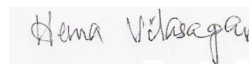
Analytical Workgroups: L10090490, L10090491, L10090492, L10090493, L10090539

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	HAV

Primary Reviewer:
27-SEP-2010



Secondary Reviewer:
29-SEP-2010




Microbac Laboratories Inc.

00105887

Data Checklist

Date: 25-SEP-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

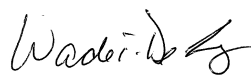
Curve Workgroup: NA

Runlog ID: 36604

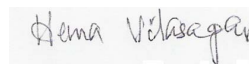
Analytical Workgroups: 343575

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Interference check sample (ICS) (LCMS)	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	X
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	HAV

Primary Reviewer:
27-SEP-2010



Secondary Reviewer:
01-OCT-2010




Microbac Laboratories Inc.

00105888

Data Checklist

Date: 27-SEP-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

Curve Workgroup: NA

Runlog ID: 36614

Analytical Workgroups: L10090492

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Interference check sample (ICS) (LCMS)	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
27-SEP-2010

Secondary Reviewer:
29-SEP-2010



Analytical Method: 6850

AAB#: WG343575

Login Number: L10090491

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
47SB-J5 (17.5-18.5)	01	09/17/10					09/23/10	6.2	28		09/25/10	2.3	28	
47SB-H4 (12-13)	02	09/17/10					09/23/10	6.2	28		09/25/10	2.3	28	
47SB-H6 (20-21)	03	09/17/10					09/23/10	6.2	28		09/25/10	2.3	28	
47SB-H7 (18-19)	04	09/17/10					09/23/10	6.1	28		09/25/10	2.4	28	
47SB-H8 (14-15)	05	09/17/10					09/23/10	6.1	28		09/25/10	2.4	28	

* = SEE PROJECT QAPP REQUIREMENTS

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

METHOD BLANK SUMMARY

00105891

Login Number: L10090491
 Blank File ID: 1LM.LM06064
 Prep Date: 09/23/10 14:00
 Analyzed Date: 09/24/10 08:22
 Analyst: WTD

Work Group: WG343575
 Blank Sample ID: WG343575-02
 Instrument ID: LCMS1
 Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
MCT	WG343575-01	1LM.LM06063	09/24/10 07:55	01
LCS	WG343575-03	1LM.LM06065	09/24/10 08:48	01
LCS2	WG343575-04	1LM.LM06066	09/24/10 09:15	01
QCMRL	WG343575-06	1LM.LM06074	09/24/10 12:46	01
QCMRL	WG343575-07	1LM.LM06078	09/25/10 13:21	01
QCMRL	WG343575-08	1LM.LM06089	09/25/10 18:12	01
47SB-J5 (17.5-18.5)	L10090491-01	1LM.LM06096	09/25/10 21:17	DL01
47SB-H4 (12-13)	L10090491-02	1LM.LM06097	09/25/10 21:43	DL01
47SB-H6 (20-21)	L10090491-03	1LM.LM06098	09/25/10 22:10	DL01
47SB-H7 (18-19)	L10090491-04	1LM.LM06099	09/25/10 22:36	DL01
47SB-H8 (14-15)	L10090491-05	1LM.LM06100	09/25/10 23:03	DL01
QCMRL	WG343575-09	1LM.LM06102	09/25/10 23:56	01
QCMRL	WG343575-10	1LM.LM06115	09/26/10 05:39	01
QCMRL	WG343575-11	1LM.LM06167	09/27/10 12:45	01
QCMRL	WG343575-12	1LM.LM06170	09/27/10 14:14	01



Login Number: L10090491 Prep Date: 09/23/10 14:00 Sample ID: WG343575-02
Instrument ID: LCMS1 Run Date: 09/24/10 08:22 Prep Method: 6850
File ID: 1LM.LM06064 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	1.00	2.00	1.00	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1790029
05-OCT-2010 15:56



Login Number: L10090491 Analyst: WTD Prep Method: 6850
Instrument ID: LCMS1 Matrix: Soil Method: 6850
Workgroup (AAB#): WG343575 Units: ug/kg
QC Key: STD Lot #: STD41363
Sample ID: WG343575-03 LCS File ID: 1LM.LM06065 Run Date: 09/24/2010 08:48
Sample ID: WG343575-04 LCS2 File ID: 1LM.LM06066 Run Date: 09/24/2010 09:15

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	1.95	1.97	101	1.99	1.67	84.0	16.7	80 - 120	15	#

Conductivity Probe
Calibration Check:
1344 /1410 μ S/cm

Perchlorate Conductivity Check

Working MCT Level:
10,000 μ S/cm

Sample	Conductivity (μ S/cm)	Pretreatment or Dilution Needed
W6343575-01 met	10,180	NA
-02 B12	8.9	
-03 LCS	8.1	
-04 LCS2	9.5	
L10090490-01	10.3	
-02	5.5	
-03	12.9	
-04	12.0	
-05	9.9	
L10090491-01	15.8	
-02	4.8	
-03	14.1	
-04	14.3	
-05	9.2	
L10090492-01	7.7	
-02	3.2	
-03	11.7	
-04	2.3	
-05	6.3	

Wade T. DeLo
Analyst

9-24-10 / 11:40
Date/Time

DCN#84518



Login Number: L10090491
Analytical Method: 6850
ICAL Workgroup: WG343476

Instrument ID: LCMS1
Initial Calibration Date: 22-SEP-10 14:55
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Perchlorate		1.650	14.9	1.00000	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

Login Number: L10090491
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 22-SEP-10 14:55
Column ID: F

Analyte	WG343476-02			WG343476-03			WG343476-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	8650.00000	2.013	0.200	16500.0000	1.932	0.500	32700.0000	1.527

Login Number: L10090491
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 22-SEP-10 14:55
Column ID: F

Analyte	WG343476-05			WG343476-06			WG343476-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	63800.0000	1.520	2.00	131000.000	1.562	5.00	312000.000	1.524

Login Number: L10090491
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 22-SEP-10 14:55
Column ID: F

Analyte	WG343476-08		
	CONC	RESP	RF
Perchlorate	10.0	612000.000	1.472

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

00105899

Login Number: L10090491 Run Date: 09/22/2010 Sample ID: WG343476-09
Instrument ID: LCMS1 Run Time: 15:21 Method: 6850
File ID: 1LM.LM05983 Analyst: WTD QC Key: STD
ICal Workgroup: WG343476 Cal ID: LCMS1 - 22-SEP-10

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	1.00	ug/L	1.55	0	15	

* Exceeds %D Limit



Login Number: L10090491 Run Date: 09/24/2010 Sample ID: WG343573-10
Instrument ID: LCMS1 Run Time: 07:29 Method: 6850
File ID: 1LM.LM06062 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090491 Run Date: 09/24/2010 Sample ID: WG343573-12
Instrument ID: LCMS1 Run Time: 13:13 Method: 6850
File ID: 1LM.LM06075 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090491 Run Date: 09/25/2010 Sample ID: WG343776-04
Instrument ID: LCMS1 Run Time: 18:38 Method: 6850
File ID: 1LM.LM06090 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090491 Run Date: 09/26/2010 Sample ID: WG343776-06
Instrument ID: LCMS1 Run Time: 00:22 Method: 6850
File ID: 1LM.LM06103 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090491 Run Date: 09/24/2010 Sample ID: WG343573-09
Instrument ID: LCMS1 Run Time: 06:36 Method: 6850
File ID: 1LM.LM06060 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.996	ug/L	1.54	0.400	15	

* Exceeds %D Criteria

Login Number: L10090491 Run Date: 09/24/2010 Sample ID: WG343573-11
Instrument ID: LCMS1 Run Time: 12:20 Method: 6850
File ID: 1LM.LM06073 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.993	ug/L	1.54	0.700	15	

* Exceeds %D Criteria

Login Number: L10090491 Run Date: 09/25/2010 Sample ID: WG343776-03
Instrument ID: LCMS1 Run Time: 17:45 Method: 6850
File ID: 1LM.LM06088 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	1.00	ug/L	1.55	0	15	

* Exceeds %D Criteria

Login Number: L10090491 Run Date: 09/25/2010 Sample ID: WG343776-05
Instrument ID: LCMS1 Run Time: 23:29 Method: 6850
File ID: 1LM.LM06101 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.945	ug/L	1.46	5.50	15	

* Exceeds %D Criteria

Login Number: L10090491 Run Date: 09/24/2010 Sample ID: WG343575-06
Instrument ID: LCMS1 Run Time: 12:46 Prep Method: 6850
File ID: 1LM.LM06074 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.93	96.5	70 - 130	

Login Number: L10090491 Run Date: 09/25/2010 Sample ID: WG343575-08
Instrument ID: LCMS1 Run Time: 18:12 Prep Method: 6850
File ID: 1LM.LM06089 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	2.02	101	70 - 130	

Login Number: L10090491 Run Date: 09/25/2010 Sample ID: WG343575-09
Instrument ID: LCMS1 Run Time: 23:56 Prep Method: 6850
File ID: 1LM.LM06102 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.91	95.5	70 - 130	

Login Number: L10090491
Instrument ID: LCMS1
Workgroup (AAB#): WG343575

ICAL CCV Number: WG343476-05
CAL ID: LCMS1 - 22-SEP-10
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1
WG343476	NA	NA	210000
Upper Limit	NA	NA	315000
Lower Limit	NA	NA	105000
L10090491-01	10.0	DL01	240000
L10090491-02	10.0	DL01	233000
L10090491-03	100	DL01	238000
L10090491-04	100	DL01	242000
L10090491-05	10.0	DL01	238000
WG343575-02	1.00	01	250000
WG343575-03	1.00	01	257000
WG343575-04	1.00	01	258000

IS-1 - 018LP

Underline = Response outside limits

2.2 General Chemistry Data

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

L10090491

00105915

10/06/10 15:14

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta, OH 45750
(740) 373-4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-J5 (17.5-18.5)	L10090491-01	D2216-90	1	21-SEP-10
47SB-H4 (12-13)	L10090491-02	D2216-90	1	21-SEP-10
47SB-H6 (20-21)	L10090491-03	D2216-90	1	21-SEP-10
47SB-H7 (18-19)	L10090491-04	D2216-90	1	21-SEP-10
47SB-H8 (14-15)	L10090491-05	D2216-90	1	21-SEP-10



Report Number: **L10090491**Report Date : **October 6, 2010**

00105916

Sample Number: **L10090491-01**
Client ID: **47SB-J5 (17.5-18.5)**
Matrix: **Soil**
Workgroup Number: **W6344053**
Collect Date: **09/17/2010 08:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0111**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	82.7		1.00	1.00

1 of 5



Report Number: **L10090491**Report Date : **October 6, 2010**

00105917

Sample Number: **L10090491-02**
Client ID: **47SB-H4 (12-13)**
Matrix: **Soil**
Workgroup Number: **W6344053**
Collect Date: **09/17/2010 09:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0112**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	86.8		1.00	1.00

Report Number: **L10090491**Report Date : **October 6, 2010**

00105918

Sample Number: **L10090491-03**
Client ID: **47SB-H6 (20-21)**
Matrix: **Soil**
Workgroup Number: **W6344053**
Collect Date: **09/17/2010 10:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0113**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	81.2		1.00	1.00

3 of 5



Report Number: **L10090491**Report Date : **October 6, 2010**

00105919

Sample Number: **L10090491-04**
Client ID: **47SB-H7 (18-19)**
Matrix: **Soil**
Workgroup Number: **W6344053**
Collect Date: **09/17/2010 10:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0114**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	80.4		1.00	1.00

Report Number: **L10090491**Report Date : **October 6, 2010**

00105920

Sample Number: **L10090491-05**
Client ID: **47SB-H8 (14-15)**
Matrix: **Soil**
Workgroup Number: **W6344053**
Collect Date: **09/17/2010 11:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0115**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	82.0		1.00	1.00

5 of 5



Example Percent Solids Calculations**1.0 Calculating the percent solids of a sample.**

$$\%Solids = \frac{WT3 - WT1}{WT2 - WT1} \times F$$

Where:

WT1 = Weight, in grams, of the empty container 1.30 g

WT2 = Weight, in grams, of the container and wet sample 21.274 g

WT3 = Weight, in grams, of the container and dried sample 5.21 g

F = Factor to get units as percent weight 100

%Solids = Percent solids present in sample. 19.58%

2.0 Calculating the percent moisture of a sample.

$$\% \text{ Moisture} = 100 - \% \text{ Solids from 1.0 calculation}$$

PERCENT SOLIDS

00105922

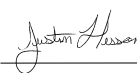
Workgroup (AAB#): WG344053
 Method: D2216-90
 SOP: K0003 Rev: 10

Analyst: JDH
 Instrument: BAL001

ADT(on): 09/28/2010 15:45
 ADT(off): 09/29/2010 10:39

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE
L10090486-01	1.3	35.39	35.32			99.79	
L10090486-02	1.31	38.67	38.53			99.63	
L10090486-03	1.32	16.21	16.12			99.40	
L10090486-04	1.3	31.26	30.74			98.26	
L10090486-05	1.31	29.98	29.44			98.12	
L10090486-06	1.3	38.38	37.63			97.98	
L10090486-07	1.32	35.31	35			99.09	
L10090490-01	1.32	21.75	18.54			84.29	
L10090490-02	1.3	33.21	29.26			87.62	
L10090490-03	1.29	35.26	28.67			80.60	
L10090490-04	1.31	25.47	21.04			81.66	
L10090490-05	1.3	29.92	24.71			81.80	
L10090491-01	1.31	24.46	20.45			82.68	
L10090491-02	1.32	40.15	35.03			86.81	
L10090491-03	1.34	26.03	21.4			81.25	
L10090491-04	1.31	23.08	18.82			80.43	
L10090491-05	1.29	19.04	15.84			81.97	
L10090492-01	1.31	21.35	18.29			84.73	
L10090492-02	1.31	31.07	27.17			86.90	
L10090492-03	1.32	13.5	11.99			87.60	
L10090492-04	1.31	26.19	22.69			85.93	
L10090492-05	1.31	31.6	26.79			84.12	
L10090543-02	1.31	30.55	23.78			76.85	
L10090543-04	1.3	33.22	24.99			74.22	
L10090576-01	1.29	17.03	16.69			97.84	
L10090576-02	1.3	10.32	9.59			91.91	
L10090576-03	1.31	22.03	20.61			93.15	
L10090576-04	1.3	28.4	27.07			95.09	
L10090576-05	1.3	28.56	27.25			95.19	
WG344053-01	1.29	17.03	16.69			97.84	2.160
WG344053-02	1.32	35.31	35			99.09	0.9120
WG344053-03	1.3	12.98	12.65			97.17	2.825
WG344053-04	1.31	30.33	30.1			99.21	0.7926

Analyst: _____



3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
October 6, 2010

ADC - ANTHONY D. CANTER	AJF - AMANDA J. FICKIESEN	ALB - ANNIE L. BROWN
ALV - AMY L. VALENTINE	AML - TONY M. LONG	AZH - AFTER HOURS
BLG - BRENDA L. GREENWALT	BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES	CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS	CPD - CHAD P. DAVIS
CSH - CHRIS S. HILL	DDE - DEBRA D. ELLIOTT	DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG	DGB - DOUGLAS G. BUTCHER	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE	DLR - DIANNA L. RAUCH
ECL - ERIC C. LAWSON	EDA - ERIN D. AGEE	ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN	HAV - HEMA VILASAGAR	HJR - HOLLY J. REED
JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON	JKT - JANE K. THOMPSON
JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES	JYH - JI Y. HU
KEB - KATIE E. BARNES	KHR - KIM H. RHODES	KRA - KATHY R. ALBERTSON
LKN - LINDA K. NEDEFF	LSB - LESLIE S. BUCINA	MDA - MIKE D. ALBERTSON
MDC - MIKE D. COCHRAN	MES - MARY E. SCHILLING	MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR	MSW - MATT S. WILSON	PDM - PIERCE D. MORRIS
PWD - PAUL W. DENT	RAH - ROY A. HALSTEAD	RB - BOB BUCHANAN
REK - BOB E. KYER	RLK - ROBIN L. KLINGER	RWC - RODNEY W. CAMPBELL
SLM - STEPHANIE L. MOSSBURG	SLP - SHERI L. PFALZGRAF	TIP - TAE I. PARRISH
TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS	VC - VICKI COLLIER
WTD - WADE T. DELONG		

Qualkey: STD_ND=U

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Not detected at or above adjusted sample detection limit
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent.



Lab Name: Environmental Waste Solutions C/O Microbac
Address : 158 Starlite Drive, Marietta OH 45750
Contact : Stephanie Mossburg
Phone: 1-800-373-4071

Cara Strickler

COOLER INSPECTION



Received: 09/21/2010 10:24
Delivery Method: UPS
Opened By: Cara Strickler
Comments:

Login(s): L10090491|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0014668	G	5.0	1Z66V7250191026573	lhaap17-094710-1	

- 1 Yes Were shipping coolers sealed?
- 2 Yes Were custody seals intact?
- 3 Yes Were cooler temperatures in range of 0-6?
- 4 Yes Was ice present?
- 5 Yes Were COC's received/information complete/signed and dated?
- 6 Yes Were sample containers and labels intact and match COC?
- 7 Yes Were the correct containers and volumes received?
- 8 Yes Were samples received within EPA hold times?
- 9 NA Were correct preservatives used? (water only)
- 10 NA Were pH ranges acceptable? (voa's excluded)
- 11 NA Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Internal Chain of Custody Report

00105928

Login: L10090491

Account: 2773

Project: 2773.025

Samples: 5

Due Date: 01-OCT-2010

Samplenum **Container ID** **Products**
L10090491-01 740457 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:35	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:14	RLK	JDH

Samplenum **Container ID** **Products**
L10090491-02 740458 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:34	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:15	RLK	JDH

Samplenum **Container ID** **Products**
L10090491-03 740459 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:34	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:15	RLK	JDH

Samplenum **Container ID** **Products**
L10090491-04 740460 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:34	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:15	RLK	JDH

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Internal Chain of Custody Report

00105929

Login: L10090491**Account:** 2773**Project:** 2773.025**Samples:** 5**Due Date:** 01-OCT-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090491-05	740461	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:34	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:15	RLK	JDH

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



NELAP Addendum - May 28, 2010

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄)
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Perchlorate (6850 – LCMS)
 Hexamethylphosphoramide (XMPA-LCMS)
 Thiodiglycol (TDG-LCMS)
 1,4-Dioxane – 8270C (827-DIOXANE)
 Phosphorus – 6010B
 Zirconium - 6010B

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL HPLC02/HPLC-UV

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 2, 3, 4, 6-Tetrachlorophenol
 2-Chloronaphthalene
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene

Pentachloroethane

OVL MSSO4/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnel
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropyl ether
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene

Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnol
Simazine
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1.3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropylether
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)



158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • <http://www.microbac.com>

Laboratory Report Number: L10090492

Client: Jennifer Hoang, 1401 Enclave Parkway, Houston, TX, 77077

Contract #: DACA56-94-D-0020

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Kathy Albertson	<i>Team Chemist/Data Specialist</i>	Kathy.Albertson@microbac.com
Stephanie Mossburg	<i>Team Chemist/Data Specialist</i>	Stephanie.Mossburg@microbac.com
Tony Long	<i>Team Chemist/Data Specialist</i>	Tony.Long@microbac.com
Amanda Fickiesen	<i>Client Services Specialist</i>	Amanda.Fickiesen@microbac.com
Annie Brown	<i>Client Services Specialist</i>	Annie.Brown@microbac.com

This report was reviewed on October 06, 2010.

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on October 06, 2010.

David Vandenberg - Managing Director

State of origin: Texas

Accrediting authority: Texas Commission on Environmental Quality ID:T104704252-07-TX

QAPP: Microbac OVD

This report contains a total of 89 pages.

Look closer. Go further. Do more.



The Microbac logo consists of the word "Microbac" in a white serif font, centered within a dark teal rectangular box. The text is underlined by a thin white line.

Microbac Laboratories, Inc.
Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750

Phone: 800.373.4071
Fax: 740.373.4835

Your data is now available online via our Web Access Portal!

Access and print reports, check the status of your projects, and review electronic data forms online from anywhere with internet access!

View a demo by visiting www.microbac.com and entering the Ohio Valley location
Click on "Online Data Access"

User ID: jdoe@abc.com

Password: demo

Contact your Microbac service representative to set up a *FREE* account today!

LOOK CLOSER, GO FURTHER, DO MORE.

Microbac REPORT L10090492
PREPARED FOR Shaw E I, Inc.
WORK ID:

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 2.1 General Chromatography Data 12

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1.0 Introduction



Login Number: L10090492

Department: Login

Analyst: N/A

Chain of Custody:

Shipment Conditions

COC #	Cooler #	Temperature
lhaap47-091710-2	0014668	5.0

Sample Management: All samples were received intact.

Sample Identification

Lab ID	Client ID
L10090492-01	47SB-J5 (9-11)
L10090492-02	47SB-H4 (9-11)
L10090492-03	47SB-H6 (9-11)
L10090492-04	47SB-H7 (9-11)
L10090492-05	47SB-H8 (9-11)

Narrative ID: 11890

Approved By: Stephanie Mossburg

Stephanie Mossburg



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090492
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Laboratory Data Package Cover Page

R1	Field chain-of-custody documentation;
R2	Sample identification cross-reference;
R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a. if required for the project, tentatively identified compounds (TICs).
R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
R5	Test reports/summary forms for blank samples;
R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Mike Cochran		Semivolatiles Lab Supervisor	10/06/2010



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090492
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090492
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
Were all COCs included in the LCS?	X				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?		X			
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC	X				



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090492
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
limits?					
Were percent RSDs or correlation coefficient criteria met?	X				
Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090492
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte,



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090492
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG343575	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspection by ☐ TCEQ or ☐ _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

2.1 General Chromatography Data

2.1.1 LC/MS Data (6850)

2.1.1.1 Summary Data

LABORATORY REPORT

L10090492

00105947

10/06/10 15:14

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-J5 (9-11)	L10090492-01	6850	1	21-SEP-10
47SB-H4 (9-11)	L10090492-02	6850	1	21-SEP-10
47SB-H6 (9-11)	L10090492-03	6850	100	21-SEP-10
47SB-H7 (9-11)	L10090492-04	6850	1	21-SEP-10
47SB-H8 (9-11)	L10090492-05	6850	1	21-SEP-10



Report Number: **L10090492**Report Date : **October 6, 2010**

00105948

Sample Number: **L10090492-01**
Client ID: **47SB-J5 (9-11)**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 08:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/27/2010 13:19**
File ID: **1LM.LM06168**
Percent Solid: **84.7**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	2.74		2.34	1.17

Report Number: **L10090492**Report Date : **October 6, 2010**

00105949

Sample Number: **L10090492-02**
Client ID: **47SB-H4 (9-11)**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 09:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/25/2010 16:00**
File ID: **1LM.LM06084**
Percent Solid: **86.9**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.22	1.11

U Not detected at or above adjusted sample detection limit

Report Number: **L10090492**Report Date : **October 6, 2010**

00105950

Sample Number: **L10090492-03**
Client ID: **47SB-H6 (9-11)**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 10:05**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **100**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/26/2010 03:54**
File ID: **1LM.LM06111**
Percent Solid: **87.6**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	7280		218	109

Report Number: **L10090492**Report Date : **October 6, 2010**

00105951

Sample Number: **L10090492-04**
Client ID: **47SB-H7 (9-11)**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 10:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/25/2010 16:52**
File ID: **1LM.LM06086**
Percent Solid: **85.9**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.22	1.11

U Not detected at or above adjusted sample detection limit

Report Number: **L10090492**Report Date : **October 6, 2010**

00105952

Sample Number: **L10090492-05**
Client ID: **47SB-H8 (9-11)**
Matrix: **Soil**
Workgroup Number: **WG343575**
Collect Date: **09/17/2010 11:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/23/2010 14:00**
Cal Date: **09/22/2010 14:55**
Run Date: **09/25/2010 17:19**
File ID: **1LM.LM06087**
Percent Solid: **84.1**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.27	1.14

U Not detected at or above adjusted sample detection limit

2.1.1.2 QC Summary Data

Example Calculation 6850 - Perchlorate**Concentration from Linear Regression****Step 1: Retrieve Curve Data From Plot, $y = mx + b$**

y = response ratio = response of analyte / response of internal standard (IS) = R_x/R_{istd}

x = amount ratio = concentration analyte/concentration internal standard (IS) = C_x / C_{istd}

m = slope from curve (1.45)

b = intercept from curve (-0.00242)

$y = 1.45x + -0.00242$

Step 2: Substitute the value for y

where $y = 12600/226000 = 0.055752$

Step 3: Solve for x

$x = (y - b)/m = 0.0040119$

Step 4: Solve for analyte concentration C_x

$C_x = (C_{is})(x) = (5 \text{ ug/L})(0.0040119) = 0.0200594 \text{ ug/L}$

Example Calculation - Water:

Slope from curve, m :	1.45
Intercept from curve, b :	-0.00242
Response of analyte, R_x :	12600
Response of Internal Standard, R_{istd} :	226000
Concentration of IS, C_{istd} (ug/L):	5.00
Response Ratio:	0.05575
Amount Ratio:	0.04012
Analyte Concentration, C_x (ug/L) :	0.200594

Example Calculation - Soil:

Analyte Concentration, C_x (ug/L):	0.20059
Amount of soil extracted (g):	5.00
Final volume of extract (mL):	50.00
Percent solids (Pct wt.)	100
Concentration in soil (ug/kg):	2.005938

Microbac Laboratories Inc.
Instrument Run Log

00105955

Instrument: LCMS1 Dataset: 092210_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343455

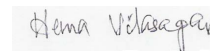
CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA Calibration STD STD41363

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM05975	WG343476-01 CCB	1	1		09/22/10 11:49
2	1LM.LM05976	WG343476-02 0.1ug/L STD	1	1	STD41363	09/22/10 12:16
3	1LM.LM05977	WG343476-03 0.2ug/L STD	1	1	STD41363	09/22/10 12:42
4	1LM.LM05978	WG343476-04 0.5ug/L STD	1	1	STD41363	09/22/10 13:09
5	1LM.LM05979	WG343476-05 1.0ug/L STD	1	1	STD41363	09/22/10 13:35
6	1LM.LM05980	WG343476-06 2.0ug/L STD	1	1	STD41363	09/22/10 14:02
7	1LM.LM05981	WG343476-07 5.0ug/L STD	1	1	STD41363	09/22/10 14:28
8	1LM.LM05982	WG343476-08 10ug/L STD	1	1	STD41363	09/22/10 14:55
9	1LM.LM05983	WG343476-09 1.0ug/L ALT SRC	1	1	STD41365	09/22/10 15:21
10	1LM.LM05984	WG343477-01 CCB	1	1		09/22/10 15:48
11	1LM.LM05985	WG343477-02 1.0ug/L CCV	1	1	STD41363	09/22/10 16:14
12	1LM.LM05986	WG343455-10 2.0ug/kg QCMRL	7	1	STD41363	09/22/10 16:40
13	1LM.LM05987	WG343455-01 2.0ug/kg MCT	7	1	STD41363	09/22/10 17:07
14	1LM.LM05988	WG343455-02 MET BLANK	7	1		09/22/10 17:33
15	1LM.LM05989	WG343455-03 2.0ug/kg LCS	7	1	STD41363	09/22/10 18:00
16	1LM.LM05990	L10090501-01	7	1		09/22/10 18:26
17	1LM.LM05991	L10090501-02	7	1		09/22/10 18:53
18	1LM.LM05992	L10090501-03	7	1		09/22/10 19:19
19	1LM.LM05993	L10090501-04	7	1		09/22/10 19:46
20	1LM.LM05994	L10090501-05	7	1		09/22/10 20:12
21	1LM.LM05995	L10090501-06	7	1		09/22/10 20:39
22	1LM.LM05996	L10090501-07	7	1		09/22/10 21:05
23	1LM.LM05997	WG343477-03 1.0ug/L CCV	1	1	STD41363	09/22/10 21:31
24	1LM.LM05998	WG343455-11 2.0ug/kg QCMRL	7	1	STD41363	09/22/10 21:58
25	1LM.LM05999	WG343477-04 CCB	1	1		09/22/10 22:24
26	1LM.LM06000	L10090501-08	7	1		09/22/10 22:51
27	1LM.LM06001	L10090501-09	7	1		09/22/10 23:17
28	1LM.LM06002	L10090501-10	7	1		09/22/10 23:44
29	1LM.LM06003	L10090501-11	7	1	STD41363	09/23/10 00:10
30	1LM.LM06004	L10090501-12	7	1	STD41363	09/23/10 00:37
31	1LM.LM06005	L10090501-13	7	1		09/23/10 01:03
32	1LM.LM06006	L10090501-14	7	1		09/23/10 01:29
33	1LM.LM06007	L10090501-15	7	1		09/23/10 01:56
34	1LM.LM06008	WG343477-05 1.0ug/L CCV	1	1	STD41363	09/23/10 02:22

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Approved: 23-SEP-10




Microbac Laboratories Inc.
Instrument Run Log

00105956

Instrument: LCMS1 Dataset: 092210_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343455

CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA STD41363

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
35	1LM.LM06009	WG3434455-12 2.0ug/kg QCMRL	7	1	STD41363	09/23/10 02:49
36	1LM.LM06010	WG343477-06 CCB	1	1		09/23/10 03:15
37	1LM.LM06011	L10090501-16	7	1		09/23/10 03:42
38	1LM.LM06012	L10090501-17	7	1	STD41363	09/23/10 04:08
39	1LM.LM06013	L10090501-18	7	1	STD41363	09/23/10 04:35
40	1LM.LM06014	WG343477-07 1.0ug/kg CCV	1	1	STD41363	09/23/10 05:01
41	1LM.LM06015	WG343455-13 2.0ug/kg QCMRL	7	1	STD41363	09/23/10 05:28
42	1LM.LM06016	WG343477-08 CCB	1	1		09/23/10 05:54

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Hema Velasquez



Microbac Laboratories Inc.
Instrument Run Log

00105957

Instrument: LCMS1 Dataset: 092310_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575, 343578, 343579

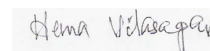
CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA Calibration STD STD41363

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06017	WG343573-01 CCB	1	1		09/23/10 11:33
2	1LM.LM06018	WG343573-02 1.0ug/L CCV	1	1	STD41363	09/23/10 12:00
3	1LM.LM06019	WG343579-07 0.2ug/L QCMRL	1	1	STD41364	09/23/10 12:26
4	1LM.LM06020	WG343579-01 0.2ug/L MCT	1	1	STD41363	09/23/10 12:58
5	1LM.LM06021	WG343579-02 MET BLANK	1	1		09/23/10 13:25
6	1LM.LM06022	WG343579-03 0.2ug/L LCS	1	1	STD41363	09/23/10 13:51
7	1LM.LM06023	L10090539-01	1	1		09/23/10 14:17
8	1LM.LM06024	L10090539-03	1	1		09/23/10 14:44
9	1LM.LM06025	L10090539-05	1	1		09/23/10 15:10
10	1LM.LM06026	L10090539-07	1	1		09/23/10 15:37
11	1LM.LM06027	L10090539-09	1	1		09/23/10 16:03
12	1LM.LM06028	L10090539-11	1	1		09/23/10 16:30
13	1LM.LM06029	WG343573-03 1.0ug/L CCV	1	1	STD41363	09/23/10 16:56
14	1LM.LM06030	WG343579-08 0.2ug/L QCMRL	1	1	STD41363	09/23/10 17:23
15	1LM.LM06031	WG343573-04 CCB	1	1		09/23/10 17:49
60	1LM.LM06032	L10090539-13	1	1		09/23/10 18:15
61	1LM.LM06033	L10090539-15 MS	1	1	STD41363	09/23/10 18:42
62	1LM.LM06034	L10090539-17 MSD	1	1	STD41363	09/23/10 19:08
19	1LM.LM06035	L10090539-19	1	1		09/23/10 19:35
20	1LM.LM06036	L10090539-21	1	1		09/23/10 20:01
21	1LM.LM06037	L10090539-23	1	1		09/23/10 20:28
22	1LM.LM06038	WG343573-05 1.0ug/L CCV	1	1	STD41363	09/23/10 20:54
63	1LM.LM06039	WG343578-05 0.2ug/L QCMRL	1	1	STD41363	09/23/10 21:21
24	1LM.LM06040	WG343573-06 CCB	1	1		09/23/10 21:47
25	1LM.LM06041	WG343578-01 0.2ug/L MCT	1	1	STD41363	09/23/10 22:14
26	1LM.LM06042	WG343578-02 MET BLANK	1	1		09/23/10 22:40
27	1LM.LM06043	WG343578-03 0.2ug/L LCS	1	1	STD41363	09/23/10 23:06
28	1LM.LM06044	WG343578-04 0.2ug/L LCSD	1	1	STD41363	09/23/10 23:33
29	1LM.LM06045	L10090493-01	1	1		09/23/10 23:59
30	1LM.LM06046	L10090493-03	1	1		09/24/10 00:26
31	1LM.LM06047	L10090493-05	1	1		09/24/10 00:52
32	1LM.LM06048	L10090493-07	1	1		09/24/10 01:19
33	1LM.LM06049	L10090493-09	1	1		09/24/10 01:45
34	1LM.LM06050	L10090493-11	1	1		09/24/10 02:12

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Approved: 29-SEP-10




Microbac Laboratories Inc.
Instrument Run Log

00105958

Instrument: LCMS1 Dataset: 092310_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575, 343578, 343579

CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA STD41363

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
35	1LM.LM06051	WG343573-07 1.0ug/L CCV	1	1	STD41363	09/24/10 02:38
36	1LM.LM06052	WG343578-06 0.2ug/L QCMRL	1	1	STD41363	09/24/10 03:05
37	1LM.LM06053	WG343573-08 CCB	1	1		09/24/10 03:31
38	1LM.LM06054	L10090493-13	1	1		09/24/10 03:57
39	1LM.LM06055	L10090493-15	1	1		09/24/10 04:24
40	1LM.LM06056	L10090493-17	1	1		09/24/10 04:50
41	1LM.LM06057	L10090493-19	1	1		09/24/10 05:17
42	1LM.LM06058	L10090493-21	1	1		09/24/10 05:43
43	1LM.LM06059	L10090493-23	1	1		09/24/10 06:10
44	1LM.LM06060	WG343573-09 1.0ug/L CCV	1	1	STD41363	09/24/10 06:36
45	1LM.LM06061	WG343578-07 0.2ug/L QCMRL	1	1	STD41363	09/24/10 07:03
46	1LM.LM06062	WG343573-10 CCB	1	1		09/24/10 07:29
47	1LM.LM06063	WG343575-01 2.0ug/kg MCT	7	1	STD41363	09/24/10 07:55
48	1LM.LM06064	WG343575-02 MET BLANK	7	1		09/24/10 08:22
49	1LM.LM06065	WG343575-03 2.0ug/kg LCS	7	1	STD41363	09/24/10 08:48
50	1LM.LM06066	WG343575-04 2.0ug/kg LCSD	7	1	STD41363	09/24/10 09:15
51	1LM.LM06067	L10090490-01	7	1		09/24/10 09:41
52	1LM.LM06068	L10090490-02	7	1		09/24/10 10:08
53	1LM.LM06069	L10090490-03	7	1		09/24/10 10:34
54	1LM.LM06070	L10090490-04	7	1		09/24/10 11:01
55	1LM.LM06071	L10090490-05	7	1		09/24/10 11:27
56	1LM.LM06072	L10090491-01	7	1		09/24/10 11:53
57	1LM.LM06073	WG343573-11 1.0ug/L CCV	1	1	STD41363	09/24/10 12:20
58	1LM.LM06074	WG343575-06 0.2ug/L QCMRL	7	1	STD41363	09/24/10 12:46
59	1LM.LM06075	WG343573-12 CCB	1	1		09/24/10 13:13

Comments

Seq.	Rerun	Dil.	Reason	Analytes
51	X	10	Over Calibration Range	Perchlorate
			L10090490-01	
52	X	10	Over Calibration Range	Perchlorate
			L10090490-02	
53	X	100	Over Calibration Range	Perchlorate
			L10090490-03	
54	X	10		Perchlorate
			L10090490-04	
55	X	10	Over Calibration Range	Perchlorate

Page: 2

Approved: 29-SEP-10

Hema Velasquez



Microbac Laboratories Inc.
Instrument Run Log

00105959

Instrument: LCMS1 Dataset: 092310_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575, 343578, 343579

CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA STD41363

Comments

Seq.	Rerun	Dil.	Reason	Analytes
<u>L10090450-05</u>				
56	X	10	Over Calibration Range	Perchlorate
<u>L10090491-01</u>				

Hema Velasquez



Microbac Laboratories Inc.
Instrument Run Log

00105960

Instrument: LCMS1 Dataset: 092510_WTD.TXT
 Analyst1: WTD Analyst2: ADC
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575

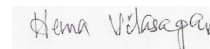
CCV Std: STD41363 LCS STD: _____
 Internal STD: COA14815 Surrogate STD: NA Calibration STD STD41363

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06076	WG343776-01 CCB	1	1		09/25/10 12:28
2	1LM.LM06077	WG343776-02 1.0 ug/L CCV	1	1	STD41363	09/25/10 12:54
3	1LM.LM06078	WG343575-07 2.0ug/kg QCMRL	7	1	STD41363	09/25/10 13:21
4	1LM.LM06079	NO SAMPLE	7	1		09/25/10 13:47
5	1LM.LM06080	NO SAMPLE	7	1		09/25/10 14:14
6	1LM.LM06081	NO SAMPLE	7	1		09/25/10 14:40
7	1LM.LM06082	NO SAMPLE	7	1		09/25/10 15:07
8	1LM.LM06083	NO SAMPLE	7	1		09/25/10 15:33
9	1LM.LM06084	L10090492-02	7	1		09/25/10 16:00
10	1LM.LM06085	L10090492-03	7	1		09/25/10 16:26
11	1LM.LM06086	L10090492-04	7	1		09/25/10 16:52
12	1LM.LM06087	L10090492-05	7	1		09/25/10 17:19
13	1LM.LM06088	WG343776-03 1.0ug/L CCV	1	1	STD41363	09/25/10 17:45
14	1LM.LM06089	WG343575-08 2.0ug/kg QCMRL	7	1	STD41363	09/25/10 18:12
15	1LM.LM06090	WG343776-04 CCB	1	1		09/25/10 18:38
16	1LM.LM06091	L10090490-01 10X	7	10		09/25/10 19:05
17	1LM.LM06092	L10090490-02 10X	7	10		09/25/10 19:31
18	1LM.LM06093	L10090490-03 100X	7	100		09/25/10 19:57
19	1LM.LM06094	L10090490-04 10X	7	10		09/25/10 20:24
20	1LM.LM06095	L10090490-05 10X	7	10		09/25/10 20:50
21	1LM.LM06096	L10090491-01 10X	7	10		09/25/10 21:17
22	1LM.LM06097	L10090491-02 10X	7	10		09/25/10 21:43
23	1LM.LM06098	L10090491-03 100X	7	100		09/25/10 22:10
24	1LM.LM06099	L10090491-04 100X	7	100		09/25/10 22:36
25	1LM.LM06100	L10090491-05 10X	7	10		09/25/10 23:03
26	1LM.LM06101	WG343776-05 1.0ug/L CCV	1	1	STD41363	09/25/10 23:29
27	1LM.LM06102	WG343575-09 2.0ug/kg QCMRL	7	1	STD41363	09/25/10 23:56
28	1LM.LM06103	WG343776-06 CCB	1	1		09/26/10 00:22
29	1LM.LM06104	L10090492-01 10X	7	10		09/26/10 00:48
30	1LM.LM06105	L10090492-02 10X	7	10		09/26/10 01:15
31	1LM.LM06106	L10090492-03 10X	7	10		09/26/10 01:41
32	1LM.LM06107	L10090492-04 10X	7	10		09/26/10 02:08
33	1LM.LM06108	L10090492-05 10X	7	10		09/26/10 02:34
34	1LM.LM06109	L10090492-01 100X	7	100		09/26/10 03:01

Page: 1

Approved: 01-OCT-10




Microbac Laboratories Inc.
Instrument Run Log

00105961

Instrument: LCMS1 Dataset: 092510_WTD.TXT
 Analyst1: WTD Analyst2: ADC
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575

CCV Std: STD41363 LCS STD: _____
 Internal STD: COA14815 Surrogate STD: NA STD41363

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
35	1LM.LM06110	L10090492-02 100X	7	100		09/26/10 03:27
36	1LM.LM06111	L10090492-03 100X	7	100		09/26/10 03:54
37	1LM.LM06112	L10090492-04 100X	7	100		09/26/10 04:20
38	1LM.LM06113	L10090492-05 100X	7	100		09/26/10 04:46
39	1LM.LM06114	WG343776-07 1.0ug/L CCV	1	1	STD41363	09/26/10 05:13
40	1LM.LM06115	WG343575-10 2.0ug/kg QCMRL	7	1	STD41363	09/26/10 05:39
41	1LM.LM06116	WG343776-08 CCB	1	1		09/26/10 06:06

Comments

Seq.	Rerun	Dil.	Reason	Analytes
10	X	100	Over Calibration Range	Perchlorate
			L10090492-03	
29				
			Not needed.	
30				
			Not needed.	
31	X	100	Over Calibration Range	Perchlorate
			L10090492-03	
32				
			Not needed.	
33				
			Not needed.	
35				
			Not needed.	
37	X			
			Not needed.	
38				
			Not needed.	

Hema Velasquez



Microbac Laboratories Inc.
Instrument Run Log

00105962

Instrument: LCMS1 Dataset: 092710_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 343575

CCV Std: STD41363 LCS STD: _____
 Internal STD: COA14815 Surrogate STD: NA Calibration STD STD41363

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06165	WG343873-01 CCB	1	1		09/27/10 11:52
2	1LM.LM06166	WG343873-02 1.0ug/L CCV	1	1	STD41363	09/27/10 12:18
3	1LM.LM06167	WG343575-11 2.0ug/kg QCMRL	7	1	STD41363	09/27/10 12:45
4	1LM.LM06168	L10090492-01	7	1		09/27/10 13:19
5	1LM.LM06169	WG343873-03 1.0ug/L CCV	1	1	STD41363	09/27/10 13:47
6	1LM.LM06170	WG343575-12 2.0ug/kg QCMRL	7	1	STD41363	09/27/10 14:14
7	1LM.LM06171	WG343873-04 CCB	1	1		09/27/10 14:40

Comments

Seq.	Rerun	Dil.	Reason	Analytes




Data Checklist

Date: 22-SEP-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

Curve Workgroup: NA

Runlog ID: 36546

Analytical Workgroups: L10090501

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	HAV

Primary Reviewer:
23-SEP-2010

Wade D. [Signature]

Secondary Reviewer:
23-SEP-2010

Hema Velasquez

Microbac Laboratories Inc.

00105964

Data Checklist

Date: 23-SEP-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

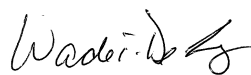
Curve Workgroup: NA

Runlog ID: 36593

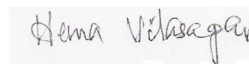
Analytical Workgroups: L10090490, L10090491, L10090492, L10090493, L10090539

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	HAV

Primary Reviewer:
27-SEP-2010



Secondary Reviewer:
29-SEP-2010



Microbac Laboratories Inc.

00105965

Data Checklist

Date: 25-SEP-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

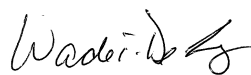
Curve Workgroup: NA

Runlog ID: 36604

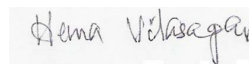
Analytical Workgroups: 343575

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Interference check sample (ICS) (LCMS)	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	X
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	HAV

Primary Reviewer:
27-SEP-2010



Secondary Reviewer:
01-OCT-2010




Microbac Laboratories Inc.

00105966

Data Checklist

Date: 27-SEP-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

Curve Workgroup: NA

Runlog ID: 36614

Analytical Workgroups: L10090492

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Interference check sample (ICS) (LCMS)	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
27-SEP-2010

Secondary Reviewer:
29-SEP-2010



Analytical Method: 6850

AAB#: WG343575

Login Number: L10090492

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
47SB-J5 (9-11)	01	09/17/10					09/23/10	6.2	28		09/27/10	4	28	
47SB-H4 (9-11)	02	09/17/10					09/23/10	6.2	28		09/25/10	2.1	28	
47SB-H6 (9-11)	03	09/17/10					09/23/10	6.2	28		09/26/10	2.6	28	
47SB-H7 (9-11)	04	09/17/10					09/23/10	6.1	28		09/25/10	2.1	28	
47SB-H8 (9-11)	05	09/17/10					09/23/10	6.1	28		09/25/10	2.1	28	

* = SEE PROJECT QAPP REQUIREMENTS

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

METHOD BLANK SUMMARY

Login Number: L10090492
 Blank File ID: 1LM.LM06064
 Prep Date: 09/23/10 14:00
 Analyzed Date: 09/24/10 08:22
 Analyst: WTD

Work Group: WG343575
 Blank Sample ID: WG343575-02
 Instrument ID: LCMS1
 Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
MCT	WG343575-01	1LM.LM06063	09/24/10 07:55	01
LCS	WG343575-03	1LM.LM06065	09/24/10 08:48	01
LCS2	WG343575-04	1LM.LM06066	09/24/10 09:15	01
QCMRL	WG343575-06	1LM.LM06074	09/24/10 12:46	01
QCMRL	WG343575-07	1LM.LM06078	09/25/10 13:21	01
47SB-H4 (9-11)	L10090492-02	1LM.LM06084	09/25/10 16:00	01
47SB-H7 (9-11)	L10090492-04	1LM.LM06086	09/25/10 16:52	01
47SB-H8 (9-11)	L10090492-05	1LM.LM06087	09/25/10 17:19	01
QCMRL	WG343575-08	1LM.LM06089	09/25/10 18:12	01
QCMRL	WG343575-09	1LM.LM06102	09/25/10 23:56	01
47SB-H6 (9-11)	L10090492-03	1LM.LM06111	09/26/10 03:54	DL01
QCMRL	WG343575-10	1LM.LM06115	09/26/10 05:39	01
QCMRL	WG343575-11	1LM.LM06167	09/27/10 12:45	01
47SB-J5 (9-11)	L10090492-01	1LM.LM06168	09/27/10 13:19	01
QCMRL	WG343575-12	1LM.LM06170	09/27/10 14:14	01

Login Number: L10090492 Prep Date: 09/23/10 14:00 Sample ID: WG343575-02
Instrument ID: LCMS1 Run Date: 09/24/10 08:22 Prep Method: 6850
File ID: 1LM.LM06064 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	1.00	2.00	1.00	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Login Number: L10090492 Analyst: WTD Prep Method: 6850
Instrument ID: LCMS1 Matrix: Soil Method: 6850
Workgroup (AAB#): WG343575 Units: ug/kg
QC Key: STD Lot #: STD41363
Sample ID: WG343575-03 LCS File ID: 1LM.LM06065 Run Date: 09/24/2010 08:48
Sample ID: WG343575-04 LCS2 File ID: 1LM.LM06066 Run Date: 09/24/2010 09:15

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	1.95	1.97	101	1.99	1.67	84.0	16.7	80 - 120	15	#

Login Number: L10090492
Analytical Method: 6850
ICAL Workgroup: WG343476

Instrument ID: LCMS1
Initial Calibration Date: 22-SEP-10 14:55
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Perchlorate		1.650	14.9	1.00000	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

Login Number: L10090492
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 22-SEP-10 14:55
Column ID: F

Analyte	WG343476-02			WG343476-03			WG343476-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	8650.00000	2.013	0.200	16500.0000	1.932	0.500	32700.0000	1.527

Login Number: L10090492
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 22-SEP-10 14:55
Column ID: F

Analyte	WG343476-05			WG343476-06			WG343476-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	63800.0000	1.520	2.00	131000.000	1.562	5.00	312000.000	1.524

Login Number: L10090492
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 22-SEP-10 14:55
Column ID: F

Analyte	WG343476-08		
	CONC	RESP	RF
Perchlorate	10.0	612000.000	1.472

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

00105976

Login Number: L10090492 Run Date: 09/22/2010 Sample ID: WG343476-09
Instrument ID: LCMS1 Run Time: 15:21 Method: 6850
File ID: 1LM.LM05983 Analyst: WTD QC Key: STD
ICal Workgroup: WG343476 Cal ID: LCMS1 - 22-SEP-10

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	1.00	ug/L	1.55	0	15	

* Exceeds %D Limit



Login Number: L10090492 Run Date: 09/24/2010 Sample ID: WG343573-10
Instrument ID: LCMS1 Run Time: 07:29 Method: 6850
File ID: 1LM.LM06062 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090492 Run Date: 09/24/2010 Sample ID: WG343573-12
Instrument ID: LCMS1 Run Time: 13:13 Method: 6850
File ID: 1LM.LM06075 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090492 Run Date: 09/25/2010 Sample ID: WG343776-01
Instrument ID: LCMS1 Run Time: 12:28 Method: 6850
File ID: 1LM.LM06076 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090492 Run Date: 09/25/2010 Sample ID: WG343776-04
Instrument ID: LCMS1 Run Time: 18:38 Method: 6850
File ID: 1LM.LM06090 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090492 Run Date: 09/26/2010 Sample ID: WG343776-06
Instrument ID: LCMS1 Run Time: 00:22 Method: 6850
File ID: 1LM.LM06103 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090492 Run Date: 09/26/2010 Sample ID: WG343776-08
Instrument ID: LCMS1 Run Time: 06:06 Method: 6850
File ID: 1LM.LM06116 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090492 Run Date: 09/27/2010 Sample ID: WG343873-01
Instrument ID: LCMS1 Run Time: 11:52 Method: 6850
File ID: 1LM.LM06165 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090492 Run Date: 09/27/2010 Sample ID: WG343873-04
Instrument ID: LCMS1 Run Time: 14:40 Method: 6850
File ID: 1LM.LM06171 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090492 Run Date: 09/24/2010 Sample ID: WG343573-09
Instrument ID: LCMS1 Run Time: 06:36 Method: 6850
File ID: 1LM.LM06060 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.996	ug/L	1.54	0.400	15	

* Exceeds %D Criteria

Login Number: L10090492 Run Date: 09/24/2010 Sample ID: WG343573-11
Instrument ID: LCMS1 Run Time: 12:20 Method: 6850
File ID: 1LM.LM06073 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.993	ug/L	1.54	0.700	15	

* Exceeds %D Criteria

Login Number: L10090492 Run Date: 09/25/2010 Sample ID: WG343776-02
Instrument ID: LCMS1 Run Time: 12:54 Method: 6850
File ID: 1LM.LM06077 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	1.05	ug/L	1.62	5.00	15	

* Exceeds %D Criteria

Login Number: L10090492 Run Date: 09/25/2010 Sample ID: WG343776-03
Instrument ID: LCMS1 Run Time: 17:45 Method: 6850
File ID: 1LM.LM06088 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	1.00	ug/L	1.55	0	15	

* Exceeds %D Criteria

Login Number: L10090492 Run Date: 09/25/2010 Sample ID: WG343776-05
Instrument ID: LCMS1 Run Time: 23:29 Method: 6850
File ID: 1LM.LM06101 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.945	ug/L	1.46	5.50	15	

* Exceeds %D Criteria

Login Number: L10090492 Run Date: 09/26/2010 Sample ID: WG343776-07
Instrument ID: LCMS1 Run Time: 05:13 Method: 6850
File ID: 1LM.LM06114 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	1.02	ug/L	1.58	2.00	15	

* Exceeds %D Criteria

Login Number: L10090492 Run Date: 09/27/2010 Sample ID: WG343873-02
Instrument ID: LCMS1 Run Time: 12:18 Method: 6850
File ID: 1LM.LM06166 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.985	ug/L	1.52	1.50	15	

* Exceeds %D Criteria

Login Number: L10090492 Run Date: 09/27/2010 Sample ID: WG343873-03
Instrument ID: LCMS1 Run Time: 13:47 Method: 6850
File ID: 1LM.LM06169 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG343575 Cal ID: LCMS1 - 22-SEP-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	1.00	ug/L	1.55	0	15	

* Exceeds %D Criteria

Login Number: L10090492 Run Date: 09/24/2010 Sample ID: WG343575-06
Instrument ID: LCMS1 Run Time: 12:46 Prep Method: 6850
File ID: 1LM.LM06074 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.93	96.5	70 - 130	

Login Number: L10090492 Run Date: 09/25/2010 Sample ID: WG343575-07
Instrument ID: LCMS1 Run Time: 13:21 Prep Method: 6850
File ID: 1LM.LM06078 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.78	89.0	70 - 130	

Login Number: L10090492 Run Date: 09/25/2010 Sample ID: WG343575-08
Instrument ID: LCMS1 Run Time: 18:12 Prep Method: 6850
File ID: 1LM.LM06089 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	2.02	101	70 - 130	

Login Number: L10090492 Run Date: 09/25/2010 Sample ID: WG343575-09
Instrument ID: LCMS1 Run Time: 23:56 Prep Method: 6850
File ID: 1LM.LM06102 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.91	95.5	70 - 130	

Login Number: L10090492 Run Date: 09/26/2010 Sample ID: WG343575-10
Instrument ID: LCMS1 Run Time: 05:39 Prep Method: 6850
File ID: 1LM.LM06115 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.82	91.0	70 - 130	

Login Number: L10090492 Run Date: 09/27/2010 Sample ID: WG343575-11
Instrument ID: LCMS1 Run Time: 12:45 Prep Method: 6850
File ID: 1LM.LM06167 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	2.04	102	70 - 130	

Login Number: L10090492 Run Date: 09/27/2010 Sample ID: WG343575-12
Instrument ID: LCMS1 Run Time: 14:14 Prep Method: 6850
File ID: 1LM.LM06170 Analyst: WTD Method: 6850
Workgroup (AAB#): WG343575 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 22-SEP-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	2.00	100	70 - 130	

Login Number: L10090492
Instrument ID: LCMS1
Workgroup (AAB#): WG343575

ICAL CCV Number: WG343476-05
CAL ID: LCMS1 - 22-SEP-10
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1
WG343476	NA	NA	210000
Upper Limit	NA	NA	315000
Lower Limit	NA	NA	105000
L10090492-01	1.00	01	248000
L10090492-02	1.00	01	247000
L10090492-03	100	DL01	242000
L10090492-04	1.00	01	239000
L10090492-05	1.00	01	237000
WG343575-02	1.00	01	250000
WG343575-03	1.00	01	257000
WG343575-04	1.00	01	258000

IS-1 - 018LP

Underline = Response outside limits

2.2 General Chemistry Data

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

L10090492

00106004

10/06/10 15:14

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-J5 (9-11)	L10090492-01	D2216-90	1	21-SEP-10
47SB-H4 (9-11)	L10090492-02	D2216-90	1	21-SEP-10
47SB-H6 (9-11)	L10090492-03	D2216-90	1	21-SEP-10
47SB-H7 (9-11)	L10090492-04	D2216-90	1	21-SEP-10
47SB-H8 (9-11)	L10090492-05	D2216-90	1	21-SEP-10



Report Number: **L10090492**Report Date : **October 6, 2010**

00106005

Sample Number: **L10090492-01**
Client ID: **47SB-J5 (9-11)**
Matrix: **Soil**
Workgroup Number: **W6344053**
Collect Date: **09/17/2010 08:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0116**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	84.7		1.00	1.00

1 of 5



Report Number: **L10090492**Report Date : **October 6, 2010**

00106006

Sample Number: **L10090492-02**
Client ID: **47SB-H4 (9-11)**
Matrix: **Soil**
Workgroup Number: **W6344053**
Collect Date: **09/17/2010 09:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0117**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	86.9		1.00	1.00

Report Number: **L10090492**Report Date : **October 6, 2010**

00106007

Sample Number: **L10090492-03**
Client ID: **47SB-H6 (9-11)**
Matrix: **Soil**
Workgroup Number: **W6344053**
Collect Date: **09/17/2010 10:05**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0118**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	87.6		1.00	1.00

3 of 5



Report Number: **L10090492**Report Date : **October 6, 2010**

00106008

Sample Number: **L10090492-04**
Client ID: **47SB-H7 (9-11)**
Matrix: **Soil**
Workgroup Number: **W6344053**
Collect Date: **09/17/2010 10:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0119**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	85.9		1.00	1.00

Report Number: **L10090492**Report Date : **October 6, 2010**

00106009

Sample Number: **L10090492-05**
Client ID: **47SB-H8 (9-11)**
Matrix: **Soil**
Workgroup Number: **W6344053**
Collect Date: **09/17/2010 11:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **09/29/2010 10:39**
Cal Date:
Run Date: **09/29/2010 10:39**
File ID: **B1.344053-0120**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	84.1		1.00	1.00

5 of 5



Example Percent Solids Calculations**1.0 Calculating the percent solids of a sample.**

$$\%Solids = \frac{WT3 - WT1}{WT2 - WT1} \times F$$

Where:

WT1 = Weight, in grams, of the empty container 1.30 g

WT2 = Weight, in grams, of the container and wet sample 21.274 g

WT3 = Weight, in grams, of the container and dried sample 5.21 g

F = Factor to get units as percent weight 100

%Solids = Percent solids present in sample. 19.58%

2.0 Calculating the percent moisture of a sample.

$$\% \text{ Moisture} = 100 - \% \text{ Solids from 1.0 calculation}$$

PERCENT SOLIDS

00106011

Workgroup (AAB#): WG344053
 Method: D2216-90
 SOP: K0003 Rev: 10

Analyst: JDH
 Instrument: BAL001

ADT(on): 09/28/2010 15:45
 ADT(off): 09/29/2010 10:39

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE
L10090486-01	1.3	35.39	35.32			99.79	
L10090486-02	1.31	38.67	38.53			99.63	
L10090486-03	1.32	16.21	16.12			99.40	
L10090486-04	1.3	31.26	30.74			98.26	
L10090486-05	1.31	29.98	29.44			98.12	
L10090486-06	1.3	38.38	37.63			97.98	
L10090486-07	1.32	35.31	35			99.09	
L10090490-01	1.32	21.75	18.54			84.29	
L10090490-02	1.3	33.21	29.26			87.62	
L10090490-03	1.29	35.26	28.67			80.60	
L10090490-04	1.31	25.47	21.04			81.66	
L10090490-05	1.3	29.92	24.71			81.80	
L10090491-01	1.31	24.46	20.45			82.68	
L10090491-02	1.32	40.15	35.03			86.81	
L10090491-03	1.34	26.03	21.4			81.25	
L10090491-04	1.31	23.08	18.82			80.43	
L10090491-05	1.29	19.04	15.84			81.97	
L10090492-01	1.31	21.35	18.29			84.73	
L10090492-02	1.31	31.07	27.17			86.90	
L10090492-03	1.32	13.5	11.99			87.60	
L10090492-04	1.31	26.19	22.69			85.93	
L10090492-05	1.31	31.6	26.79			84.12	
L10090543-02	1.31	30.55	23.78			76.85	
L10090543-04	1.3	33.22	24.99			74.22	
L10090576-01	1.29	17.03	16.69			97.84	
L10090576-02	1.3	10.32	9.59			91.91	
L10090576-03	1.31	22.03	20.61			93.15	
L10090576-04	1.3	28.4	27.07			95.09	
L10090576-05	1.3	28.56	27.25			95.19	
WG344053-01	1.29	17.03	16.69			97.84	2.160
WG344053-02	1.32	35.31	35			99.09	0.9120
WG344053-03	1.3	12.98	12.65			97.17	2.825
WG344053-04	1.31	30.33	30.1			99.21	0.7926

Analyst: Justin H. Hannon

3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
October 6, 2010

ADC - ANTHONY D. CANTER	AJF - AMANDA J. FICKIESEN	ALB - ANNIE L. BROWN
ALV - AMY L. VALENTINE	AML - TONY M. LONG	AZH - AFTER HOURS
BLG - BRENDA L. GREENWALT	BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES	CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS	CPD - CHAD P. DAVIS
CSH - CHRIS S. HILL	DDE - DEBRA D. ELLIOTT	DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG	DGB - DOUGLAS G. BUTCHER	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE	DLR - DIANNA L. RAUCH
ECL - ERIC C. LAWSON	EDA - ERIN D. AGEE	ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN	HAV - HEMA VILASAGAR	HJR - HOLLY J. REED
JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON	JKT - JANE K. THOMPSON
JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES	JYH - JI Y. HU
KEB - KATIE E. BARNES	KHR - KIM H. RHODES	KRA - KATHY R. ALBERTSON
LKN - LINDA K. NEDEFF	LSB - LESLIE S. BUCINA	MDA - MIKE D. ALBERTSON
MDC - MIKE D. COCHRAN	MES - MARY E. SCHILLING	MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR	MSW - MATT S. WILSON	PDM - PIERCE D. MORRIS
PWD - PAUL W. DENT	RAH - ROY A. HALSTEAD	RB - BOB BUCHANAN
REK - BOB E. KYER	RLK - ROBIN L. KLINGER	RWC - RODNEY W. CAMPBELL
SLM - STEPHANIE L. MOSSBURG	SLP - SHERI L. PFALZGRAF	TIP - TAE I. PARRISH
TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS	VC - VICKI COLLIER
WTD - WADE T. DELONG		

Qualkey: STD_ND=U

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Not detected at or above adjusted sample detection limit
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent.



Lab Name: Environmental Waste Solutions C/O Microbac
Address : 158 Starlite Drive, Marietta OH 45750
Contact : Stephanie Mossburg
Phone: 1-800-373-4071

Microbac OVD 221000009043
Received: 09/21/2010 10:24
By: CARA STRICKLER
Cara Strickler

COOLER INSPECTION



Received: 09/21/2010 10:24
Delivery Method: UPS
Opened By: Cara Strickler
Comments:

Login(s): L10090492|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0014668	G	5.0	1Z66V7250191026573	Ihaap47-091710-2	

- 1 Yes Were shipping coolers sealed?
- 2 Yes Were custody seals intact?
- 3 Yes Were cooler temperatures in range of 0-6?
- 4 Yes Was ice present?
- 5 Yes Were COC's received/information complete/signed and dated?
- 6 Yes Were sample containers and labels intact and match COC?
- 7 Yes Were the correct containers and volumes received?
- 8 Yes Were samples received within EPA hold times?
- 9 NA Were correct preservatives used? (water only)
- 10 NA Were pH ranges acceptable? (voa's excluded)
- 11 NA Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Internal Chain of Custody Report

00106017

Login: L10090492

Account: 2773

Project: 2773.025

Samples: 5

Due Date: 01-OCT-2010

Samplenum **Container ID** **Products**
L10090492-01 740462 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:34	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:14	RLK	JDH

Samplenum **Container ID** **Products**
L10090492-02 740463 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:34	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:15	RLK	JDH

Samplenum **Container ID** **Products**
L10090492-03 740464 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:34	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:14	RLK	JDH

Samplenum **Container ID** **Products**
L10090492-04 740465 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:34	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:14	RLK	JDH

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Login: L10090492**Account:** 2773**Project:** 2773.025**Samples:** 5**Due Date:** 01-OCT-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090492-05	740466	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	21-SEP-2010 15:24	JKT	
2	ANALYZ	W1	SEM	23-SEP-2010 09:29	WTD	RLK
3	STORE	SEM	W1	23-SEP-2010 13:34	RLK	WTD
4	ANALYZ	W1	WET	28-SEP-2010 15:08	JDH	RLK
5	STORE	WET	A1	29-SEP-2010 08:15	RLK	JDH

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



NELAP Addendum - May 28, 2010

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄)
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Perchlorate (6850 – LCMS)
 Hexamethylphosphoramide (XMPA-LCMS)
 Thiodiglycol (TDG-LCMS)
 1,4-Dioxane – 8270C (827-DIOXANE)
 Phosphorus – 6010B
 Zirconium - 6010B

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL HPLC02/HPLC-UV

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 2, 3, 4, 6-Tetrachlorophenol
 2-Chloronaphthalene
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene

Pentachloroethane

OVL MSSO4/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnel
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropyl ether
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene

Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnal
Simazine
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1.3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropylether
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)



158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • <http://www.microbac.com>

Laboratory Report Number: L10090609

Client: Jennifer Hoang, 1401 Enclave Parkway, Houston, TX, 77077

Contract #: DACA56-94-D-0020

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Kathy Albertson	<i>Team Chemist/Data Specialist</i>	Kathy.Albertson@microbac.com
Stephanie Mossburg	<i>Team Chemist/Data Specialist</i>	Stephanie.Mossburg@microbac.com
Tony Long	<i>Team Chemist/Data Specialist</i>	Tony.Long@microbac.com
Amanda Fickiesen	<i>Client Services Specialist</i>	Amanda.Fickiesen@microbac.com
Annie Brown	<i>Client Services Specialist</i>	Annie.Brown@microbac.com

This report was reviewed on October 06, 2010.

A handwritten signature in cursive script that reads "Stephanie Mossburg".

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on October 06, 2010.

A handwritten signature in cursive script that reads "David E. Vandenberg".

David Vandenberg - Managing Director

State of origin: Texas

Accrediting authority: Texas Commission on Environmental Quality ID:T104704252-07-TX

QAPP: Microbac OVD

This report contains a total of 88 pages.

Look closer. Go further. Do more.



The Microbac logo consists of the word "Microbac" in a white serif font, centered within a dark teal rectangular box.

Microbac Laboratories, Inc.
Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750

Phone: 800.373.4071
Fax: 740.373.4835

Your data is now available online via our Web Access Portal!

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LOOK CLOSER, GO FURTHER, DO MORE.

Microbac REPORT L10090609
PREPARED FOR Shaw E I, Inc.
WORK ID:

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1.0 Introduction



Login Number: L10090609

Department: Login

Analyst: N/A

Chain of Custody:

Shipment Conditions

COC #	Cooler #	Temperature
LHAAP47-092210-1	0014405	3.0

Sample Management: Didn't receive 47SB-F07
47SB-E09(0-2) on chain of custody, jar reads 47SB-08(4-6)

Chain of Custody has incorrect depths per ID/Date/time. Logged per depths per jars.

Sample Identification

Lab ID	Client ID
L10090609-01	47SB-J03 (4.5-6.5)
L10090609-02	47SB-F04 (9-11)
L10090609-03	47SB-F06 (8-10)
L10090609-04	47SB-E09 (4-6)
L10090609-05	47SB-E06 (8-10)
L10090609-06	47SB-C02 (6-7)
L10090609-07	47SB-E02 (8-9)
L10090609-08	47SB-F03 (12-13)
L10090609-09	47SB-D08 (6-7)
L10090609-10	47SB-D09 (4-6)
L10090609-11	47SB-B10 (12-13)
L10090609-12	47SB-J06 (9-11)
L10090609-13	47SB-J06 (9-11)MS
L10090609-14	47SB-J06 (9-11)MSD

Narrative ID: 12078

Approved By: Stephanie Mossburg

Stephanie Mossburg



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090609
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG344231	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Laboratory Data Package Cover Page

R1	Field chain-of-custody documentation;
R2	Sample identification cross-reference;
R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a. if required for the project, tentatively identified compounds (TICs).
R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
R5	Test reports/summary forms for blank samples;
R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Mike Cochran		Semivolatiles Lab Supervisor	10/06/2010



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090609
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG344231	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090609
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG344231	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
Were all COCs included in the LCS?	X				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?			X		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC	X				



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090609
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG344231	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
limits?					
Were percent RSDs or correlation coefficient criteria met?	X				
Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090609
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG344231	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

Description	Yes	No	NA	NR	ER#
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte,



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090609
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG344231	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-06		

matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspection by ☐ TCEQ or ☐ _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1. Samples 13MS and 14MSD yielded recoveries above the upper acceptance limit.

2.1 General Chromatography Data

2.1.1 LC/MS Data (6850)

2.1.1.1 Summary Data

LABORATORY REPORT

L10090609

00106036

10/06/10 15:13

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta, OH 45750
(740) 373-4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-J03 (4.5-6.5)	L10090609-01	6850	1	23-SEP-10
47SB-F04 (9-11)	L10090609-02	6850	1	23-SEP-10
47SB-F06 (8-10)	L10090609-03	6850	1	23-SEP-10
47SB-E09 (4-6)	L10090609-04	6850	1	23-SEP-10
47SB-E06 (8-10)	L10090609-05	6850	1	23-SEP-10
47SB-C02 (6-7)	L10090609-06	6850	1	23-SEP-10
47SB-E02 (8-9)	L10090609-07	6850	100	23-SEP-10
47SB-F03 (12-13)	L10090609-08	6850	1	23-SEP-10
47SB-D08 (6-7)	L10090609-09	6850	1	23-SEP-10
47SB-D09 (4-6)	L10090609-10	6850	1	23-SEP-10
47SB-B10 (12-13)	L10090609-11	6850	1000	23-SEP-10
47SB-J06 (11-12)	L10090609-12	6850	1	23-SEP-10
47SB-J06 (11-12)MS	L10090609-13	6850	1	23-SEP-10
47SB-J06 (11-12)MSD	L10090609-14	6850	1	23-SEP-10



Report Number: **L10090609**Report Date : **October 6, 2010**

00106037

Sample Number: **L10090609-01**
Client ID: **47SB-J03 (4.5-6.5)**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/20/2010 12:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/01/2010 21:58**
File ID: **1LM.LM06335**
Percent Solid: **89.4**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.23	1.12

U Not detected at or above adjusted sample detection limit

Report Number: **L10090609**Report Date : **October 6, 2010**

00106038

Sample Number: **L10090609-02**
Client ID: **47SB-F04 (9-11)**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/20/2010 13:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/01/2010 22:24**
File ID: **1LM.LM06336**
Percent Solid: **82.0**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	9.46		2.36	1.18

Report Number: **L10090609**Report Date : **October 6, 2010**

00106039

Sample Number: **L10090609-03**
Client ID: **47SB-F06 (8-10)**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/20/2010 13:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/01/2010 22:51**
File ID: **1LM.LM06337**
Percent Solid: **85.2**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.29	1.15

U Not detected at or above adjusted sample detection limit

Report Number: **L10090609**Report Date : **October 6, 2010**

00106040

Sample Number: **L10090609-04**
Client ID: **47SB-E09 (4-6)**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/20/2010 14:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/01/2010 23:17**
File ID: **1LM.LM06338**
Percent Solid: **83.4**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.22	1.11

U Not detected at or above adjusted sample detection limit

Report Number: **L10090609**Report Date : **October 6, 2010**

00106041

Sample Number: **L10090609-05**
Client ID: **47SB-E06 (8-10)**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/20/2010 14:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/01/2010 23:44**
File ID: **1LM.LM06339**
Percent Solid: **82.2**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.44	1.22

U Not detected at or above adjusted sample detection limit

Report Number: **L10090609**Report Date : **October 6, 2010**

00106042

Sample Number: **L10090609-06**
Client ID: **47SB-C02 (6-7)**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/20/2010 15:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/02/2010 00:10**
File ID: **1LM.LM06340**
Percent Solid: **88.0**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.24	1.12

U Not detected at or above adjusted sample detection limit

Report Number: **L10090609**Report Date : **October 6, 2010**

00106043

Sample Number: **L10090609-07**
Client ID: **47SB-E02 (8-9)**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/20/2010 15:40**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **100**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/02/2010 00:36**
File ID: **1LM.LM06341**
Percent Solid: **88.3**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	1650		225	113

Report Number: **L10090609**Report Date : **October 6, 2010**

00106044

Sample Number: **L10090609-08**
Client ID: **47SB-F03 (12-13)**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/21/2010 08:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/02/2010 02:22**
File ID: **1LM.LM06345**
Percent Solid: **84.5**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	108		2.22	1.11

Report Number: **L10090609**Report Date : **October 6, 2010**

00106045

Sample Number: **L10090609-09**
Client ID: **47SB-D08 (6-7)**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/21/2010 09:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/02/2010 02:49**
File ID: **1LM.LM06346**
Percent Solid: **88.7**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.20	1.10

U Not detected at or above adjusted sample detection limit

Report Number: **L10090609**Report Date : **October 6, 2010**

00106046

Sample Number: **L10090609-10**
Client ID: **47SB-D09 (4-6)**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/21/2010 10:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/02/2010 03:15**
File ID: **1LM.LM06347**
Percent Solid: **82.2**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.39	1.19

U Not detected at or above adjusted sample detection limit

Report Number: **L10090609**Report Date : **October 6, 2010**

00106047

Sample Number: **L10090609-11**
Client ID: **47SB-B10 (12-13)**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/21/2010 10:25**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1000**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/02/2010 03:41**
File ID: **1LM.LM06348**
Percent Solid: **89.2**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	17100		2170	1090

Report Number: **L10090609**Report Date : **October 6, 2010**

00106048

Sample Number: **L10090609-12**
Client ID: **47SB-J06 (11-12)**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/21/2010 10:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/02/2010 04:08**
File ID: **1LM.LM06349**
Percent Solid: **85.0**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	6.88		2.22	1.11

Report Number: **L10090609**Report Date : **October 6, 2010**

00106049

Sample Number: **L10090609-13**
Client ID: **47SB-J06 (11-12)MS**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/21/2010 10:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/02/2010 04:34**
File ID: **1LM.LM06350**
Percent Solid: **85.0**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	10.1		2.27	1.13

Report Number: **L10090609**Report Date : **October 6, 2010**

00106050

Sample Number: **L10090609-14**
Client ID: **47SB-J06 (11-12)MSD**
Matrix: **Soil**
Workgroup Number: **WG344231**
Collect Date: **09/21/2010 10:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **09/30/2010 12:01**
Cal Date: **10/01/2010 14:02**
Run Date: **10/02/2010 05:01**
File ID: **1LM.LM06351**
Percent Solid: **85.0**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	10.0		2.29	1.15

2.1.1.2 QC Summary Data

Example Calculation 6850 - Perchlorate**Concentration from Linear Regression****Step 1: Retrieve Curve Data From Plot, $y = mx + b$**

y = response ratio = response of analyte / response of internal standard (IS) = R_x/R_{istd}

x = amount ratio = concentration analyte/concentration internal standard (IS) = C_x / C_{istd}

m = slope from curve (1.45)

b = intercept from curve (-0.00242)

$y = 1.45x + -0.00242$

Step 2: Substitute the value for y

where $y = 12600/226000 = 0.055752$

Step 3: Solve for x

$x = (y - b)/m = 0.0040119$

Step 4: Solve for analyte concentration C_x

$C_x = (C_{is})(x) = (5 \text{ ug/L})(0.0040119) = 0.0200594 \text{ ug/L}$

Example Calculation - Water:

Slope from curve, m :	1.45
Intercept from curve, b :	-0.00242
Response of analyte, R_x :	12600
Response of Internal Standard, R_{istd} :	226000
Concentration of IS, C_{istd} (ug/L):	5.00
Response Ratio:	0.05575
Amount Ratio:	0.04012
Analyte Concentration, C_x (ug/L) :	0.200594

Example Calculation - Soil:

Analyte Concentration, C_x (ug/L):	0.20059
Amount of soil extracted (g):	5.00
Final volume of extract (mL):	50.00
Percent solids (Pct wt.)	100
Concentration in soil (ug/kg):	2.005938

Microbac Laboratories Inc.
Instrument Run Log

00106053

Instrument: LCMS1 Dataset: 100110_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 344229, 344231

CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA Calibration STD: STD41363

Comments: WG344228-01 CCB was inadvertently omitted from the sequence table. The method blank for WG344229 was analyzed prior to sample analyses.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06310	WG344227-01 CCB	1	1		10/01/10 10:56
2	1LM.LM06311	WG344227-02 0.1ug/L STD	1	1	STD41363	10/01/10 11:23
3	1LM.LM06312	WG344227-03 0.2ug/L STD	1	1	STD41363	10/01/10 11:49
4	1LM.LM06313	WG344227-04 0.5ug/L STD	1	1	STD41363	10/01/10 12:16
5	1LM.LM06314	WG344227-05 1.0ug/L STD	1	1	STD41363	10/01/10 12:42
6	1LM.LM06315	WG344227-06 2.0ug/L STD	1	1	STD41363	10/01/10 13:09
7	1LM.LM06316	WG344227-07 5.0ug/L STD	1	1	STD41363	10/01/10 13:35
8	1LM.LM06317	WG344227-08 10ug/L STD	1	1	STD41363	10/01/10 14:02
9	1LM.LM06318	WG344227-09 1.0ug/L ALT SRC	1	1	STD41365	10/01/10 14:28
10	1LM.LM06319	WG344228-02 1.0ug/L CCV	1	1	STD41363	10/01/10 14:54
11	1LM.LM06320	WG344229-05 0.2ug/L QCMRL	1	1	STD41363	10/01/10 15:21
12	1LM.LM06321	WG344229-01 0.2ug/L MCT	1	1	STD41363	10/01/10 15:47
13	1LM.LM06322	WG344229-02 MET BLANK	1	1		10/01/10 16:14
14	1LM.LM06323	WG344229-03 0.2ug/L LCS	1	1	STD41363	10/01/10 16:40
15	1LM.LM06324	WG344229-04 0.2ug/L LCSD	1	1	STD41363	10/01/10 17:07
16	1LM.LM06325	L10090575-01	1	1		10/01/10 17:33
17	1LM.LM06326	L10090575-02	1	1		10/01/10 18:00
18	1LM.LM06327	L10090615-01	1	1		10/01/10 18:26
19	1LM.LM06328	L10090786-04	1	1	STD41363	10/01/10 18:52
20	1LM.LM06329	WG344228-03 1.0ug/L CCV	1	1	STD41363	10/01/10 19:19
47	1LM.LM06330	WG344231-07 2.0ug/kg QCMRL	7	1	STD41363	10/01/10 19:45
22	1LM.LM06331	WG344228-04 CCB	1	1		10/01/10 20:12
23	1LM.LM06332	WG344231-01 2.0ug/kg MCT	7	1	STD41363	10/01/10 20:38
24	1LM.LM06333	WG344231-02 MET BLANK	7	1		10/01/10 21:05
25	1LM.LM06334	WG344231-03 2.0ug/kg LCS	7	1	STD41363	10/01/10 21:31
26	1LM.LM06335	L10090609-01	7	1		10/01/10 21:58
27	1LM.LM06336	L10090609-02	7	1		10/01/10 22:24
28	1LM.LM06337	L10090609-03	7	1		10/01/10 22:51
29	1LM.LM06338	L10090609-04	7	1		10/01/10 23:17
30	1LM.LM06339	L10090609-05	7	1		10/01/10 23:44
31	1LM.LM06340	L10090609-06	7	1		10/02/10 00:10
32	1LM.LM06341	L10090609-07 100X	7	100		10/02/10 00:36
33	1LM.LM06342	WG344228-05 1.0ug/L CCV	1	1	STD41363	10/02/10 01:03
34	1LM.LM06343	WG344231-08 0.2ug/L QCMRL	7	1	STD41363	10/02/10 01:29




Microbac Laboratories Inc.
Instrument Run Log

00106054

Instrument: LCMS1 Dataset: 100110_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100703

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 344229, 344231

CCV Std: STD41363 LCS STD: STD41363
 Internal STD: COA14815 Surrogate STD: NA STD41363

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
35	1LM.LM06344	WG344228-06 CCB	1	1		10/02/10 01:56
36	1LM.LM06345	L10090609-08	7	1		10/02/10 02:22
37	1LM.LM06346	L10090609-09	7	1		10/02/10 02:49
38	1LM.LM06347	L10090609-10	7	1		10/02/10 03:15
39	1LM.LM06348	L10090609-11 1000X	7	1000		10/02/10 03:41
48	1LM.LM06349	L10090609-12	7	1		10/02/10 04:08
49	1LM.LM06350	L10090609-13	7	1	STD41363	10/02/10 04:34
50	1LM.LM06351	L10090609-14	7	1	STD41363	10/02/10 05:01
43	1LM.LM06352	L10090689-03	7	1		10/02/10 05:27
44	1LM.LM06353	WG344228-07 1.0ug/L CCV	1	1	STD41363	10/02/10 05:54
45	1LM.LM06354	WG344231-09 0.2ug/L QCMRL	7	1	STD41363	10/02/10 06:20
46	1LM.LM06355	WG344228-08 CCB	1	1		10/02/10 06:47

Comments

Seq.	Rerun	Dil.	Reason	Analytes




Microbac Laboratories Inc.

00106055

Data Checklist

Date: 01-OCT-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

Curve Workgroup: NA

Runlog ID: 36727

Analytical Workgroups: 344229, 344231

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
04-OCT-2010

Secondary Reviewer:
04-OCT-2010

Wade D. [Signature] *Michael [Signature]*



Analytical Method:6850

AAB#:WG344231

Login Number:L10090609

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
47SB-J03 (4.5-6.5)	01	09/20/10					09/30/10	10	28		10/01/10	1.4	28	
47SB-F04 (9-11)	02	09/20/10					09/30/10	9.9	28		10/01/10	1.4	28	
47SB-F06 (8-10)	03	09/20/10					09/30/10	9.9	28		10/01/10	1.5	28	
47SB-E09 (4-6)	04	09/20/10					09/30/10	9.9	28		10/01/10	1.5	28	
47SB-E06 (8-10)	05	09/20/10					09/30/10	9.9	28		10/01/10	1.5	28	
47SB-C02 (6-7)	06	09/20/10					09/30/10	9.9	28		10/02/10	1.5	28	
47SB-E02 (8-9)	07	09/20/10					09/30/10	9.8	28		10/02/10	1.5	28	
47SB-F03 (12-13)	08	09/21/10					09/30/10	9.1	28		10/02/10	1.6	28	
47SB-D08 (6-7)	09	09/21/10					09/30/10	9.1	28		10/02/10	1.6	28	
47SB-D09 (4-6)	10	09/21/10					09/30/10	9.1	28		10/02/10	1.6	28	
47SB-B10 (12-13)	11	09/21/10					09/30/10	9.1	28		10/02/10	1.7	28	
47SB-J06 (11-12)	12	09/21/10					09/30/10	9	28		10/02/10	1.7	28	
47SB-J06 (11-12)MS	13	09/21/10					09/30/10	9	28		10/02/10	1.7	28	
47SB-J06 (11-12)MSD	14	09/21/10					09/30/10	9	28		10/02/10	1.7	28	

* = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

Login Number: L10090609
 Blank File ID: 1LM.LM06333
 Prep Date: 09/30/10 12:01
 Analyzed Date: 10/01/10 21:05
 Analyst: WTD

Work Group: WG344231
 Blank Sample ID: WG344231-02
 Instrument ID: LCMS1
 Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG344231-07	1LM.LM06330	10/01/10 19:45	01
MCT	WG344231-01	1LM.LM06332	10/01/10 20:38	01
LCS	WG344231-03	1LM.LM06334	10/01/10 21:31	01
47SB-J03 (4.5-6.5)	L10090609-01	1LM.LM06335	10/01/10 21:58	01
47SB-F04 (9-11)	L10090609-02	1LM.LM06336	10/01/10 22:24	01
47SB-F06 (8-10)	L10090609-03	1LM.LM06337	10/01/10 22:51	01
47SB-E09 (4-6)	L10090609-04	1LM.LM06338	10/01/10 23:17	01
47SB-E06 (8-10)	L10090609-05	1LM.LM06339	10/01/10 23:44	01
47SB-C02 (6-7)	L10090609-06	1LM.LM06340	10/02/10 00:10	01
47SB-E02 (8-9)	L10090609-07	1LM.LM06341	10/02/10 00:36	DL01
QCMRL	WG344231-08	1LM.LM06343	10/02/10 01:29	01
47SB-F03 (12-13)	L10090609-08	1LM.LM06345	10/02/10 02:22	01
47SB-D08 (6-7)	L10090609-09	1LM.LM06346	10/02/10 02:49	01
47SB-D09 (4-6)	L10090609-10	1LM.LM06347	10/02/10 03:15	01
47SB-B10 (12-13)	L10090609-11	1LM.LM06348	10/02/10 03:41	DL01
47SB-J06 (11-12)	L10090609-12	1LM.LM06349	10/02/10 04:08	01
47SB-J06 (11-12)MS	L10090609-13	1LM.LM06350	10/02/10 04:34	01
47SB-J06 (11-12)MSD	L10090609-14	1LM.LM06351	10/02/10 05:01	01
QCMRL	WG344231-09	1LM.LM06354	10/02/10 06:20	01



Login Number: L10090609 Prep Date: 09/30/10 12:01 Sample ID: WG344231-02
Instrument ID: LCMS1 Run Date: 10/01/10 21:05 Prep Method: 6850
File ID: 1LM.LM06333 Analyst: WTD Method: 6850
Workgroup (AAB#): WG344231 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 01-OCT-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.981	1.96	0.981	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1796714
05-OCT-2010 16:19



Login Number: L10090609 Run Date: 10/01/2010 Sample ID: WG344231-03
Instrument ID: LCMS1 Run Time: 21:31 Prep Method: 6850
File ID: 1LM.LM06334 Analyst: WTD Method: 6850
Workgroup (AAB#): WG344231 Matrix: Soil Units: ug/kg
QC Key: STD Lot#: STD41363 Cal ID: LCMS1 - 01-OCT-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	1.98	1.73	87.5	80 - 120	

Conductivity Probe
Calibration Check:
1408 /1410 $\mu\text{S}/\text{cm}$

Perchlorate Conductivity Check

Working MCT Level:
10,000 $\mu\text{S}/\text{cm}$

Sample	Conductivity ($\mu\text{S}/\text{cm}$)	Pretreatment or Dilution Needed
WG-344231-01 MCT	10,340	N/A
-02 B16	7.7	↓
-03 LCS	6.6	
L10090609-01	2.4	
-02	4.9	
-03	5.0	
-04	4.1	
-05	18.8	
-06	12.3	
-07	7.5	
-08	3.9	
-09	4.6	
-10	5.2	
-11	18.4	
-12	3.0	
-13	3.5	
-14	3.4	
L10090689-03	6.5	↓

Wadei. DeLy
Analyst

9-30-10/ 16:35
Date/Time

DCN#84592



MS/MSD REPORT

00106061

Loginnum: L10090609 Cal ID: LCMS1- 01-OCT-10 Worknum: WG344231
 Instrument ID: LCMS1 Contract #: DACA56-94-D-0020 Prep Method: 6850
 Parent ID: L10090609-12 File ID: 1LM.LM06349 Dil: 1 Method: 6850
 Sample ID: L10090609-13 MS File ID: 1LM.LM06350 Dil: 1 Matrix: Soil
 Sample ID: L10090609-14 MSD File ID: 1LM.LM06351 Dil: 1 Units: ug/kg
 Percent Solid: 85.0

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Perchlorate	6.88	2.27	10.1	143	2.29	10.0	137	1.18	80 - 120	15	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 1796716

Report generated 10/05/2010 16:19



Login Number: L10090609
Analytical Method: 6850
ICAL Workgroup: WG344227

Instrument ID: LCMS1
Initial Calibration Date: 01-OCT-10 14:02
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Perchlorate		1.266	5.84	1.00000	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

Login Number: L10090609
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 01-OCT-10 14:02
Column ID: F

Analyte	WG344227-02			WG344227-03			WG344227-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	3420.00000	1.335	0.200	6950.00000	1.375	0.500	16300.0000	1.281

Login Number: L10090609
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 01-OCT-10 14:02
Column ID: F

Analyte	WG344227-05			WG344227-06			WG344227-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	30900.0000	1.227	2.00	62800.0000	1.227	5.00	154000.000	1.222

Login Number: L10090609
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 01-OCT-10 14:02
Column ID: F

Analyte	WG344227-08		
	CONC	RESP	RF
Perchlorate	10.0	297000.000	1.192

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

00106066

Login Number: L10090609 Run Date: 10/01/2010 Sample ID: WG344227-09
Instrument ID: LCMS1 Run Time: 14:28 Method: 6850
File ID: 1LM.LM06318 Analyst: WTD QC Key: STD
ICal Workgroup: WG344227 Cal ID: LCMS1 - 01-OCT-10

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	0.987	ug/L	1.21	1.30	15	

* Exceeds %D Limit



Login Number: L10090609 Run Date: 10/01/2010 Sample ID: WG344228-04
Instrument ID: LCMS1 Run Time: 20:12 Method: 6850
File ID: 1LM.LM06331 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG344231 Cal ID: LCMS1 - 01-OCT-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090609 Run Date: 10/02/2010 Sample ID: WG344228-06
Instrument ID: LCMS1 Run Time: 01:56 Method: 6850
File ID: 1LM.LM06344 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG344231 Cal ID: LCMS1 - 01-OCT-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090609 Run Date: 10/02/2010 Sample ID: WG344228-08
Instrument ID: LCMS1 Run Time: 06:47 Method: 6850
File ID: 1LM.LM06355 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG344231 Cal ID: LCMS1 - 01-OCT-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090609 Run Date: 10/01/2010 Sample ID: WG344228-03
Instrument ID: LCMS1 Run Time: 19:19 Method: 6850
File ID: 1LM.LM06329 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG344231 Cal ID: LCMS1 - 01-OCT-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.977	ug/L	1.20	2.30	15	

* Exceeds %D Criteria

Login Number: L10090609 Run Date: 10/02/2010 Sample ID: WG344228-05
Instrument ID: LCMS1 Run Time: 01:03 Method: 6850
File ID: 1LM.LM06342 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG344231 Cal ID: LCMS1 - 01-OCT-10
Matrix: SOIL

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	1.01	ug/L	1.24	1.00	15	

* Exceeds %D Criteria

Login Number: L10090609 Run Date: 10/02/2010 Sample ID: WG344228-07
Instrument ID: LCMS1 Run Time: 05:54 Method: 6850
File ID: 1LM.LM06353 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG344231 Cal ID: LCMS1 - 01-OCT-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	1.01	ug/L	1.24	1.00	15	

* Exceeds %D Criteria

Login Number: L10090609 Run Date: 10/01/2010 Sample ID: WG344231-07
Instrument ID: LCMS1 Run Time: 19:45 Prep Method: 6850
File ID: 1LM.LM06330 Analyst: WTD Method: 6850
Workgroup (AAB#): WG344231 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 01-OCT-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	2.34	117	70 - 130	

Login Number: L10090609 Run Date: 10/02/2010 Sample ID: WG344231-08
Instrument ID: LCMS1 Run Time: 01:29 Prep Method: 6850
File ID: 1LM.LM06343 Analyst: WTD Method: 6850
Workgroup (AAB#): WG344231 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 01-OCT-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	2.13	107	70 - 130	

Login Number: L10090609 Run Date: 10/02/2010 Sample ID: WG344231-09
Instrument ID: LCMS1 Run Time: 06:20 Prep Method: 6850
File ID: 1LM.LM06354 Analyst: WTD Method: 6850
Workgroup (AAB#): WG344231 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 01-OCT-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	2.34	117	70 - 130	

Login Number: L10090609
Instrument ID: LCMS1
Workgroup (AAB#): WG344231

ICAL CCV Number: WG344227-05
CAL ID: LCMS1 - 01-OCT-10
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1
WG344227	NA	NA	127000
Upper Limit	NA	NA	190500
Lower Limit	NA	NA	63500
L10090609-01	1.00	01	147000
L10090609-02	1.00	01	148000
L10090609-03	1.00	01	146000
L10090609-04	1.00	01	145000
L10090609-05	1.00	01	146000
L10090609-06	1.00	01	152000
L10090609-07	100	DL01	143000
L10090609-08	1.00	01	142000
L10090609-09	1.00	01	145000
L10090609-10	1.00	01	148000
L10090609-11	1000	DL01	143000
L10090609-12	1.00	01	151000
L10090609-13	1.00	01	153000
L10090609-14	1.00	01	149000
WG344231-02	1.00	01	135000
WG344231-03	1.00	01	138000

IS-1 - 018LP

Underline = Response outside limits

2.2 General Chemistry Data

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

L10090609

00106080

10/06/10 15:13

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta, OH 45750
(740) 373-4071

For

Account Name: Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-J03 (4.5-6.5)	L10090609-01	D2216-90	1	23-SEP-10
47SB-F04 (9-11)	L10090609-02	D2216-90	1	23-SEP-10
47SB-F06 (8-10)	L10090609-03	D2216-90	1	23-SEP-10
47SB-E09 (4-6)	L10090609-04	D2216-90	1	23-SEP-10
47SB-E06 (8-10)	L10090609-05	D2216-90	1	23-SEP-10
47SB-C02 (6-7)	L10090609-06	D2216-90	1	23-SEP-10
47SB-E02 (8-9)	L10090609-07	D2216-90	1	23-SEP-10
47SB-F03 (12-13)	L10090609-08	D2216-90	1	23-SEP-10
47SB-D08 (6-7)	L10090609-09	D2216-90	1	23-SEP-10
47SB-D09 (4-6)	L10090609-10	D2216-90	1	23-SEP-10
47SB-B10 (12-13)	L10090609-11	D2216-90	1	23-SEP-10
47SB-J06 (11-12)	L10090609-12	D2216-90	1	23-SEP-10
47SB-J06 (11-12)MS	L10090609-13	D2216-90	1	23-SEP-10
47SB-J06 (11-12)MSD	L10090609-14	D2216-90	1	23-SEP-10



Report Number: **L10090609**Report Date : **October 6, 2010**

00106081

Sample Number: **L10090609-01**
Client ID: **47SB-J03 (4.5-6.5)**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/20/2010 12:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0116**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	89.4		1.00	1.00

Report Number: **L10090609**Report Date : **October 6, 2010**

00106082

Sample Number: **L10090609-02**
Client ID: **47SB-F04 (9-11)**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/20/2010 13:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0117**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	82.0		1.00	1.00

Report Number: **L10090609**Report Date : **October 6, 2010**

00106083

Sample Number: **L10090609-03**
Client ID: **47SB-F06 (8-10)**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/20/2010 13:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0118**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	85.2		1.00	1.00

Sample Number: **L10090609-04**
Client ID: **47SB-E09 (4-6)**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/20/2010 14:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0119**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	83.4		1.00	1.00

Report Number: **L10090609**Report Date : **October 6, 2010**

00106085

Sample Number: **L10090609-05**
Client ID: **47SB-E06 (8-10)**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/20/2010 14:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0120**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	82.2		1.00	1.00

Report Number: **L10090609**Report Date : **October 6, 2010**

00106086

Sample Number: **L10090609-06**
Client ID: **47SB-C02 (6-7)**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/20/2010 15:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0121**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	88.0		1.00	1.00

Report Number: **L10090609**Report Date : **October 6, 2010**

00106087

Sample Number: **L10090609-07**
Client ID: **47SB-E02 (8-9)**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/20/2010 15:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0122**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	88.3		1.00	1.00

Report Number: **L10090609**Report Date : **October 6, 2010**

00106088

Sample Number: **L10090609-08**
Client ID: **47SB-F03 (12-13)**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/21/2010 08:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0123**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	84.5		1.00	1.00

Report Number: **L10090609**Report Date : **October 6, 2010**

00106089

Sample Number: **L10090609-09**
Client ID: **47SB-D08 (6-7)**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/21/2010 09:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0124**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	88.7		1.00	1.00

Report Number: **L10090609**Report Date : **October 6, 2010**

00106090

Sample Number: **L10090609-10**
Client ID: **47SB-D09 (4-6)**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/21/2010 10:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0125**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	82.2		1.00	1.00

Report Number: **L10090609**Report Date : **October 6, 2010**

00106091

Sample Number: **L10090609-11**
Client ID: **47SB-B10 (12-13)**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/21/2010 10:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0126**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	89.2		1.00	1.00

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Report Number: **L10090609**Report Date : **October 6, 2010**

00106092

Sample Number: **L10090609-12**
Client ID: **47SB-J06 (11-12)**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/21/2010 10:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0127**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	85.0		1.00	1.00

12 of 14



Report Number: **L10090609**Report Date : **October 6, 2010**

00106093

Sample Number: **L10090609-13**
Client ID: **47SB-J06 (11-12)MS**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/21/2010 10:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0128**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	85.0		1.00	1.00

Report Number: **L10090609**Report Date : **October 6, 2010**

00106094

Sample Number: **L10090609-14**
Client ID: **47SB-J06 (11-12)MSD**
Matrix: **Soil**
Workgroup Number: **W6344444**
Collect Date: **09/21/2010 10:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/04/2010 09:03**
Cal Date:
Run Date: **10/04/2010 09:03**
File ID: **B1.344444-0129**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	85.0		1.00	1.00

14 of 14



Example Percent Solids Calculations**1.0 Calculating the percent solids of a sample.**

$$\%Solids = \frac{WT3 - WT1}{WT2 - WT1} \times F$$

Where:

WT1 = Weight, in grams, of the empty container 1.30 g

WT2 = Weight, in grams, of the container and wet sample 21.274 g

WT3 = Weight, in grams, of the container and dried sample 5.21 g

F = Factor to get units as percent weight 100

%Solids = Percent solids present in sample. 19.58%

2.0 Calculating the percent moisture of a sample.

$$\% \text{ Moisture} = 100 - \% \text{ Solids from 1.0 calculation}$$

PERCENT SOLIDS

00106096

Workgroup (AAB#):WG344444

Analyst:JDH

ADT(on):10/01/2010 14:16

Method:D2216-90

Instrument:BAL001

ADT(off):10/04/2010 09:03

SOP: K0003 Rev: 10

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE
L10090589-01	1.32	24.31	18.55			74.95	
L10090589-02	1.32	23.49	15.65			64.64	
L10090589-03	1.33	23.15	17.8			75.48	
L10090589-04	1.31	12.08	3.75			22.66	
L10090589-05	1.33	23.46	19.79			83.42	
L10090589-06	1.32	30.83	26.63			85.77	
L10090608-01	1.34	28.56	28.5			99.78	
L10090608-02	1.32	27.96	27.81			99.44	
L10090608-03	1.33	28.78	28.61			99.38	
L10090608-04	1.31	34.18	34			99.45	
L10090608-05	1.31	31.35	31.24			99.63	
L10090608-06	1.32	25.17	25.1			99.71	
L10090608-07	1.32	25.17	25.1			99.71	
L10090608-08	1.32	25.17	25.1			99.71	
L10090608-10	1.32	33.25	33.16			99.72	
L10090609-01	1.29	25.27	22.72			89.37	
L10090609-02	1.3	19.39	16.14			82.03	
L10090609-03	1.34	33.29	28.57			85.23	
L10090609-04	1.32	31.53	26.51			83.38	
L10090609-05	1.31	31.13	25.81			82.16	
L10090609-06	1.31	34.34	30.39			88.04	
L10090609-07	1.32	31.12	27.64			88.32	
L10090609-08	1.32	29.82	25.39			84.46	
L10090609-09	1.32	30.52	27.21			88.66	
L10090609-10	1.31	23.65	19.67			82.18	
L10090609-11	1.33	30.66	27.49			89.19	
L10090609-12	1.33	15.78	13.61			84.98	
L10090609-13	1.33	15.78	13.61			84.98	
L10090609-14	1.33	15.78	13.61			84.98	
L10090704-02	1.32	21.58	16.45			74.68	
L10090704-04	1.32	19.26	14			70.68	
L10090704-06	1.31	22.6	17.21			74.68	
L10090704-08	1.33	36.71	30.16			81.49	
L10090704-10	1.32	31.57	25.16			78.81	
L10090704-12	1.31	30.12	24.16			79.31	
L10090738-01	1.33	16.78	16.69			99.42	
L10090738-02	1.33	21.2	21.13			99.65	
L10090738-03	1.33	14.35	14.29			99.54	
L10090738-04	1.33	22.97	22.76			99.03	
L10090738-05	1.33	19.38	19.28			99.45	
L10090738-06	1.33	21.77	21.65			99.41	
L10090738-07	1.33	20.61	20.51			99.48	

PERCENT SOLIDS - Modified 04/24/2008

PDF ID: 1796367

Report generated: 10/04/2010 09:13



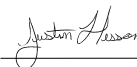
Workgroup (AAB#): WG344444
 Method: D2216-90
 SOP: K0003 Rev: 10

Analyst: JDH
 Instrument: BAL001

ADT(on): 10/01/2010 14:16
 ADT(off): 10/04/2010 09:03

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE
L10090738-08	1.33	14.91	14.88			99.78	
L10090738-09	1.33	16.94	16.91			99.81	
L10090742-01	1.33	8.39	8.32			99.01	
L10090742-02	1.33	15.93	15.85			99.45	
L10090742-03	1.33	19.31	19.07			98.67	
L10090742-04	1.33	15.94	15.7			98.36	
L10090742-05	1.33	15.4	15.34			99.57	
L10090742-06	1.33	21.91	21.81			99.51	
L10090743-01	1.33	14.94	14.83			99.19	
L10090743-02	1.33	17.2	17.1			99.37	
L10090743-03	1.33	20.54	20.52			99.90	
L10090743-04	1.33	17.84	17.78			99.64	
L10090754-01	1.3	29.11	26.46			90.47	
L10090815-01	1.33	23.05	14.26			59.53	
WG344444-01	1.32	24.31	18.55			74.95	25.05
WG344444-02	1.33	19.31	19.07			98.67	1.335
WG344444-03	1.33	23.05	14.26			59.53	40.47
WG344444-04	1.32	26.11	20.56			77.61	22.39
WG344444-05	1.34	10.42	10.32			98.90	1.101
WG344444-06	1.33	19.18	12.24			61.12	38.88

Analyst:



3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
October 6, 2010

ADC - ANTHONY D. CANTER	AJF - AMANDA J. FICKIESEN	ALB - ANNIE L. BROWN
ALV - AMY L. VALENTINE	AML - TONY M. LONG	AZH - AFTER HOURS
BLG - BRENDA L. GREENWALT	BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES	CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS	CPD - CHAD P. DAVIS
CSH - CHRIS S. HILL	DDE - DEBRA D. ELLIOTT	DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG	DGB - DOUGLAS G. BUTCHER	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE	DLR - DIANNA L. RAUCH
ECL - ERIC C. LAWSON	EDA - ERIN D. AGEE	ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN	HAV - HEMA VILASAGAR	HJR - HOLLY J. REED
JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON	JKT - JANE K. THOMPSON
JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES	JYH - JI Y. HU
KEB - KATIE E. BARNES	KHR - KIM H. RHODES	KRA - KATHY R. ALBERTSON
LKN - LINDA K. NEDEFF	LSB - LESLIE S. BUCINA	MDA - MIKE D. ALBERTSON
MDC - MIKE D. COCHRAN	MES - MARY E. SCHILLING	MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR	MSW - MATT S. WILSON	PDM - PIERCE D. MORRIS
PWD - PAUL W. DENT	RAH - ROY A. HALSTEAD	RB - BOB BUCHANAN
REK - BOB E. KYER	RLK - ROBIN L. KLINGER	RWC - RODNEY W. CAMPBELL
SLM - STEPHANIE L. MOSSBURG	SLP - SHERI L. PFALZGRAF	TIP - TAE I. PARRISH
TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS	VC - VICKI COLLIER
WTD - WADE T. DELONG		

Qualkey: STD_ND=U

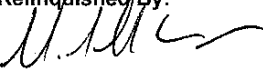
Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Not detected at or above adjusted sample detection limit
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent.



Lab Name: Environmental Waste Solutions C/O Microbac
Address : 158 Starlite Drive, Marietta OH 45750
Contact : Stephanie Mossburg
Phone: 1-800-373-4071

PM: Praveen Srivastav (281.531.3188)		TAT: Standard		Perchlorate (6850)-28day HT														
Project Contact: Jen Hoang		Phone No: 281-531-3108																
Project Name: LHAAP		Site: SITE 47																
Project #: 117591-009A130		Location: Karnack, TX																
Sampler Print: Allen Willmore (713.247.9292) Susan Oller (281.989.3544)		Sampler Sign: 		# Of Containers														Comments
Sample Number	Grab	Date	Time		Matrix													
47SB-J03(0-2)	x	09/20/2010	1250	Soil	1	X												
47SB-F04(0-2)	x	09/20/2010	1325	Soil	1	X												
47SB-F06(0-2)	x	09/20/2010	1350	Soil	1	X												
47SB-F07(0-2)	x	09/20/2010	1410	Soil	1	X												
47SB-E09(0-2)	x	09/20/2010	1430	Soil	1	X												
47SB-E06(0-2)	x	09/20/2010	1450	Soil	1	X												
47SB-C02(0-2)	x	09/20/2010	1520	Soil	1	X												
47SB-E02(0-2)	x	09/20/2010	1540	Soil	1	X												
47SB-F03(0-2)	x	09/21/2010	850	Soil	1	X												
47SB-D08(0-2)	x	09/21/2010	945	Soil	1	X												
47SB-D09(0-2)	x	09/21/2010	1000	Soil	1	X												
47SB-B10(0-2)	x	09/21/2010	1025	Soil	1	X												
47SB-J06(0-2)	x	09/21/2010	1055	Soil	1	X												
Relinquished By: 		Received By:			Special Instructions Standard TAT													
Date/Time 9/22/10 17:00		Date/Time																
Relinquished By:		R:  Microbac OVD Received: 09/23/2010 10:31 By: ROBIN KLINGER			221000009093													
Date/Time		D: 																

COOLER INSPECTION



Received: 09/23/2010 10:31
Delivery Method: UPS
Opened By: Robin Klinger
Comments:

Login(s): L10090609|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0014405	H	3.0	1Z66V7250192416060	LHAAP47-092210-1	

- 1 Yes Were shipping coolers sealed?
- 2 Yes Were custody seals intact?
- 3 Yes Were cooler temperatures in range of 0-6?
- 4 Yes Was ice present?
- 5 Yes Were COC's received/information complete/signed and dated?
- 6 No Were sample containers and labels intact and match COC?
- 7 Yes Were the correct containers and volumes received?
- 8 Yes Were samples received within EPA hold times?
- 9 NA Were correct preservatives used? (water only)
- 10 NA Were pH ranges acceptable? (voa's excluded)
- 11 NA Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

6 Didn't receive 47SB-F07 47SB-E09(0-2) on chain of custody, jar reads 47SB-08(4-6) Chain of Custody has incorrect depths per ID/Date/time. Logged per depths per jars.	Per the client 47SB-F07 was not collected. 47SB-E09(4-6) is the correct ID. Please use depths on the jars. The depths on the COC are not correct. Please add an MS/MSD to fraction 47SB-J06 per the client.

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Internal Chain of Custody Report

00106103

Login: L10090609

Account: 2773

Project: 2773.025

Samples: 14

Due Date: 04-OCT-2010

Samplenum **Container ID** **Products**
L10090609-01 742744 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:24	JKT	
2	ANALYZ	W1	SEM	29-SEP-2010 08:43	WTD	RLK
3	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

Samplenum **Container ID** **Products**
L10090609-02 742745 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:24	JKT	
2	ANALYZ	W1	SEM	29-SEP-2010 08:43	WTD	RLK
3	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

Samplenum **Container ID** **Products**
L10090609-03 742746 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:24	JKT	
2	ANALYZ	W1	SEM	29-SEP-2010 08:43	WTD	RLK
3	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

Samplenum **Container ID** **Products**
L10090609-04 742747 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:24	JKT	
2	ANALYZ	W1	SEM	29-SEP-2010 08:43	WTD	RLK
3	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Login: L10090609

Account: 2773

Project: 2773.025

Samples: 14

Due Date: 04-OCT-2010

Samplenum **Container ID** **Products**
L10090609-05 742748 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:24	JKT	
2	ANALYZ	W1	SEM	29-SEP-2010 08:43	WTD	RLK
3	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

Samplenum **Container ID** **Products**
L10090609-06 742749 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:24	JKT	
2	ANALYZ	W1	SEM	29-SEP-2010 08:43	WTD	RLK
3	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

Samplenum **Container ID** **Products**
L10090609-07 742750 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:24	JKT	
2	ANALYZ	W1	SEM	29-SEP-2010 08:43	WTD	RLK
3	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

Samplenum **Container ID** **Products**
L10090609-08 742751 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:24	JKT	
2	ANALYZ	W1	SEM	29-SEP-2010 08:43	WTD	RLK
3	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

Samplenum **Container ID** **Products**
L10090609-09 742752 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	WET	24-SEP-2010 10:24	JKT	
2	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

00106105

Login: L10090609

Account: 2773

Project: 2773.025

Samples: 14

Due Date: 04-OCT-2010

Samplenum **Container ID** **Products**
L10090609-10 742753 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:24	JKT	
2	ANALYZ	W1	SEM	29-SEP-2010 08:43	WTD	RLK
3	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

Samplenum **Container ID** **Products**
L10090609-11 742754 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:24	JKT	
2	ANALYZ	W1	SEM	29-SEP-2010 08:44	WTD	RLK
3	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

Samplenum **Container ID** **Products**
L10090609-12 742755 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:24	JKT	
2	ANALYZ	W1	SEM	29-SEP-2010 08:44	WTD	RLK
3	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

Samplenum **Container ID** **Products**
L10090609-13 742756 6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:24	JKT	
2	ANALYZ	W1	SEM	29-SEP-2010 08:44	WTD	RLK
3	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Login: L10090609**Account:** 2773**Project:** 2773.025**Samples:** 14**Due Date:** 04-OCT-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090609-14	742757	6850 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:24	JKT	
2	ANALYZ	W1	SEM	29-SEP-2010 08:44	WTD	RLK
3	STORE	WET	A1	04-OCT-2010 08:27	JKT	JDH

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



NELAP Addendum - May 28, 2010

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄)
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Perchlorate (6850 – LCMS)
 Hexamethylphosphoramide (XMPA-LCMS)
 Thiodiglycol (TDG-LCMS)
 1,4-Dioxane – 8270C (827-DIOXANE)
 Phosphorus – 6010B
 Zirconium - 6010B

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL HPLC02/HPLC-UV

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 2, 3, 4, 6-Tetrachlorophenol
 2-Chloronaphthalene
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene

Pentachloroethane

OVL MSSO4/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnol
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropyl ether
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene

Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

OVL MSS04/GC-MS

Atrazine
Bolstar (Sulprofos)
Chlorpyrifos
Diazinon
Ethoprop
Merphos
Ronnal
Simazine
Tokuthion (Prothiophos)
Trichloronate

OVL MSV01/GC-MS

1.3-Butadiene
alpha-Methylstyrene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Isopropylether
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)



158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • <http://www.microbac.com>

Laboratory Report Number: L10090610

Client: Jennifer Hoang, 1401 Enclave Parkway, Houston, TX, 77077

Contract #: DACA56-94-D-0020

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Kathy Albertson	<i>Team Chemist/Data Specialist</i>	Kathy.Albertson@microbac.com
Stephanie Mossburg	<i>Team Chemist/Data Specialist</i>	Stephanie.Mossburg@microbac.com
Tony Long	<i>Team Chemist/Data Specialist</i>	Tony.Long@microbac.com
Amanda Fickiesen	<i>Client Services Specialist</i>	Amanda.Fickiesen@microbac.com
Annie Brown	<i>Client Services Specialist</i>	Annie.Brown@microbac.com

This report was reviewed on October 21, 2010.

A handwritten signature in cursive script that reads "Stephanie Mossburg".

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on October 21, 2010.

A handwritten signature in cursive script that reads "David E. Vandenberg".

David Vandenberg - Managing Director

State of origin: Texas

Accrediting authority: Texas Commission on Environmental Quality ID:T104704252-07-TX

QAPP: Microbac OVD

This report contains a total of 104 pages.

Look closer. Go further. Do more.



The Microbac logo consists of the word "Microbac" in a white serif font, centered within a dark teal rectangular box. The text is underlined with a thin white line.

Microbac Laboratories, Inc.
Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750

Phone: 800.373.4071
Fax: 740.373.4835

Your data is now available online via our Web Access Portal!

Access and print reports, check the status of your projects, and review electronic data forms online from anywhere with internet access!

View a demo by visiting www.microbac.com and entering the Ohio Valley location
Click on "Online Data Access"

User ID: jdoe@abc.com

Password: demo

Contact your Microbac service representative to set up a *FREE* account today!

LOOK CLOSER, GO FURTHER, DO MORE.

Microbac REPORT L10090610
PREPARED FOR for Shaw E I, Inc.
WORK ID:

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2.1 General Chromatography Data 12

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2.2.1 Percent Solids Data 71

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1.0 Introduction



Login Number: L10090610

Department: Login

Analyst: N/A

Chain of Custody:

Shipment Conditions

COC #	Cooler #	Temperature
LHAAP47-092210-4	0014405	3.0

Sample Management: 47SB-E09(0-2) on chain of custody. Jar reads 47SB-E08(0-2), same time.

Received sample DUP03 not on Chain of Custody.

Sample Identification

Lab ID	Client ID
L10090610-11	47SB-D09 (0-2)
L10090610-01	47SB-J03 (0-2)
L10090610-02	47SB-F04 (0-2)
L10090610-03	47SB-F06 (0-2)
L10090610-04	47SB-F07 (0-2)
L10090610-05	47SB-E09 (0-2)
L10090610-06	47SB-E06 (0-2)
L10090610-07	47SB-C02 (0-2)
L10090610-08	47SB-E02 (0-2)
L10090610-09	47SB-F03 (0-2)
L10090610-10	47SB-D08 (0-2)
L10090610-12	47SB-B10 (0-2)
L10090610-13	47SB-J06 (0-2)
L10090610-14	DUP01- 100920
L10090610-15	DUP02- 100920
L10090610-16	DUP03- 100920

Narrative ID: 12079

Approved By: Stephanie Mossburg

Stephanie Mossburg



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090610
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG345491	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-21		

Laboratory Data Package Cover Page

R1	Field chain-of-custody documentation;
R2	Sample identification cross-reference;
R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a. if required for the project, tentatively identified compounds (TICs).
R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
R5	Test reports/summary forms for blank samples;
R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Mike Cochran		Semivolatiles Lab Supervisor	10/21/2010



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LRC Date:	2010-10-21		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					



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LRC Date:	2010-10-21		

Description	Yes	No	NA	NR	ER#
Were all COCs included in the LCS?	X				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?			X		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?					
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC	X				



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LRC Date:	2010-10-21		

Description	Yes	No	NA	NR	ER#
limits?					
Were percent RSDs or correlation coefficient criteria met?	X				
Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					



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LRC Date:	2010-10-21		

Description	Yes	No	NA	NR	ER#
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte,



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090610
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LRC Date:	2010-10-21		

matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspection by ☐ TCEQ or ☐ _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1. Sample 17MS yielded a recovery below the lower acceptance limit.

2.1 General Chromatography Data

2.1.1 LC/MS Data (6850)

2.1.1.1 Summary Data

LABORATORY REPORT

L10090610

00106124

10/21/10 14:42

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta, OH 45750
(740) 373-4071

For

Account Name: for Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-F04 (0-2)	L10090610-02	6850	100	23-SEP-10
47SB-F06 (0-2)	L10090610-03	6850	1	23-SEP-10
47SB-E06 (0-2)	L10090610-06	6850	1	23-SEP-10
47SB-C02 (0-2)	L10090610-07	6850	1	23-SEP-10
47SB-E02 (0-2)	L10090610-08	6850	1	23-SEP-10
47SB-F03 (0-2)	L10090610-09	6850	1	23-SEP-10
47SB-D08 (0-2)	L10090610-10	6850	1	23-SEP-10
47SB-B10 (0-2)	L10090610-12	6850	1	23-SEP-10
47SB-J06 (0-2)	L10090610-13	6850	1	23-SEP-10
DUP01- 100920	L10090610-14	6850	1	23-SEP-10
DUP02- 100920	L10090610-15	6850	1	23-SEP-10
DUP03- 100920	L10090610-16	6850	1	23-SEP-10
47SB-J06(0-2) MS	L10090610-17	6850	1	23-SEP-10
47SB-J06(0-2) MSD	L10090610-18	6850	1	23-SEP-10



Report Number: **L10090610**Report Date : **October 21, 2010**

00106125

Sample Number: **L10090610-02**
Client ID: **47SB-F04 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/20/2010 13:15**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **100**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/14/2010 19:37**
Run Date: **10/14/2010 21:49**
File ID: **1LM.LM06677**
Percent Solid: **91.8**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	1450		215	107

Report Number: **L10090610**Report Date : **October 21, 2010**

00106126

Sample Number: **L10090610-03**
Client ID: **47SB-F06 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/20/2010 13:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/13/2010 18:01**
File ID: **1LM.LM06627**
Percent Solid: **88.0**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.19	1.10

U Not detected at or above adjusted sample detection limit

Report Number: **L10090610**Report Date : **October 21, 2010**

00106127

Sample Number: **L10090610-06**
Client ID: **47SB-E06 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/20/2010 14:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/13/2010 18:28**
File ID: **1LM.LM06628**
Percent Solid: **87.9**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	3.92		2.25	1.13

Report Number: **L10090610**Report Date : **October 21, 2010**

00106128

Sample Number: **L10090610-07**
Client ID: **47SB-C02 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/20/2010 15:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/13/2010 18:54**
File ID: **1LM.LM06629**
Percent Solid: **90.3**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	4.56		2.15	1.08

Report Number: **L10090610**Report Date : **October 21, 2010**

00106129

Sample Number: **L10090610-08**
Client ID: **47SB-E02 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/20/2010 15:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/13/2010 19:21**
File ID: **1LM.LM06630**
Percent Solid: **86.5**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	18.3		2.29	1.14

Report Number: **L10090610**Report Date : **October 21, 2010**

00106130

Sample Number: **L10090610-09**
Client ID: **47SB-F03 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/21/2010 08:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/13/2010 19:47**
File ID: **1LM.LM06631**
Percent Solid: **89.9**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	6.17		2.18	1.09

Report Number: **L10090610**Report Date : **October 21, 2010**

00106131

Sample Number: **L10090610-10**
Client ID: **47SB-D08 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/21/2010 09:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/13/2010 20:14**
File ID: **1LM.LM06632**
Percent Solid: **94.2**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	13.3		2.02	1.01

Report Number: **L10090610**Report Date : **October 21, 2010**

00106132

Sample Number: **L10090610-12**
Client ID: **47SB-B10 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/21/2010 10:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/13/2010 21:59**
File ID: **1LM.LM06636**
Percent Solid: **94.4**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	29.4		2.08	1.04

Report Number: **L10090610**Report Date : **October 21, 2010**

00106133

Sample Number: **L10090610-13**
Client ID: **47SB-J06 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/21/2010 10:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/13/2010 22:25**
File ID: **1LM.LM06637**
Percent Solid: **91.8**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	9.45		2.14	1.07

Report Number: **L10090610**Report Date : **October 21, 2010**

00106134

Sample Number: **L10090610-14**
Client ID: **DUP01- 100920**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/20/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/13/2010 22:52**
File ID: **1LM.LM06638**
Percent Solid: **87.1**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	1.66	J	2.20	1.10

J The analyte was positively identified, but the quantitation was below the RL

Report Number: **L10090610**Report Date : **October 21, 2010**

00106135

Sample Number: **L10090610-15**
Client ID: **DUP02- 100920**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/20/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/13/2010 23:18**
File ID: **1LM.LM06639**
Percent Solid: **83.6**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	9.54		2.33	1.17

Report Number: **L10090610**Report Date : **October 21, 2010**

00106136

Sample Number: **L10090610-16**
Client ID: **DUP03- 100920**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/20/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/13/2010 23:45**
File ID: **1LM.LM06640**
Percent Solid: **84.5**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0		U	2.33	1.16

U Not detected at or above adjusted sample detection limit

Report Number: **L10090610**Report Date : **October 21, 2010**

00106137

Sample Number: **L10090610-17**
Client ID: **47SB-J06(0-2) MS**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/21/2010 10:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/14/2010 00:11**
File ID: **1LM.LM06641**
Percent Solid: **91.8**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	10.6		2.11	1.05

Report Number: **L10090610**Report Date : **October 21, 2010**

00106138

Sample Number: **L10090610-18**
Client ID: **47SB-J06(0-2) MSD**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/21/2010 10:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/14/2010 00:38**
File ID: **1LM.LM06642**
Percent Solid: **91.8**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	11.6		2.16	1.08

2.1.1.2 QC Summary Data

Example Calculation 6850 - Perchlorate**Concentration from Linear Regression****Step 1: Retrieve Curve Data From Plot, $y = mx + b$**

y = response ratio = response of analyte / response of internal standard (IS) = R_x/R_{istd}

x = amount ratio = concentration analyte/concentration internal standard (IS) = C_x / C_{istd}

m = slope from curve (1.45)

b = intercept from curve (-0.00242)

$y = 1.45x + -0.00242$

Step 2: Substitute the value for y

where $y = 12600/226000 = 0.055752$

Step 3: Solve for x

$x = (y - b)/m = 0.0040119$

Step 4: Solve for analyte concentration C_x

$C_x = (C_{is})(x) = (5 \text{ ug/L})(0.0040119) = 0.0200594 \text{ ug/L}$

Example Calculation - Water:

Slope from curve, m :	1.45
Intercept from curve, b :	-0.00242
Response of analyte, R_x :	12600
Response of Internal Standard, R_{istd} :	226000
Concentration of IS, C_{istd} (ug/L):	5.00
Response Ratio:	0.05575
Amount Ratio:	0.04012
Analyte Concentration, C_x (ug/L) :	0.200594

Example Calculation - Soil:

Analyte Concentration, C_x (ug/L):	0.20059
Amount of soil extracted (g):	5.00
Final volume of extract (mL):	50.00
Percent solids (Pct wt.)	100
Concentration in soil (ug/kg):	2.005938

Microbac Laboratories Inc.
Instrument Run Log

00106141

Instrument: LCMS1 Dataset: 101310_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100704

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 345491

CCV Std: STD41773 LCS STD: STD41773
 Internal STD: COA14875 Surrogate STD: NA Calibration STD STD41773

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06611	WG345487-01 CCB	1	1		10/13/10 10:59
2	1LM.LM06612	WG345487-02 0.1ug/L STD	1	1	STD41773	10/13/10 11:25
3	1LM.LM06613	WG345487-03 0.2ug/L STD	1	1	STD41773	10/13/10 11:52
4	1LM.LM06614	WG345487-04 0.5ug/L STD	1	1	STD41773	10/13/10 12:18
5	1LM.LM06615	WG345487-05 1.0ug/L STD	1	1	STD41773	10/13/10 12:45
6	1LM.LM06616	WG345487-06 2.0ug/L STD	1	1	STD41773	10/13/10 13:11
7	1LM.LM06617	WG345487-07 5.0ug/L STD	1	1	STD41773	10/13/10 13:37
8	1LM.LM06618	WG345487-08 10ug/L STD	1	1	STD41773	10/13/10 14:04
9	1LM.LM06619	WG345487-09 1.0ug/L ALT SRC	1	1	STD41774	10/13/10 14:30
10	1LM.LM06620	WG345488-01 CCB	1	1		10/13/10 14:57
11	1LM.LM06621	WG345488-02 1.0ug/L CCV	1	1	STD41773	10/13/10 15:23
12	1LM.LM06622	WG345491-07 2.0ug/kg QCMRL	7	1	STD41773	10/13/10 15:49
13	1LM.LM06623	WG345491-01 2.0ug/kg MCT	7	1	STD41773	10/13/10 16:16
14	1LM.LM06624	WG345491-02 MET BLANK	7	1		10/13/10 16:42
15	1LM.LM06625	WG345491-03 2.0ug/kg LCS	7	1	STD41773	10/13/10 17:09
16	1LM.LM06626	L10090610-02	7	1		10/13/10 17:35
17	1LM.LM06627	L10090610-03	7	1		10/13/10 18:01
18	1LM.LM06628	L10090610-06	7	1		10/13/10 18:28
19	1LM.LM06629	L10090610-07	7	1		10/13/10 18:54
20	1LM.LM06630	L10090610-08	7	1		10/13/10 19:21
21	1LM.LM06631	L10090610-09	7	1		10/13/10 19:47
22	1LM.LM06632	L10090610-10	7	1		10/13/10 20:14
23	1LM.LM06633	WG345488-03 1.0ug/L CCV	1	1	STD41773	10/13/10 20:40
24	1LM.LM06634	WG345491-08 2.0ug/kg QCMRL	7	1	STD41773	10/13/10 21:06
25	1LM.LM06635	WG345488-04 CCB	1	1		10/13/10 21:33
26	1LM.LM06636	L10090610-12	7	1		10/13/10 21:59
27	1LM.LM06637	L10090610-13	7	1		10/13/10 22:25
28	1LM.LM06638	L10090610-14	7	1		10/13/10 22:52
29	1LM.LM06639	L10090610-15	7	1		10/13/10 23:18
30	1LM.LM06640	L10090610-16	7	1		10/13/10 23:45
31	1LM.LM06641	L10090610-17	7	1	STD41773	10/14/10 00:11
32	1LM.LM06642	L10090610-18	7	1	STD41773	10/14/10 00:38
33	1LM.LM06643	L10090612-01	7	1		10/14/10 01:04
34	1LM.LM06644	L10090612-02	7	1		10/14/10 01:30

Page: 1

Approved: 14-OCT-10




Microbac Laboratories Inc.
Instrument Run Log

00106142

Instrument: LCMS1 Dataset: 101310_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100704

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 345491

CCV Std: STD41773 LCS STD: STD41773
 Internal STD: COA14875 Surrogate STD: NA STD41773

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
35	1LM.LM06645	L10090612-03	7	1		10/14/10 01:57
36	1LM.LM06646	WG345488-05 1.0ug/L CCV	1	1	STD41773	10/14/10 02:23
37	1LM.LM06647	WG345491-09 2.0ug/kg QCMRL	7	1	STD41773	10/14/10 02:50
38	1LM.LM06648	WG345488-06 CCB	1	1		10/14/10 03:16

Comments

Seq.	Rerun	Dil.	Reason	Analytes
16	X	100	Over Calibration Range	Perchlorate
			L10090610-02	
34	X	100	Over Calibration Range	Perchlorate
			L10090612-02	




Microbac Laboratories Inc.
Instrument Run Log

00106143

Instrument: LCMS1 Dataset: 101510_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100704

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 345491

CCV Std: STD41773 LCS STD: STD41773
 Internal STD: COA14875 Surrogate STD: NA Calibration STD STD41773

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06665	WG345695-01 CCB	1	1		10/14/10 16:32
2	1LM.LM06666	WG345695-02 0.1ug/L STD	1	1	STD41773	10/14/10 16:58
3	1LM.LM06667	WG345695-03 0.2ug/L STD	1	1	STD41773	10/14/10 17:25
4	1LM.LM06668	WG345695-04 0.5ug/L STD	1	1	STD41773	10/14/10 17:51
5	1LM.LM06669	WG345695-05 1.0ug/L STD	1	1	STD41773	10/14/10 18:18
6	1LM.LM06670	WG345695-06 2.0ug/L STD	1	1	STD41773	10/14/10 18:44
7	1LM.LM06671	WG345695-07 5.0ug/L STD	1	1	STD41773	10/14/10 19:11
8	1LM.LM06672	WG345695-08 10ug/L STD	1	1	STD41773	10/14/10 19:37
9	1LM.LM06673	WG345695-09 1.0ug/L ALT SRC	1	1	STD41774	10/14/10 20:04
10	1LM.LM06674	WG345592-01 CCB	1	1		10/14/10 20:30
11	1LM.LM06675	WG345592-02 1.0ug/L CCV	1	1	STD41773	10/14/10 20:56
12	1LM.LM06676	WG345491-10 2.0ug/kg QCMRL	7	1	STD41773	10/14/10 21:23
13	1LM.LM06677	L10090610-02 100X	7	100		10/14/10 21:49
14	1LM.LM06678	L10090612-02 100X	7	100		10/14/10 22:16
15	1LM.LM06679	WG345592-03 1.0ug/L CCV	1	1	STD41773	10/14/10 22:42
16	1LM.LM06680	WG345491-11 2.0ug/kg QCMRL	7	1	STD41773	10/14/10 23:09
17	1LM.LM06681	WG345592-04 CCB	1	1		10/14/10 23:35

Comments

Seq.	Rerun	Dil.	Reason	Analytes




Microbac Laboratories Inc.

00106144

Data Checklist

Date: 13-OCT-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

Curve Workgroup: NA

Runlog ID: 36928

Analytical Workgroups: L10090610, L10090612

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
14-OCT-2010

Secondary Reviewer:
14-OCT-2010



Microbac Laboratories Inc.

00106145

Data Checklist

Date: 14-OCT-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

Curve Workgroup: NA

Runlog ID: 36953

Analytical Workgroups: L10090610, L10090612

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Interference check sample (ICS) (LCMS)	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
15-OCT-2010

Secondary Reviewer:
15-OCT-2010



Analytical Method:6850

AAB#:WG345491

Login Number:L10090610

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
47SB-F04 (0-2)	02	09/20/10					10/13/10	22.9	28		10/14/10	1.5	28	
47SB-F06 (0-2)	03	09/20/10					10/13/10	22.9	28		10/13/10	.3	28	
47SB-E06 (0-2)	06	09/20/10					10/13/10	22.8	28		10/13/10	.3	28	
47SB-C02 (0-2)	07	09/20/10					10/13/10	22.8	28		10/13/10	.3	28	
47SB-E02 (0-2)	08	09/20/10					10/13/10	22.8	28		10/13/10	.3	28	
47SB-F03 (0-2)	09	09/21/10					10/13/10	22.1	28		10/13/10	.4	28	
47SB-D08 (0-2)	10	09/21/10					10/13/10	22.1	28		10/13/10	.4	28	
47SB-B10 (0-2)	12	09/21/10					10/13/10	22	28		10/13/10	.5	28	
47SB-J06 (0-2)	13	09/21/10					10/13/10	22	28		10/13/10	.5	28	
DUP01- 100920	14	09/20/10					10/13/10	23.5	28		10/13/10	.5	28	
DUP02- 100920	15	09/20/10					10/13/10	23.5	28		10/13/10	.5	28	
DUP03- 100920	16	09/20/10					10/13/10	23.5	28		10/13/10	.5	28	
47SB-J06(0-2) MS	17	09/21/10					10/13/10	22	28		10/14/10	.6	28	
47SB-J06(0-2) MSD	18	09/21/10					10/13/10	22	28		10/14/10	.6	28	

* = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

00106147

Login Number: L10090610
 Blank File ID: 1LM.LM06624
 Prep Date: 10/13/10 10:59
 Analyzed Date: 10/13/10 16:42
 Analyst: WTD

Work Group: WG345491
 Blank Sample ID: WG345491-02
 Instrument ID: LCMS1
 Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG345491-07	1LM.LM06622	10/13/10 15:49	01
MCT	WG345491-01	1LM.LM06623	10/13/10 16:16	01
LCS	WG345491-03	1LM.LM06625	10/13/10 17:09	01
47SB-F06 (0-2)	L10090610-03	1LM.LM06627	10/13/10 18:01	01
47SB-E06 (0-2)	L10090610-06	1LM.LM06628	10/13/10 18:28	01
47SB-C02 (0-2)	L10090610-07	1LM.LM06629	10/13/10 18:54	01
47SB-E02 (0-2)	L10090610-08	1LM.LM06630	10/13/10 19:21	01
47SB-F03 (0-2)	L10090610-09	1LM.LM06631	10/13/10 19:47	01
47SB-D08 (0-2)	L10090610-10	1LM.LM06632	10/13/10 20:14	01
QCMRL	WG345491-08	1LM.LM06634	10/13/10 21:06	01
47SB-B10 (0-2)	L10090610-12	1LM.LM06636	10/13/10 21:59	01
47SB-J06 (0-2)	L10090610-13	1LM.LM06637	10/13/10 22:25	01
DUP01- 100920	L10090610-14	1LM.LM06638	10/13/10 22:52	01
DUP02- 100920	L10090610-15	1LM.LM06639	10/13/10 23:18	01
DUP03- 100920	L10090610-16	1LM.LM06640	10/13/10 23:45	01
47SB-J06(0-2) MS	L10090610-17	1LM.LM06641	10/14/10 00:11	01
47SB-J06(0-2) MSD	L10090610-18	1LM.LM06642	10/14/10 00:38	01
QCMRL	WG345491-09	1LM.LM06647	10/14/10 02:50	01
QCMRL	WG345491-10	1LM.LM06676	10/14/10 21:23	01
47SB-F04 (0-2)	L10090610-02	1LM.LM06677	10/14/10 21:49	DL01
QCMRL	WG345491-11	1LM.LM06680	10/14/10 23:09	01



Login Number: L10090610 Prep Date: 10/13/10 10:59 Sample ID: WG345491-02
Instrument ID: LCMS1 Run Date: 10/13/10 16:42 Prep Method: 6850
File ID: 1LM.LM06624 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 13-OCT-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.982	1.96	0.982	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1806816
21-OCT-2010 09:26



Login Number: L10090610 Run Date: 10/13/2010 Sample ID: WG345491-03
Instrument ID: LCMS1 Run Time: 17:09 Prep Method: 6850
File ID: 1LM.LM06625 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
QC Key: STD Lot#: STD41773 Cal ID: LCMS1 - 13-OCT-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	1.98	1.95	98.5	80 - 120	

Conductivity Probe

Calibration Check:

1401 /1410 $\mu\text{S}/\text{cm}$

Perchlorate Conductivity Check

Working MCT Level:

10,000 $\mu\text{S}/\text{cm}$

Sample	Conductivity ($\mu\text{S}/\text{cm}$)	Pretreatment or Dilution Needed
W/G 345491-01 MCT	10,050	NA
-02 B1h	11.1	
-03 LCS	8.2	
L10090610-02	14.1	
-03	9.7	
-04	6.6	
-07	19.5	
-08	4.9	
-09	18.6	
-10	7.8	
-12	5.3	
-13	10.4	
-14	2.7	
-15	3.5	
-16	5.1	
-17	8.1	
-18	11.3	
L10090612-01	3.9	
-02	8.0	
-03	5.2	

Wade T. DeF...

Analyst

10-13-12 1455

Date/Time

DCN#84737



MS/MSD REPORT

00106151

Loginnum: L10090610 Cal ID: LCMS1- 13-OCT-10 Worknum: WG345491
 Instrument ID: LCMS1 Contract #: DACA56-94-D-0020 Prep Method: 6850
 Parent ID: L10090610-13 File ID: 1LM.LM06637 Dil: 1 Method: 6850
 Sample ID: L10090610-17 MS File ID: 1LM.LM06641 Dil: 1 Matrix: Soil
 Sample ID: L10090610-18 MSD File ID: 1LM.LM06642 Dil: 1 Units: ug/kg
 Percent Solid: 91.8

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Perchlorate	9.45	2.11	10.6	56.1	2.16	11.6	98.5	8.57	80 - 120	15	*

* FAILS %REC LIMIT

FAILS RPD LIMIT



Login Number: L10090610
Analytical Method: 6850
ICAL Workgroup: WG345487

Instrument ID: LCMS1
Initial Calibration Date: 13-OCT-10 14:04
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Perchlorate		1.392	11.3	1.00000	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

Login Number: L10090610
Analytical Method: 6850
ICAL Workgroup: WG345695

Instrument ID: LCMS1
Initial Calibration Date: 14-OCT-10 19:37
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Perchlorate		1.214	7.14	1.00000	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

Login Number: L10090610
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 13-OCT-10 14:04
Column ID: F

Analyte	WG345487-02			WG345487-03			WG345487-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	6720.00000	1.732	0.200	11300.0000	1.423	0.500	27000.0000	1.350

Login Number: L10090610
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 13-OCT-10 14:04
Column ID: F

Analyte	WG345487-05			WG345487-06			WG345487-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	54200.0000	1.367	2.00	101000.000	1.308	5.00	246000.000	1.262

Login Number: L10090610
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 13-OCT-10 14:04
Column ID: F

Analyte	WG345487-08		
	CONC	RESP	RF
Perchlorate	10.0	501000.000	1.301

Login Number: L10090610
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 14-OCT-10 19:37
Column ID: F

Analyte	WG345695-02			WG345695-03			WG345695-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	5500.00000	1.429	0.200	9840.00000	1.210	0.500	24200.0000	1.204

Login Number: L10090610
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 14-OCT-10 19:37
Column ID: F

Analyte	WG345695-05			WG345695-06			WG345695-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	45300.0000	1.139	2.00	93200.0000	1.171	5.00	231000.000	1.179

Login Number: L10090610
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 14-OCT-10 19:37
Column ID: F

Analyte	WG345695-08		
	CONC	RESP	RF
Perchlorate	10.0	453000.000	1.163

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

00106160

Login Number: L10090610 Run Date: 10/13/2010 Sample ID: WG345487-09
Instrument ID: LCMS1 Run Time: 14:30 Method: 6850
File ID: 1LM.LM06619 Analyst: WTD QC Key: STD
ICal Workgroup: WG345487 Cal ID: LCMS1 - 13-OCT-10

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	0.943	ug/L	1.25	5.70	15	

* Exceeds %D Limit



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

00106161

Login Number: L10090610 Run Date: 10/14/2010 Sample ID: WG345695-09
Instrument ID: LCMS1 Run Time: 20:04 Method: 6850
File ID: 1LM.LM06673 Analyst: WTD QC Key: STD
ICal Workgroup: WG345695 Cal ID: LCMS1 - 14-OCT-10

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	0.955	ug/L	1.13	4.50	15	

* Exceeds %D Limit



Login Number: L10090610 Run Date: 10/13/2010 Sample ID: WG345488-01
Instrument ID: LCMS1 Run Time: 14:57 Method: 6850
File ID: 1LM.LM06620 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 13-OCT-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090610 Run Date: 10/13/2010 Sample ID: WG345488-04
Instrument ID: LCMS1 Run Time: 21:33 Method: 6850
File ID: 1LM.LM06635 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 13-OCT-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090610 Run Date: 10/14/2010 Sample ID: WG345488-06
Instrument ID: LCMS1 Run Time: 03:16 Method: 6850
File ID: 1LM.LM06648 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 13-OCT-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090610 Run Date: 10/14/2010 Sample ID: WG345592-01
Instrument ID: LCMS1 Run Time: 20:30 Method: 6850
File ID: 1LM.LM06674 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 14-OCT-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090610 Run Date: 10/14/2010 Sample ID: WG345592-04
Instrument ID: LCMS1 Run Time: 23:35 Method: 6850
File ID: 1LM.LM06681 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 14-OCT-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090610 Run Date: 10/13/2010 Sample ID: WG345488-02
Instrument ID: LCMS1 Run Time: 15:23 Method: 6850
File ID: 1LM.LM06621 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 13-OCT-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.960	ug/L	1.27	4.00	15	

* Exceeds %D Criteria

Login Number: L10090610 Run Date: 10/13/2010 Sample ID: WG345488-03
Instrument ID: LCMS1 Run Time: 20:40 Method: 6850
File ID: 1LM.LM06633 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 13-OCT-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.935	ug/L	1.24	6.50	15	

* Exceeds %D Criteria

Login Number: L10090610 Run Date: 10/14/2010 Sample ID: WG345488-05
Instrument ID: LCMS1 Run Time: 02:23 Method: 6850
File ID: 1LM.LM06646 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 13-OCT-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.905	ug/L	1.20	9.50	15	

* Exceeds %D Criteria

Login Number: L10090610 Run Date: 10/14/2010 Sample ID: WG345592-02
Instrument ID: LCMS1 Run Time: 20:56 Method: 6850
File ID: 1LM.LM06675 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 14-OCT-10
Matrix: SOIL

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.994	ug/L	1.18	0.600	15	

* Exceeds %D Criteria

Login Number: L10090610 Run Date: 10/14/2010 Sample ID: WG345592-03
Instrument ID: LCMS1 Run Time: 22:42 Method: 6850
File ID: 1LM.LM06679 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 14-OCT-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	1.00	ug/L	1.19	0	15	

* Exceeds %D Criteria

Login Number: L10090610 Run Date: 10/13/2010 Sample ID: WG345491-07
Instrument ID: LCMS1 Run Time: 15:49 Prep Method: 6850
File ID: 1LM.LM06622 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 13-OCT-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.80	90.0	70 - 130	

Login Number: L10090610 Run Date: 10/13/2010 Sample ID: WG345491-08
Instrument ID: LCMS1 Run Time: 21:06 Prep Method: 6850
File ID: 1LM.LM06634 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 13-OCT-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.85	92.5	70 - 130	

Login Number: L10090610 Run Date: 10/14/2010 Sample ID: WG345491-09
Instrument ID: LCMS1 Run Time: 02:50 Prep Method: 6850
File ID: 1LM.LM06647 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 13-OCT-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.70	85.0	70 - 130	

Login Number: L10090610 Run Date: 10/14/2010 Sample ID: WG345491-10
Instrument ID: LCMS1 Run Time: 21:23 Prep Method: 6850
File ID: 1LM.LM06676 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 14-OCT-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.91	95.5	70 - 130	

Login Number: L10090610 Run Date: 10/14/2010 Sample ID: WG345491-11
Instrument ID: LCMS1 Run Time: 23:09 Prep Method: 6850
File ID: 1LM.LM06680 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 14-OCT-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	2.02	101	70 - 130	

Login Number: L10090610
Instrument ID: LCMS1
Workgroup (AAB#): WG345491

ICAL CCV Number: WG345487-05
CAL ID: LCMS1 - 13-OCT-10
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1
WG345487	NA	NA	196000
Upper Limit	NA	NA	294000
Lower Limit	NA	NA	98000
<u>L10090610-03</u>	1.00	01	197000
<u>L10090610-06</u>	1.00	01	198000
<u>L10090610-07</u>	1.00	01	202000
<u>L10090610-08</u>	1.00	01	205000
<u>L10090610-09</u>	1.00	01	206000
<u>L10090610-10</u>	1.00	01	211000
<u>L10090610-12</u>	1.00	01	212000
<u>L10090610-13</u>	1.00	01	209000
<u>L10090610-14</u>	1.00	01	213000
<u>L10090610-15</u>	1.00	01	213000
<u>L10090610-16</u>	1.00	01	215000
<u>L10090610-17</u>	1.00	01	211000
<u>L10090610-18</u>	1.00	01	211000
WG345491-02	1.00	01	197000
WG345491-03	1.00	01	192000

IS-1 - 018LP

Underline = Response outside limits

Login Number: L10090610
Instrument ID: LCMS1
Workgroup (AAB#): WG345491

ICAL CCV Number: WG345695-05
CAL ID: LCMS1 - 14-OCT-10
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1
WG345695	NA	NA	198000
Upper Limit	NA	NA	297000
Lower Limit	NA	NA	99000
L10090610-02	100	DL01	215000

IS-1 - 018LP

Underline = Response outside limits

2.2 General Chemistry Data

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

L10090610

00106182

10/21/10 14:42

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta, OH 45750
(740) 373-4071

For

Account Name: for Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-F04 (0-2)	L10090610-02	D2216-90	1	23-SEP-10
47SB-F06 (0-2)	L10090610-03	D2216-90	1	23-SEP-10
47SB-E06 (0-2)	L10090610-06	D2216-90	1	23-SEP-10
47SB-C02 (0-2)	L10090610-07	D2216-90	1	23-SEP-10
47SB-E02 (0-2)	L10090610-08	D2216-90	1	23-SEP-10
47SB-F03 (0-2)	L10090610-09	D2216-90	1	23-SEP-10
47SB-D08 (0-2)	L10090610-10	D2216-90	1	23-SEP-10
47SB-B10 (0-2)	L10090610-12	D2216-90	1	23-SEP-10
47SB-J06 (0-2)	L10090610-13	D2216-90	1	23-SEP-10
DUP01- 100920	L10090610-14	D2216-90	1	23-SEP-10
DUP02- 100920	L10090610-15	D2216-90	1	23-SEP-10
DUP03- 100920	L10090610-16	D2216-90	1	23-SEP-10
47SB-J06(0-2) MS	L10090610-17	D2216-90	1	23-SEP-10
47SB-J06(0-2) MSD	L10090610-18	D2216-90	1	23-SEP-10



Report Number: **L10090610**Report Date : **October 21, 2010**

00106183

Sample Number: **L10090610-02**
Client ID: **47SB-F04 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/20/2010 13:15**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0101**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	91.8		1.00	1.00

Report Number: **L10090610**Report Date : **October 21, 2010**

00106184

Sample Number: **L10090610-03**
Client ID: **47SB-F06 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/20/2010 13:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0102**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	88.0		1.00	1.00

Report Number: **L10090610**Report Date : **October 21, 2010**

00106185

Sample Number: **L10090610-06**
Client ID: **47SB-E06 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/20/2010 14:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0103**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	87.9		1.00	1.00

Report Number: **L10090610**Report Date : **October 21, 2010**

00106186

Sample Number: **L10090610-07**
Client ID: **47SB-C02 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/20/2010 15:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0104**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	90.3		1.00	1.00

Report Number: **L10090610**Report Date : **October 21, 2010**

00106187

Sample Number: **L10090610-08**
Client ID: **47SB-E02 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/20/2010 15:30**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0105**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	86.5		1.00	1.00

Report Number: **L10090610**Report Date : **October 21, 2010**

00106188

Sample Number: **L10090610-09**
Client ID: **47SB-F03 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/21/2010 08:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0106**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	89.9		1.00	1.00

Report Number: **L10090610**Report Date : **October 21, 2010**

00106189

Sample Number: **L10090610-10**
Client ID: **47SB-D08 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/21/2010 09:35**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0107**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	94.2		1.00	1.00

Report Number: **L10090610**Report Date : **October 21, 2010**

00106190

Sample Number: **L10090610-12**
Client ID: **47SB-B10 (0-2)**
Matrix: **Soil**
Workgroup Number: **W6345829**
Collect Date: **09/21/2010 10:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0108**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	94.4		1.00	1.00

Report Number: **L10090610**Report Date : **October 21, 2010**

00106191

Sample Number: **L10090610-13**
Client ID: **47SB-J06 (0-2)**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/21/2010 10:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0109**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	91.8		1.00	1.00

Report Number: **L10090610**Report Date : **October 21, 2010**

00106192

Sample Number: **L10090610-14**
Client ID: **DUP01- 100920**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/20/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0110**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	87.1		1.00	1.00

Report Number: **L10090610**Report Date : **October 21, 2010**

00106193

Sample Number: **L10090610-15**
Client ID: **DUP02- 100920**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/20/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0111**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	83.6		1.00	1.00

Report Number: **L10090610**Report Date : **October 21, 2010**

00106194

Sample Number: **L10090610-16**
Client ID: **DUP03- 100920**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/20/2010 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0112**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	84.5		1.00	1.00

Report Number: **L10090610**Report Date : **October 21, 2010**

00106195

Sample Number: **L10090610-17**
Client ID: **47SB-J06(0-2) MS**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/21/2010 10:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0113**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	91.8		1.00	1.00

Report Number: **L10090610**Report Date : **October 21, 2010**

00106196

Sample Number: **L10090610-18**
Client ID: **47SB-J06(0-2) MSD**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/21/2010 10:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0114**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	91.8		1.00	1.00

14 of 14



Example Percent Solids Calculations**1.0 Calculating the percent solids of a sample.**

$$\%Solids = \frac{WT3 - WT1}{WT2 - WT1} \times F$$

Where:

WT1 = Weight, in grams, of the empty container 1.30 g

WT2 = Weight, in grams, of the container and wet sample 21.274 g

WT3 = Weight, in grams, of the container and dried sample 5.21 g

F = Factor to get units as percent weight 100

%Solids = Percent solids present in sample. 19.58%

2.0 Calculating the percent moisture of a sample.

$$\% \text{ Moisture} = 100 - \% \text{ Solids from 1.0 calculation}$$

PERCENT SOLIDS

00106198

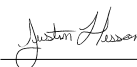
Workgroup (AAB#): WG345829
 Method: D2216-90
 SOP: K0003 Rev: 10

Analyst: JDH
 Instrument: BAL001

ADT(on): 10/15/2010 12:32
 ADT(off): 10/18/2010 08:57

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE
L10090610-02	1.32	23.81	21.97			91.82	
L10090610-03	1.32	19.97	17.73			87.99	
L10090610-06	1.33	32.06	28.35			87.93	
L10090610-07	1.3	16	14.57			90.27	
L10090610-08	1.35	16.34	14.31			86.46	
L10090610-09	1.34	23.14	20.94			89.91	
L10090610-10	1.33	15.92	15.07			94.17	
L10090610-12	1.35	25.02	23.7			94.42	
L10090610-13	1.34	24.38	22.49			91.80	
L10090610-14	1.33	29.71	26.06			87.14	
L10090610-15	1.34	19.7	16.68			83.55	
L10090610-16	1.32	33.5	28.52			84.52	
L10090610-17	1.34	24.38	22.49			91.80	
L10090610-18	1.34	24.38	22.49			91.80	
L10090612-01	1.31	26.29	21.91			82.47	
L10090612-02	1.33	32.19	30.44			94.33	
L10090612-03	1.32	14.46	12.43			84.55	
L10100247-01	1.32	12.74	11.91			92.73	
L10100247-02	1.31	29.16	27.8			95.12	
L10100247-03	1.34	27.41	23.86			86.38	
L10100247-04	1.32	22.41	21.2			94.26	
L10100370-01	1.3	17.72	17.16			96.59	
L10100370-02	1.33	22.97	22.17			96.30	
L10100370-03	1.32	24.06	23.19			96.17	
WG345829-01	1.32	24.06	23.19			96.17	3.826
WG345829-02	1.33	22.55	21.72			96.09	3.911

Analyst: _____



3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
October 21, 2010

ADC - ANTHONY D. CANTER	AJF - AMANDA J. FICKIESEN	ALB - ANNIE L. BROWN
ALV - AMY L. VALENTINE	AML - TONY M. LONG	AZH - AFTER HOURS
BLG - BRENDA L. GREENWALT	BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES	CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS	CPD - CHAD P. DAVIS
CSH - CHRIS S. HILL	DDE - DEBRA D. ELLIOTT	DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG	DGB - DOUGLAS G. BUTCHER	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE	DLR - DIANNA L. RAUCH
ECL - ERIC C. LAWSON	EDA - ERIN D. AGEE	ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN	HAV - HEMA VILASAGAR	HJR - HOLLY J. REED
JAL - JOHN A. LENT	JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON
JKT - JANE K. THOMPSON	JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES
JYH - JI Y. HU	KEB - KATIE E. BARNES	KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON	LKN - LINDA K. NEDEFF	LSB - LESLIE S. BUCINA
MDA - MIKE D. ALBERTSON	MDC - MIKE D. COCHRAN	MES - MARY E. SCHILLING
MMB - MAREN M. BEERY	MRT - MICHELLE R. TAYLOR	MSW - MATT S. WILSON
PDM - PIERCE D. MORRIS	PWD - PAUL W. DENT	RAH - ROY A. HALSTEAD
RB - BOB BUCHANAN	REK - BOB E. KYER	RLK - ROBIN L. KLINGER
RWC - RODNEY W. CAMPBELL	SLM - STEPHANIE L. MOSSBURG	SLP - SHERI L. PFALZGRAF
TIP - TAE I. PARRISH	TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS
VC - VICKI COLLIER	WJB - WILL J. BEASLEY	WTD - WADE T. DELONG

Qualkey: STD_ND=U

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Not detected at or above adjusted sample detection limit
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent.



Lab Name: Environmental Waste Solutions C/O Microbac
Address : 158 Starlite Drive, Marietta OH 45750
Contact : Stephanie Mossburg
Phone: 1-800-373-4071

PM: Praveen Srivastav (281.531.3188) Project Contact: Jen Hoang Project Name: LHAAP Project #: 117591-009A130							TAT: HOLD Phone No: 281-531-3108 Site: SITE 47 Location: Karnack, TX		# Of Containers	Perchlorate (6850)-28day HT														
Sampler Print: Allen Willmore (713.247.9292) Susan Oller (281.989.3544)		Sampler Sign: 																						
Sample Number	Grab	Date	Time	Matrix																				Comments
47SB-J03(0-2)	x	09/20/2010	1245	Soil	1	X																		
47SB-F04(0-2)	x	09/20/2010	1315	Soil	1	X																		
47SB-F06(0-2)	x	09/20/2010	1340	Soil	1	X																		
47SB-F07(0-2)	x	09/20/2010	1405	Soil	1	X																		
47SB-E09(0-2)	x	09/20/2010	1425	Soil	1	X																		
47SB-E06(0-2)	x	09/20/2010	1440	Soil	1	X																		
47SB-C02(0-2)	x	09/20/2010	1510	Soil	1	X																		
47SB-E02(0-2)	x	09/20/2010	1530	Soil	1	X																		
47SB-F03(0-2)	x	09/21/2010	835	Soil	1	X																		
47SB-D08(0-2)	x	09/21/2010	935	Soil	1	X																		
47SB-D09(0-2)	x	09/21/2010	955	Soil	1	X																		
47SB-B10(0-2)	x	09/21/2010	1010	Soil	1	X																		
47SB-J06(0-2)	x	09/21/2010	1040	Soil	1	X																		
DUP01 - 100920	x	9/20/2010	--	Soil	1	X																		
DUP02 - 100920	x	9/20/2010	--	Soil	1	X																		
Relinquished By:		Received By:				Special Instructions																		
						HOLD FOR INTERVAL (4-6) RESULTS																		
Date/Time 9/22/10 17:00		Date/Time																						
Relinquished By:		Received for Laboratory By:				Remarks:																		
		Microbac OVD				221000009096																		
Date/Time		Received: 09/23/2010 10:31																						
		By: ROBIN KLINGER																						

COOLER INSPECTION



Received: 09/23/2010 10:31
Delivery Method: UPS
Opened By: Robin Klinger
Comments:

Login(s): L10090610|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0014405	H	3.0	1Z66V7250192416060	LHAAP47-092210-4	

- 1 Yes Were shipping coolers sealed?
- 2 Yes Were custody seals intact?
- 3 Yes Were cooler temperatures in range of 0-6?
- 4 Yes Was ice present?
- 5 Yes Were COC's received/information complete/signed and dated?
- 6 No Were sample containers and labels intact and match COC?
- 7 Yes Were the correct containers and volumes received?
- 8 Yes Were samples received within EPA hold times?
- 9 NA Were correct preservatives used? (water only)
- 10 NA Were pH ranges acceptable? (voa's excluded)
- 11 NA Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

6 47SB-E09(0-2) on chain of custody. Jar reads 47SB-E08(0-2), same time. Received sample DUP03 not on Chain of Custody.	47SB-E09(0-2) is the correct ID. Please log DUP3 per the client

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Login: L10090610**Account:** 2773**Project:** 2773.025**Samples:** 14**Due Date:** 19-OCT-2010**Samplenum** **Container ID** **Products****L10090610-01** 742758

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

Samplenum **Container ID** **Products****L10090610-02** 742759

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

Samplenum **Container ID** **Products****L10090610-02** 750436 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:38	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:05	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

Samplenum **Container ID** **Products****L10090610-03** 742760

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

Samplenum **Container ID** **Products****L10090610-03** 750437 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:37	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:05	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Internal Chain of Custody Report

00106205

Login: L10090610

Account: 2773

Project: 2773.025

Samples: 14

Due Date: 19-OCT-2010

Samplenum **Container ID** **Products****L10090610-04** 742761

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	24-SEP-2010 10:25	JKT	
2	ANALYZ	W1	SEM	08-OCT-2010 07:50	WTD	JKT

Samplenum **Container ID** **Products****L10090610-05** 742762

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

Samplenum **Container ID** **Products****L10090610-06** 742763

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

Samplenum **Container ID** **Products****L10090610-06** 750438 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:38	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:05	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

Samplenum **Container ID** **Products****L10090610-07** 742764

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

00106206

Login: L10090610

Account: 2773

Project: 2773.025

Samples: 14

Due Date: 19-OCT-2010

Samplenum **Container ID** **Products**
L10090610-07 750439 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:38	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:05	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

Samplenum **Container ID** **Products**
L10090610-08 742765

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

Samplenum **Container ID** **Products**
L10090610-08 750440 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:38	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:05	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

Samplenum **Container ID** **Products**
L10090610-09 742766

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

Samplenum **Container ID** **Products**
L10090610-09 750441 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:38	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:05	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Login: L10090610**Account:** 2773**Project:** 2773.025**Samples:** 14**Due Date:** 19-OCT-2010**Samplenum** **Container ID** **Products****L10090610-10** 742767

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

Samplenum **Container ID** **Products****L10090610-10** 750442 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	SEM	13-OCT-2010 08:27	RLK	
2	STORE	SEM	W1	13-OCT-2010 10:04	RLK	WTD
3	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

Samplenum **Container ID** **Products****L10090610-11** 742768

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

Samplenum **Container ID** **Products****L10090610-12** 742769

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

Samplenum **Container ID** **Products****L10090610-12** 750443 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:38	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:05	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Login: L10090610**Account:** 2773**Project:** 2773.025**Samples:** 14**Due Date:** 19-OCT-2010**Samplenum** **Container ID** **Products****L10090610-13** 742770

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

Samplenum **Container ID** **Products****L10090610-13** 750444 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:37	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:05	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

Samplenum **Container ID** **Products****L10090610-14** 742771

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

Samplenum **Container ID** **Products****L10090610-14** 750445 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	SEM	13-OCT-2010 08:27	RLK	
2	STORE	SEM	W1	13-OCT-2010 10:04	RLK	WTD
3	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

Samplenum **Container ID** **Products****L10090610-15** 742772

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Login: L10090610**Account:** 2773**Project:** 2773.025**Samples:** 14**Due Date:** 19-OCT-2010

Samplenum **Container ID** **Products**
L10090610-15 750446 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:38	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:04	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

Samplenum **Container ID** **Products**
L10090610-16 742773

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:25	JKT	

Samplenum **Container ID** **Products**
L10090610-16 750447 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:38	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:04	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

Samplenum **Container ID** **Products**
L10090610-17 750448 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:37	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:05	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Login: L10090610**Account:** 2773**Project:** 2773.025**Samples:** 14**Due Date:** 19-OCT-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090610-18	750449	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:37	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:05	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:39	RLK	JDH

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



NELAP Addendum - October 14, 2010

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄) - 9038
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Thiodiglycol (TDG-LCMS)

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL HPLC02/HPLC-UV

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 1,4-Dioxane
 Atrazine
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene
 Pentachloroethane

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER**OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

OVL HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

SOLID AND HAZARDOUS CHEMICALSOVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

Nitrocellulose

OVL MSS01/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP**SOLID AND HAZARDOUS CHEMICALS**OVL MSV01/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)



158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • <http://www.microbac.com>

Laboratory Report Number: L10090612

Client: Jennifer Hoang, 1401 Enclave Parkway, Houston, TX, 77077
Contract #: DACA56-94-D-0020

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Kathy Albertson	<i>Team Chemist/Data Specialist</i>	Kathy.Albertson@microbac.com
Stephanie Mossburg	<i>Team Chemist/Data Specialist</i>	Stephanie.Mossburg@microbac.com
Tony Long	<i>Team Chemist/Data Specialist</i>	Tony.Long@microbac.com
Amanda Fickiesen	<i>Client Services Specialist</i>	Amanda.Fickiesen@microbac.com
Annie Brown	<i>Client Services Specialist</i>	Annie.Brown@microbac.com

This report was reviewed on October 21, 2010.

A handwritten signature in cursive script that reads "Stephanie Mossburg".

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on October 21, 2010.

A handwritten signature in cursive script that reads "David E. Vandenberg".

David Vandenberg - Managing Director

State of origin: Texas

Accrediting authority: Texas Commission on Environmental Quality ID:T104704252-07-TX

QAPP: Microbac OVD

This report contains a total of 76 pages.

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Microbac Laboratories, Inc.
Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750

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Microbac REPORT L10090612
PREPARED FOR for Shaw E I, Inc.
WORK ID:

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1.0 Introduction



Login Number: L10090612

Department: Login

Analyst: N/A

Chain of Custody:

Shipment Conditions

COC #	Cooler #	Temperature
lhaap47-092210-2	0014405	3.0

Sample Management: All samples were received intact.

Sample Identification

Lab ID	Client ID
L10090612-01	47SB-F03 (9-11)
L10090612-02	47SB-B10 (9-11)
L10090612-03	47SB-J06 (9-11)

Narrative ID: 12081

Approved By: Stephanie Mossburg

Stephanie Mossburg



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090612
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG345491	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-21		

Laboratory Data Package Cover Page

R1	Field chain-of-custody documentation;
R2	Sample identification cross-reference;
R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a. if required for the project, tentatively identified compounds (TICs).
R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
R5	Test reports/summary forms for blank samples;
R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Mike Cochran		Semivolatiles Lab Supervisor	10/21/2010



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090612
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG345491	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-21		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090612
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG345491	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-21		

Description	Yes	No	NA	NR	ER#
Were all COCs included in the LCS?	X				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?			X		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC	X				



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090612
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG345491	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-21		

Description	Yes	No	NA	NR	ER#
limits?					
Were percent RSDs or correlation coefficient criteria met?	X				
Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090612
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG345491	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-21		

Description	Yes	No	NA	NR	ER#
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte,



Laboratory Name:	Microbac OVD	Laboratory Log Number:	L10090612
Project Name:	798-LONGHORN	Method:	6850
Prep Batch Number(s):	WG345491	Reviewer Name:	Mike Cochran
LRC Date:	2010-10-21		

matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☐ This laboratory meets an exception under 30 TAC §25.6 and was last inspection by ☐ TCEQ or ☐ _____ on **(enter date of last inspection)**. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

2.1 General Chromatography Data

2.1.1 LC/MS Data (6850)

2.1.1.1 Summary Data

LABORATORY REPORT

L10090612

00106228

10/21/10 14:42

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: for Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-F03 (9-11)	L10090612-01	6850	1	23-SEP-10
47SB-B10 (9-11)	L10090612-02	6850	100	23-SEP-10
47SB-J06 (9-11)	L10090612-03	6850	1	23-SEP-10



Report Number: **L10090612**Report Date : **October 21, 2010**

00106229

Sample Number: **L10090612-01**
Client ID: **47SB-F03 (9-11)**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/21/2010 08:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/14/2010 01:04**
File ID: **1LM.LM06643**
Percent Solid: **82.5**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	1.42	J	2.41	1.20

J The analyte was positively identified, but the quantitation was below the RL

Report Number: **L10090612**Report Date : **October 21, 2010**

00106230

Sample Number: **L10090612-02**
Client ID: **47SB-B10 (9-11)**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/21/2010 10:20**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **100**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/14/2010 19:37**
Run Date: **10/14/2010 22:16**
File ID: **1LM.LM06678**
Percent Solid: **94.3**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	1670		209	105

Report Number: **L10090612**Report Date : **October 21, 2010**

00106231

Sample Number: **L10090612-03**
Client ID: **47SB-J06 (9-11)**
Matrix: **Soil**
Workgroup Number: **WG345491**
Collect Date: **09/21/2010 10:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **6850**
Analytical Method: **6850**
Analyst: **WTD**
Dilution: **1**
Units: **ug/kg**

Instrument: **LCMS1**
Prep Date: **10/13/2010 10:59**
Cal Date: **10/13/2010 14:04**
Run Date: **10/14/2010 01:57**
File ID: **1LM.LM06645**
Percent Solid: **84.6**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	14797-73-0	11.1		2.35	1.17

2.1.1.2 QC Summary Data

Example Calculation 6850 - Perchlorate**Concentration from Linear Regression****Step 1: Retrieve Curve Data From Plot, $y = mx + b$**

y = response ratio = response of analyte / response of internal standard (IS) = R_x/R_{istd}

x = amount ratio = concentration analyte/concentration internal standard (IS) = C_x / C_{istd}

m = slope from curve (1.45)

b = intercept from curve (-0.00242)

$y = 1.45x + -0.00242$

Step 2: Substitute the value for y

where $y = 12600/226000 = 0.055752$

Step 3: Solve for x

$x = (y - b)/m = 0.0040119$

Step 4: Solve for analyte concentration C_x

$C_x = (C_{is})(x) = (5 \text{ ug/L})(0.0040119) = 0.0200594 \text{ ug/L}$

Example Calculation - Water:

Slope from curve, m :	1.45
Intercept from curve, b :	-0.00242
Response of analyte, R_x :	12600
Response of Internal Standard, R_{istd} :	226000
Concentration of IS, C_{istd} (ug/L):	5.00
Response Ratio:	0.05575
Amount Ratio:	0.04012
Analyte Concentration, C_x (ug/L) :	0.200594

Example Calculation - Soil:

Analyte Concentration, C_x (ug/L):	0.20059
Amount of soil extracted (g):	5.00
Final volume of extract (mL):	50.00
Percent solids (Pct wt.)	100
Concentration in soil (ug/kg):	2.005938

Microbac Laboratories Inc.
Instrument Run Log

00106234

Instrument: LCMS1 Dataset: 101310_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100704

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 345491

CCV Std: STD41773 LCS STD: STD41773
 Internal STD: COA14875 Surrogate STD: NA Calibration STD STD41773

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06611	WG345487-01 CCB	1	1		10/13/10 10:59
2	1LM.LM06612	WG345487-02 0.1ug/L STD	1	1	STD41773	10/13/10 11:25
3	1LM.LM06613	WG345487-03 0.2ug/L STD	1	1	STD41773	10/13/10 11:52
4	1LM.LM06614	WG345487-04 0.5ug/L STD	1	1	STD41773	10/13/10 12:18
5	1LM.LM06615	WG345487-05 1.0ug/L STD	1	1	STD41773	10/13/10 12:45
6	1LM.LM06616	WG345487-06 2.0ug/L STD	1	1	STD41773	10/13/10 13:11
7	1LM.LM06617	WG345487-07 5.0ug/L STD	1	1	STD41773	10/13/10 13:37
8	1LM.LM06618	WG345487-08 10ug/L STD	1	1	STD41773	10/13/10 14:04
9	1LM.LM06619	WG345487-09 1.0ug/L ALT SRC	1	1	STD41774	10/13/10 14:30
10	1LM.LM06620	WG345488-01 CCB	1	1		10/13/10 14:57
11	1LM.LM06621	WG345488-02 1.0ug/L CCV	1	1	STD41773	10/13/10 15:23
12	1LM.LM06622	WG345491-07 2.0ug/kg QCMRL	7	1	STD41773	10/13/10 15:49
13	1LM.LM06623	WG345491-01 2.0ug/kg MCT	7	1	STD41773	10/13/10 16:16
14	1LM.LM06624	WG345491-02 MET BLANK	7	1		10/13/10 16:42
15	1LM.LM06625	WG345491-03 2.0ug/kg LCS	7	1	STD41773	10/13/10 17:09
16	1LM.LM06626	L10090610-02	7	1		10/13/10 17:35
17	1LM.LM06627	L10090610-03	7	1		10/13/10 18:01
18	1LM.LM06628	L10090610-06	7	1		10/13/10 18:28
19	1LM.LM06629	L10090610-07	7	1		10/13/10 18:54
20	1LM.LM06630	L10090610-08	7	1		10/13/10 19:21
21	1LM.LM06631	L10090610-09	7	1		10/13/10 19:47
22	1LM.LM06632	L10090610-10	7	1		10/13/10 20:14
23	1LM.LM06633	WG345488-03 1.0ug/L CCV	1	1	STD41773	10/13/10 20:40
24	1LM.LM06634	WG345491-08 2.0ug/kg QCMRL	7	1	STD41773	10/13/10 21:06
25	1LM.LM06635	WG345488-04 CCB	1	1		10/13/10 21:33
26	1LM.LM06636	L10090610-12	7	1		10/13/10 21:59
27	1LM.LM06637	L10090610-13	7	1		10/13/10 22:25
28	1LM.LM06638	L10090610-14	7	1		10/13/10 22:52
29	1LM.LM06639	L10090610-15	7	1		10/13/10 23:18
30	1LM.LM06640	L10090610-16	7	1		10/13/10 23:45
31	1LM.LM06641	L10090610-17	7	1	STD41773	10/14/10 00:11
32	1LM.LM06642	L10090610-18	7	1	STD41773	10/14/10 00:38
33	1LM.LM06643	L10090612-01	7	1		10/14/10 01:04
34	1LM.LM06644	L10090612-02	7	1		10/14/10 01:30

Page: 1

Approved: 14-OCT-10




Microbac Laboratories Inc.
Instrument Run Log

00106235

Instrument: LCMS1 Dataset: 101310_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100704

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 345491

CCV Std: STD41773 LCS STD: STD41773
 Internal STD: COA14875 Surrogate STD: NA STD41773

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
35	1LM.LM06645	L10090612-03	7	1		10/14/10 01:57
36	1LM.LM06646	WG345488-05 1.0ug/L CCV	1	1	STD41773	10/14/10 02:23
37	1LM.LM06647	WG345491-09 2.0ug/kg QCMRL	7	1	STD41773	10/14/10 02:50
38	1LM.LM06648	WG345488-06 CCB	1	1		10/14/10 03:16

Comments

Seq.	Rerun	Dil.	Reason	Analytes
16	X	100	Over Calibration Range	Perchlorate
			L10090610-02	
34	X	100	Over Calibration Range	Perchlorate
			L10090612-02	




Microbac Laboratories Inc.
Instrument Run Log

00106236

Instrument: LCMS1 Dataset: 101510_WTD.TXT
 Analyst1: WTD Analyst2: NA
 Method: 6850 SOP: HPLC06 Rev: 2

Maintenance Log ID: _____ Syringe Filter Lot#: T0407100704

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: 345491

CCV Std: STD41773 LCS STD: STD41773
 Internal STD: COA14875 Surrogate STD: NA Calibration STD STD41773

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM06665	WG345695-01 CCB	1	1		10/14/10 16:32
2	1LM.LM06666	WG345695-02 0.1ug/L STD	1	1	STD41773	10/14/10 16:58
3	1LM.LM06667	WG345695-03 0.2ug/L STD	1	1	STD41773	10/14/10 17:25
4	1LM.LM06668	WG345695-04 0.5ug/L STD	1	1	STD41773	10/14/10 17:51
5	1LM.LM06669	WG345695-05 1.0ug/L STD	1	1	STD41773	10/14/10 18:18
6	1LM.LM06670	WG345695-06 2.0ug/L STD	1	1	STD41773	10/14/10 18:44
7	1LM.LM06671	WG345695-07 5.0ug/L STD	1	1	STD41773	10/14/10 19:11
8	1LM.LM06672	WG345695-08 10ug/L STD	1	1	STD41773	10/14/10 19:37
9	1LM.LM06673	WG345695-09 1.0ug/L ALT SRC	1	1	STD41774	10/14/10 20:04
10	1LM.LM06674	WG345592-01 CCB	1	1		10/14/10 20:30
11	1LM.LM06675	WG345592-02 1.0ug/L CCV	1	1	STD41773	10/14/10 20:56
12	1LM.LM06676	WG345491-10 2.0ug/kg QCMRL	7	1	STD41773	10/14/10 21:23
13	1LM.LM06677	L10090610-02 100X	7	100		10/14/10 21:49
14	1LM.LM06678	L10090612-02 100X	7	100		10/14/10 22:16
15	1LM.LM06679	WG345592-03 1.0ug/L CCV	1	1	STD41773	10/14/10 22:42
16	1LM.LM06680	WG345491-11 2.0ug/kg QCMRL	7	1	STD41773	10/14/10 23:09
17	1LM.LM06681	WG345592-04 CCB	1	1		10/14/10 23:35

Comments

Seq.	Rerun	Dil.	Reason	Analytes




Microbac Laboratories Inc.

00106237

Data Checklist

Date: 13-OCT-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

Curve Workgroup: NA

Runlog ID: 36928

Analytical Workgroups: L10090610, L10090612

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
14-OCT-2010

Secondary Reviewer:
14-OCT-2010



Microbac Laboratories Inc.

00106238

Data Checklist

Date: 14-OCT-2010

Analyst: WTD

Analyst: NA

Method: 6850

Instrument: LCMS1

Curve Workgroup: NA

Runlog ID: 36953

Analytical Workgroups: L10090610, L10090612

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Interference check sample (ICS) (LCMS)	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	WTD
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
15-OCT-2010

Secondary Reviewer:
15-OCT-2010



Analytical Method: 6850
 Login Number: L10090612

AAB#: WG345491

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
47SB-F03 (9-11)	01	09/21/10					10/13/10	22.1	28		10/14/10	.6	28	
47SB-B10 (9-11)	02	09/21/10					10/13/10	22	28		10/14/10	1.5	28	
47SB-J06 (9-11)	03	09/21/10					10/13/10	22	28		10/14/10	.6	28	

* = SEE PROJECT QAPP REQUIREMENTS

METHOD BLANK SUMMARY

00106240

Login Number: L10090612
 Blank File ID: 1LM.LM06624
 Prep Date: 10/13/10 10:59
 Analyzed Date: 10/13/10 16:42
 Analyst: WTD

Work Group: WG345491
 Blank Sample ID: WG345491-02
 Instrument ID: LCMS1
 Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG345491-07	1LM.LM06622	10/13/10 15:49	01
MCT	WG345491-01	1LM.LM06623	10/13/10 16:16	01
LCS	WG345491-03	1LM.LM06625	10/13/10 17:09	01
QCMRL	WG345491-08	1LM.LM06634	10/13/10 21:06	01
47SB-F03 (9-11)	L10090612-01	1LM.LM06643	10/14/10 01:04	01
47SB-J06 (9-11)	L10090612-03	1LM.LM06645	10/14/10 01:57	01
QCMRL	WG345491-09	1LM.LM06647	10/14/10 02:50	01
QCMRL	WG345491-10	1LM.LM06676	10/14/10 21:23	01
47SB-B10 (9-11)	L10090612-02	1LM.LM06678	10/14/10 22:16	DL01
QCMRL	WG345491-11	1LM.LM06680	10/14/10 23:09	01



Login Number: L10090612 Prep Date: 10/13/10 10:59 Sample ID: WG345491-02
Instrument ID: LCMS1 Run Date: 10/13/10 16:42 Prep Method: 6850
File ID: 1LM.LM06624 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 13-OCT-10

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.982	1.96	0.982	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 1806826
21-OCT-2010 09:31



Login Number: L10090612 Run Date: 10/13/2010 Sample ID: WG345491-03
Instrument ID: LCMS1 Run Time: 17:09 Prep Method: 6850
File ID: 1LM.LM06625 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
QC Key: STD Lot#: STD41773 Cal ID: LCMS1 - 13-OCT-10

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	1.98	1.95	98.5	80 - 120	

Conductivity Probe

Calibration Check:

1401 /1410 $\mu\text{S}/\text{cm}$

Perchlorate Conductivity Check

Working MCT Level:

10,000 $\mu\text{S}/\text{cm}$

Sample	Conductivity ($\mu\text{S}/\text{cm}$)	Pretreatment or Dilution Needed
W/G 345491-01 MCT	10,050	NA
-02 B1h	11.1	
-03 LCS	8.2	
L10090610-02	14.1	
-03	9.7	
-04	6.6	
-07	19.5	
-08	4.9	
-09	18.6	
-10	7.8	
-12	5.3	
-13	10.4	
-14	2.7	
-15	3.5	
-16	5.1	
-17	8.1	
-18	11.3	
L10090612-01	3.9	
-02	8.0	
-03	5.2	

Wade T. DeFoy
Analyst

10-13-10 1455
Date/Time

DCN#84737



Login Number: L10090612
Analytical Method: 6850
ICAL Workgroup: WG345487

Instrument ID: LCMS1
Initial Calibration Date: 13-OCT-10 14:04
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Perchlorate		1.392	11.3	1.00000	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

Login Number: L10090612
Analytical Method: 6850
ICAL Workgroup: WG345695

Instrument ID: LCMS1
Initial Calibration Date: 14-OCT-10 19:37
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Perchlorate		1.214	7.14	1.00000	

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

Login Number: L10090612
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 13-OCT-10 14:04
Column ID: F

Analyte	WG345487-02			WG345487-03			WG345487-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	6720.00000	1.732	0.200	11300.0000	1.423	0.500	27000.0000	1.350

Login Number: L10090612
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 13-OCT-10 14:04
Column ID: F

Analyte	WG345487-05			WG345487-06			WG345487-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	54200.0000	1.367	2.00	101000.000	1.308	5.00	246000.000	1.262

Login Number: L10090612
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 13-OCT-10 14:04
Column ID: F

Analyte	WG345487-08		
	CONC	RESP	RF
Perchlorate	10.0	501000.000	1.301

Login Number: L10090612
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 14-OCT-10 19:37
Column ID: F

Analyte	WG345695-02			WG345695-03			WG345695-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	5500.00000	1.429	0.200	9840.00000	1.210	0.500	24200.0000	1.204

Login Number: L10090612
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 14-OCT-10 19:37
Column ID: F

Analyte	WG345695-05			WG345695-06			WG345695-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	45300.0000	1.139	2.00	93200.0000	1.171	5.00	231000.000	1.179

Login Number: L10090612
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 14-OCT-10 19:37
Column ID: F

Analyte	WG345695-08		
	CONC	RESP	RF
Perchlorate	10.0	453000.000	1.163

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

00106252

Login Number: L10090612 Run Date: 10/13/2010 Sample ID: WG345487-09
Instrument ID: LCMS1 Run Time: 14:30 Method: 6850
File ID: 1LM.LM06619 Analyst: WTD QC Key: STD
ICal Workgroup: WG345487 Cal ID: LCMS1 - 13-OCT-10

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	0.943	ug/L	1.25	5.70	15	

* Exceeds %D Limit



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

00106253

Login Number: L10090612 Run Date: 10/14/2010 Sample ID: WG345695-09
Instrument ID: LCMS1 Run Time: 20:04 Method: 6850
File ID: 1LM.LM06673 Analyst: WTD QC Key: STD
ICal Workgroup: WG345695 Cal ID: LCMS1 - 14-OCT-10

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	0.955	ug/L	1.13	4.50	15	

* Exceeds %D Limit



Login Number: L10090612 Run Date: 10/13/2010 Sample ID: WG345488-01
Instrument ID: LCMS1 Run Time: 14:57 Method: 6850
File ID: 1LM.LM06620 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 13-OCT-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090612 Run Date: 10/13/2010 Sample ID: WG345488-04
Instrument ID: LCMS1 Run Time: 21:33 Method: 6850
File ID: 1LM.LM06635 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 13-OCT-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090612 Run Date: 10/14/2010 Sample ID: WG345488-06
Instrument ID: LCMS1 Run Time: 03:16 Method: 6850
File ID: 1LM.LM06648 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 13-OCT-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090612 Run Date: 10/14/2010 Sample ID: WG345592-01
Instrument ID: LCMS1 Run Time: 20:30 Method: 6850
File ID: 1LM.LM06674 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 14-OCT-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090612 Run Date: 10/14/2010 Sample ID: WG345592-04
Instrument ID: LCMS1 Run Time: 23:35 Method: 6850
File ID: 1LM.LM06681 Analyst: WTD Units: ug/L
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 14-OCT-10
Matrix: SOIL QAPP: STD

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

Login Number: L10090612 Run Date: 10/13/2010 Sample ID: WG345488-02
Instrument ID: LCMS1 Run Time: 15:23 Method: 6850
File ID: 1LM.LM06621 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 13-OCT-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.960	ug/L	1.27	4.00	15	

* Exceeds %D Criteria

Login Number: L10090612 Run Date: 10/13/2010 Sample ID: WG345488-03
Instrument ID: LCMS1 Run Time: 20:40 Method: 6850
File ID: 1LM.LM06633 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 13-OCT-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.935	ug/L	1.24	6.50	15	

* Exceeds %D Criteria

Login Number: L10090612 Run Date: 10/14/2010 Sample ID: WG345488-05
Instrument ID: LCMS1 Run Time: 02:23 Method: 6850
File ID: 1LM.LM06646 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 13-OCT-10
Matrix: SOIL

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.905	ug/L	1.20	9.50	15	

* Exceeds %D Criteria

Login Number: L10090612 Run Date: 10/14/2010 Sample ID: WG345592-02
Instrument ID: LCMS1 Run Time: 20:56 Method: 6850
File ID: 1LM.LM06675 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 14-OCT-10
Matrix: SOIL

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.994	ug/L	1.18	0.600	15	

* Exceeds %D Criteria

Login Number: L10090612 Run Date: 10/14/2010 Sample ID: WG345592-03
Instrument ID: LCMS1 Run Time: 22:42 Method: 6850
File ID: 1LM.LM06679 Analyst: WTD QC Key: STD
Workgroup (AAB#): WG345491 Cal ID: LCMS1 - 14-OCT-10
Matrix: SOIL

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	1.00	ug/L	1.19	0	15	

* Exceeds %D Criteria

Login Number: L10090612 Run Date: 10/13/2010 Sample ID: WG345491-07
Instrument ID: LCMS1 Run Time: 15:49 Prep Method: 6850
File ID: 1LM.LM06622 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 13-OCT-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.80	90.0	70 - 130	

Login Number: L10090612 Run Date: 10/13/2010 Sample ID: WG345491-08
Instrument ID: LCMS1 Run Time: 21:06 Prep Method: 6850
File ID: 1LM.LM06634 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 13-OCT-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.85	92.5	70 - 130	

Login Number: L10090612 Run Date: 10/14/2010 Sample ID: WG345491-09
Instrument ID: LCMS1 Run Time: 02:50 Prep Method: 6850
File ID: 1LM.LM06647 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 13-OCT-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.70	85.0	70 - 130	

Login Number: L10090612 Run Date: 10/14/2010 Sample ID: WG345491-10
Instrument ID: LCMS1 Run Time: 21:23 Prep Method: 6850
File ID: 1LM.LM06676 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 14-OCT-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	1.91	95.5	70 - 130	

Login Number: L10090612 Run Date: 10/14/2010 Sample ID: WG345491-11
Instrument ID: LCMS1 Run Time: 23:09 Prep Method: 6850
File ID: 1LM.LM06680 Analyst: WTD Method: 6850
Workgroup (AAB#): WG345491 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: LCMS1 - 14-OCT-10

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	2.00	2.02	101	70 - 130	

Login Number: L10090612
Instrument ID: LCMS1
Workgroup (AAB#): WG345491

ICAL CCV Number: WG345487-05
CAL ID: LCMS1 - 13-OCT-10
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1
WG345487	NA	NA	196000
Upper Limit	NA	NA	294000
Lower Limit	NA	NA	98000
L10090612-01	1.00	01	221000
L10090612-03	1.00	01	207000
WG345491-02	1.00	01	197000
WG345491-03	1.00	01	192000

IS-1 - 018LP

Underline = Response outside limits

Login Number: L10090612
Instrument ID: LCMS1
Workgroup (AAB#): WG345491

ICAL CCV Number: WG345695-05
CAL ID: LCMS1 - 14-OCT-10
Matrix: SOLID

Sample Number	Dilution	Tag	IS-1
WG345695	NA	NA	198000
Upper Limit	NA	NA	297000
Lower Limit	NA	NA	99000
L10090612-02	100	DL01	206000

IS-1 - 018LP

Underline = Response outside limits

2.2 General Chemistry Data

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

LABORATORY REPORT

L10090612

00106274

10/21/10 14:42

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: for Shaw E & I, Inc.
1401 Enclave Parkway
Suite 250
Houston, TX 77077
Attention: Jennifer Hoang

Project Number: 2773.025
Project: Longhorn AAP
Site: LONGHORN AAP KARNACK TX

P.O. Number: 557440

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47SB-F03 (9-11)	L10090612-01	D2216-90	1	23-SEP-10
47SB-B10 (9-11)	L10090612-02	D2216-90	1	23-SEP-10
47SB-J06 (9-11)	L10090612-03	D2216-90	1	23-SEP-10



Report Number: **L10090612**Report Date : **October 21, 2010**

00106275

Sample Number: **L10090612-01**
Client ID: **47SB-F03 (9-11)**
Matrix: **Soil**
Workgroup Number: **WG345829**
Collect Date: **09/21/2010 08:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0115**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	82.5		1.00	1.00

1 of 3



Report Number: **L10090612**Report Date : **October 21, 2010**

00106276

Sample Number: **L10090612-02**
Client ID: **47SB-B10 (9-11)**
Matrix: **Soil**
Workgroup Number: **W6345829**
Collect Date: **09/21/2010 10:20**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0116**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	94.3		1.00	1.00

Report Number: **L10090612**Report Date : **October 21, 2010**

00106277

Sample Number: **L10090612-03**
Client ID: **47SB-J06 (9-11)**
Matrix: **Soil**
Workgroup Number: **W6345829**
Collect Date: **09/21/2010 10:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **JDH**
Dilution: **1**
Units: **weight %**

Instrument: **BAL001**
Prep Date: **10/18/2010 08:57**
Cal Date:
Run Date: **10/18/2010 08:57**
File ID: **B1.345829-0117**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Percent Solids	10-02-6	84.6		1.00	1.00

3 of 3



Example Percent Solids Calculations**1.0 Calculating the percent solids of a sample.**

$$\%Solids = \frac{WT3 - WT1}{WT2 - WT1} \times F$$

Where:

WT1 = Weight, in grams, of the empty container

1.30 g

WT2 = Weight, in grams, of the container and wet sample

21.274 g

WT3 = Weight, in grams, of the container and dried sample

5.21 g

F = Factor to get units as percent weight

100

%Solids = Percent solids present in sample.

19.58%

2.0 Calculating the percent moisture of a sample.

$$\% \text{ Moisture} = 100 - \% \text{ Solids from 1.0 calculation}$$

PERCENT SOLIDS

00106279

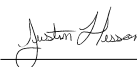
Workgroup (AAB#): WG345829
 Method: D2216-90
 SOP: K0003 Rev: 10

Analyst: JDH
 Instrument: BAL001

ADT(on): 10/15/2010 12:32
 ADT(off): 10/18/2010 08:57

SAMPLE NUMBER	EMPTY PAN WT 1	WET WT 2	DRY WT 3A	DRY WT 3B	DRY WT 3C	PERCENT SOLID	PERCENT MOISTURE
L10090610-02	1.32	23.81	21.97			91.82	
L10090610-03	1.32	19.97	17.73			87.99	
L10090610-06	1.33	32.06	28.35			87.93	
L10090610-07	1.3	16	14.57			90.27	
L10090610-08	1.35	16.34	14.31			86.46	
L10090610-09	1.34	23.14	20.94			89.91	
L10090610-10	1.33	15.92	15.07			94.17	
L10090610-12	1.35	25.02	23.7			94.42	
L10090610-13	1.34	24.38	22.49			91.80	
L10090610-14	1.33	29.71	26.06			87.14	
L10090610-15	1.34	19.7	16.68			83.55	
L10090610-16	1.32	33.5	28.52			84.52	
L10090610-17	1.34	24.38	22.49			91.80	
L10090610-18	1.34	24.38	22.49			91.80	
L10090612-01	1.31	26.29	21.91			82.47	
L10090612-02	1.33	32.19	30.44			94.33	
L10090612-03	1.32	14.46	12.43			84.55	
L10100247-01	1.32	12.74	11.91			92.73	
L10100247-02	1.31	29.16	27.8			95.12	
L10100247-03	1.34	27.41	23.86			86.38	
L10100247-04	1.32	22.41	21.2			94.26	
L10100370-01	1.3	17.72	17.16			96.59	
L10100370-02	1.33	22.97	22.17			96.30	
L10100370-03	1.32	24.06	23.19			96.17	
WG345829-01	1.32	24.06	23.19			96.17	3.826
WG345829-02	1.33	22.55	21.72			96.09	3.911

Analyst: _____



3.0 Attachments

Microbac Laboratories Inc.
Analyst Listing
October 21, 2010

ADC - ANTHONY D. CANTER	AJF - AMANDA J. FICKIESEN	ALB - ANNIE L. BROWN
ALV - AMY L. VALENTINE	AML - TONY M. LONG	AZH - AFTER HOURS
BLG - BRENDA L. GREENWALT	BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES	CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS	CPD - CHAD P. DAVIS
CSH - CHRIS S. HILL	DDE - DEBRA D. ELLIOTT	DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG	DGB - DOUGLAS G. BUTCHER	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE	DLR - DIANNA L. RAUCH
ECL - ERIC C. LAWSON	EDA - ERIN D. AGEE	ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN	HAV - HEMA VILASAGAR	HJR - HOLLY J. REED
JAL - JOHN A. LENT	JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON
JKT - JANE K. THOMPSON	JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES
JYH - JI Y. HU	KEB - KATIE E. BARNES	KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON	LKN - LINDA K. NEDEFF	LSB - LESLIE S. BUCINA
MDA - MIKE D. ALBERTSON	MDC - MIKE D. COCHRAN	MES - MARY E. SCHILLING
MMB - MAREN M. BEERY	MRT - MICHELLE R. TAYLOR	MSW - MATT S. WILSON
PDM - PIERCE D. MORRIS	PWD - PAUL W. DENT	RAH - ROY A. HALSTEAD
RB - BOB BUCHANAN	REK - BOB E. KYER	RLK - ROBIN L. KLINGER
RWC - RODNEY W. CAMPBELL	SLM - STEPHANIE L. MOSSBURG	SLP - SHERI L. PFALZGRAF
TIP - TAE I. PARRISH	TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS
VC - VICKI COLLIER	WJB - WILL J. BEASLEY	WTD - WADE T. DELONG

Qualkey: STD_ND=U

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Not detected at or above adjusted sample detection limit
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent.



Lab Name: Environmental Waste Solutions C/O Microbac
Address : 158 Starlite Drive, Marietta OH 45750
Contact : Stephanie Mossburg
Phone: 1-800-373-4071

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COOLER INSPECTION



Received: 09/23/2010 10:31
Delivery Method: UPS
Opened By: Robin Klinger
Comments:

Login(s): L10090612|

Cooler(s)

Cooler #	Temp Gun	Temp	Tracking #	COC #	Comments
0014405	H	3.0	1Z66V7250192416060	lhaap47-092210-2	

- 1 Yes Were shipping coolers sealed?
- 2 Yes Were custody seals intact?
- 3 Yes Were cooler temperatures in range of 0-6?
- 4 Yes Was ice present?
- 5 Yes Were COC's received/information complete/signed and dated?
- 6 Yes Were sample containers and labels intact and match COC?
- 7 Yes Were the correct containers and volumes received?
- 8 Yes Were samples received within EPA hold times?
- 9 NA Were correct preservatives used? (water only)
- 10 NA Were pH ranges acceptable? (voa's excluded)
- 11 NA Were VOA samples free of headspace (less than 6mm)?

Discrepancies:

Look closer. Go further. Do more.

Microbac - Ohio Valley Division
158 Starlite Drive
Marietta, OH 45750
Tel: (740)373-4071 Fax: (740)373-4835

Login: L10090612**Account:** 2773**Project:** 2773.025**Samples:** 3**Due Date:** 19-OCT-2010**Samplenum** **Container ID** **Products****L10090612-01** 742784

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:26	JKT	

Samplenum **Container ID** **Products****L10090612-01** 750450 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:38	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:04	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:40	RLK	JDH

Samplenum **Container ID** **Products****L10090612-02** 742785

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:26	JKT	

Samplenum **Container ID** **Products****L10090612-02** 750451 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:38	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:04	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:40	RLK	JDH

Samplenum **Container ID** **Products****L10090612-03** 742786

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	hold	24-SEP-2010 10:26	JKT	

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Internal Chain of Custody Report

00106286

Login: L10090612**Account:** 2773**Project:** 2773.025**Samples:** 3**Due Date:** 19-OCT-2010

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L10090612-03	750452	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	13-OCT-2010 08:27	RLK	
2	ANALYZ	W1	SEM	13-OCT-2010 08:38	WTD	RLK
3	STORE	SEM	W1	13-OCT-2010 10:04	RLK	WTD
4	ANALYZ	WET	A1	20-OCT-2010 10:40	RLK	JDH

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



NELAP Addendum - October 14, 2010

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Sulfate (SO₄) - 9038
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Thiodiglycol (TDG-LCMS)

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL HPLC02/HPLC-UV

Nitroglycerin
 Nitroguanidine
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 1,4-Dioxane
 Atrazine
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene
 Pentachloroethane

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER**OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID**

Isobutane
n-Butane
Propane
Propylene
Propyne

OVL HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

SOLID AND HAZARDOUS CHEMICALSOVL HPLCOS-HPLC-UV **

Nitroguanidine

OVL KNITRO-C-S/UV-VIS**

Nitrocellulose

OVL MSS01/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP**SOLID AND HAZARDOUS CHEMICALS**OVL MSV01/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)