

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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Tel: (813)885-7427

TestAmerica Job ID: 660-67393-1

Client Project/Site: City of Hollywood  
Revision: 1

For:

Langan Engineering & Environmental Svcs  
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Attn: Dan Spector



Authorized for release by:

1/7/2016 1:11:10 PM

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*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Sample Summary . . . . .	3
Case Narrative . . . . .	4
Definitions/Glossary . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	10
QC Sample Results . . . . .	34
Internal Standard Summary . . . . .	48
QC Association Summary . . . . .	50
Lab Chronicle . . . . .	54
Method Summary . . . . .	57
Certification Summary . . . . .	58
Chain of Custody . . . . .	60
Receipt Checklists . . . . .	61

# Sample Summary

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
660-67393-1	LMW-B4	Water	06/11/15 09:23	06/12/15 08:50
660-67393-2	LMW-DP1	Water	06/11/15 10:36	06/12/15 08:50
660-67393-3	LMW-B3	Water	06/11/15 12:41	06/12/15 08:50
660-67393-4	LMW-DP2	Water	06/11/15 13:41	06/12/15 08:50
660-67393-5	LMW-2A	Water	06/11/15 15:36	06/12/15 08:50

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Case Narrative

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Job ID: 660-67393-1**

**Laboratory: TestAmerica Tampa**

## Narrative

### Job Narrative 660-67393-1

#### Receipt

The samples were received on 6/12/2015 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.7° C, 0.7° C, 0.9° C, 1.3° C and 1.5° C.

#### Laboratory Comments

Due to system limitations Total Endosulfans and Total PCB's are not included in this report. The data for these summary analytes has been calculated by hand and entered into the accompanying EDD.

#### GC/MS VOA

Method 8260B: The sample duplicate (DUP) precision for 158876 was outside control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method 8270D LL: The following analyte recovered outside control limits for the LCSD associated with 640-117308 and 640-117308: Fluorene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8270D LL: The matrix spike / matrix spike duplicate (MS/MSD) precision for 640-117308 and 640-117308 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method 8141B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 640-117314 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Subcontract non-Sister

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 400-261268.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Definitions/Glossary

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

### GC Semi VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

### DIOXIN

Qualifier	Qualifier Description
J	Estimated value; value may not be accurate.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
V	Indicates the analyte was detected in both the sample and method blank.

### Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Detection Summary

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-B4**

**Lab Sample ID: 660-67393-1**

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	0.816	J I	47.8	0.183	0.1	0.082	pg/L	1		1613B	Total
1,2,3,7,8,9-HxCDD	0.607	J I	47.8	0.165	0.1	0.061	pg/L	1		1613B	Total
Total HxCDD	7.77	J I	47.8	0.171			pg/L	1		1613B	Total
1,2,3,4,6,7,8-HpCDD	29.2	V I	47.8	0.524	0.01	0.29	pg/L	1		1613B	Total
Total HpCDD	62.5	I V	47.8	0.524			pg/L	1		1613B	Total
OCDD	321	V	95.6	0.871	0.001	0.32	pg/L	1		1613B	Total
Total TCDF	4.69	J I	9.56	0.165			pg/L	1		1613B	Total
Total PeCDF	2.97	J I	47.8	0.192			pg/L	1		1613B	Total
2,3,4,6,7,8-HxCDF	0.500	J V I	47.8	0.215	0.1	0.050	pg/L	1		1613B	Total
Total HxCDF	5.65	J I V	47.8	0.211			pg/L	1		1613B	Total
1,2,3,4,6,7,8-HpCDF	2.42	J V I	47.8	0.112	0.01	0.024	pg/L	1		1613B	Total
Total HpCDF	4.76	J I V	47.8	0.134			pg/L	1		1613B	Total
OCDF	5.87	V I	95.6	0.130	0.001	0.0059	pg/L	1		1613B	Total
Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Acenaphthene	9.9		0.20	0.040	ug/L	1		8270D LL	Total/NA		
Anthracene	1.1		0.20	0.040	ug/L	1		8270D LL	Total/NA		
Benzo[a]anthracene	0.086	I	0.20	0.025	ug/L	1		8270D LL	Total/NA		
Benzo[a]pyrene	0.042	I	0.20	0.025	ug/L	1		8270D LL	Total/NA		
Benzo[b]fluoranthene	0.056	I	0.10	0.025	ug/L	1		8270D LL	Total/NA		
Chrysene	0.082	I	0.20	0.025	ug/L	1		8270D LL	Total/NA		
Fluoranthene	1.8		0.20	0.025	ug/L	1		8270D LL	Total/NA		
Fluorene	7.3	J3	0.20	0.040	ug/L	1		8270D LL	Total/NA		
1-Methylnaphthalene	2.9		0.20	0.040	ug/L	1		8270D LL	Total/NA		
2-Methylnaphthalene	1.8		0.20	0.031	ug/L	1		8270D LL	Total/NA		
Naphthalene	0.28		0.20	0.040	ug/L	1		8270D LL	Total/NA		
Phenanthrene	7.9		0.20	0.040	ug/L	1		8270D LL	Total/NA		
Pyrene	1.1		0.20	0.025	ug/L	1		8270D LL	Total/NA		
Total Petroleum Hydrocarbons (C8-C40)	400		150	24	ug/L	1		FL-PRO	Total/NA		
Arsenic	89		2.5	1.3	ug/L	1		6020A	Total Recoverable		
Barium	630		5.0	1.3	ug/L	1		6020A	Total Recoverable		
Lead	4.8		1.5	0.20	ug/L	1		6020A	Total Recoverable		

**Client Sample ID: LMW-DP1**

**Lab Sample ID: 660-67393-2**

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	0.137	J I	9.60	0.161			pg/L	1		1613B	Total
Total PeCDD	0.419	J I	48.0	0.102			pg/L	1		1613B	Total
1,2,3,7,8,9-HxCDD	0.541	J I	48.0	0.204	0.1	0.054	pg/L	1		1613B	Total
Total HxCDD	3.10	J I	48.0	0.211			pg/L	1		1613B	Total
1,2,3,4,6,7,8-HpCDD	24.4	J V I	48.0	0.679	0.01	0.24	pg/L	1		1613B	Total
Total HpCDD	40.6	J I V	48.0	0.679			pg/L	1		1613B	Total
OCDD	156	V	96.0	0.631	0.001	0.16	pg/L	1		1613B	Total
Total TCDF	0.551	J I	9.60	0.173			pg/L	1		1613B	Total
Total PeCDF	1.67	J I	48.0	0.234			pg/L	1		1613B	Total
Total HxCDF	1.07	J I	48.0	0.219			pg/L	1		1613B	Total
1,2,3,4,6,7,8-HpCDF	0.690	J V I	48.0	0.138	0.01	0.0069	pg/L	1		1613B	Total
Total HpCDF	1.86	I J V	48.0	0.170			pg/L	1		1613B	Total

This Detection Summary does not include radiochemical test results.

TestAmerica Tampa

# Detection Summary

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Client Sample ID: LMW-DP1 (Continued)

## Lab Sample ID: 660-67393-2

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
OCDF	2.38	V I	96.0	0.146	0.001	0.0024	pg/L	1		1613B	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	0.12	I		0.20		0.040	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.054	I		0.20		0.025	ug/L	1		8270D LL	Total/NA
Fluorene	0.13	I J3		0.20		0.040	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.066	I		0.20		0.040	ug/L	1		8270D LL	Total/NA
Pyrene	0.032	I		0.20		0.025	ug/L	1		8270D LL	Total/NA
Arsenic	8.4			2.5		1.3	ug/L	1		6020A	Total Recoverable
Barium	460			5.0		1.3	ug/L	1		6020A	Total Recoverable
Lead	1.6			1.5		0.20	ug/L	1		6020A	Total Recoverable

## Client Sample ID: LMW-B3

## Lab Sample ID: 660-67393-3

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.473	J V I	48.4	0.157	0.5	0.24	pg/L	1		1613B	Total
Total PeCDD	0.473	J V I	48.4	0.157			pg/L	1		1613B	Total
1,2,3,6,7,8-HxCDD	1.67	J I	48.4	0.215	0.1	0.17	pg/L	1		1613B	Total
1,2,3,7,8,9-HxCDD	0.990	J I	48.4	0.193	0.1	0.099	pg/L	1		1613B	Total
Total HxCDD	18.3	J I	48.4	0.200			pg/L	1		1613B	Total
1,2,3,4,6,7,8-HpCDD	71.7	V	48.4	0.659	0.01	0.72	pg/L	1		1613B	Total
Total HpCDD	138	V	48.4	0.659			pg/L	1		1613B	Total
OCDD	636	V	96.8	0.883	0.001	0.64	pg/L	1		1613B	Total
2,3,7,8-TCDF	0.0983	J I	9.68	0.127	0.1	0.0098	pg/L	1		1613B	Total
Total TCDF	2.06	J I	9.68	0.127			pg/L	1		1613B	Total
Total PeCDF	0.357	J I	48.4	0.175			pg/L	1		1613B	Total
1,2,3,6,7,8-HxCDF	0.501	J I	48.4	0.170	0.1	0.050	pg/L	1		1613B	Total
Total HxCDF	6.25	J I	48.4	0.183			pg/L	1		1613B	Total
1,2,3,4,6,7,8-HpCDF	2.06	V I	48.4	0.137	0.01	0.021	pg/L	1		1613B	Total
Total HpCDF	4.76	J V I	48.4	0.166			pg/L	1		1613B	Total
OCDF	3.67	J V I	96.8	0.137	0.001	0.0037	pg/L	1		1613B	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Acetone	11	I		20		9.9	ug/L	1		8260B	Total/NA
Chlorobenzene	0.82	I		1.0		0.63	ug/L	1		8260B	Total/NA
Isopropylbenzene	0.67	I		1.0		0.52	ug/L	1		8260B	Total/NA
Acenaphthene	0.21	I		0.20		0.040	ug/L	1		8270D LL	Total/NA
Anthracene	0.050	I		0.20		0.040	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.050	I		0.20		0.025	ug/L	1		8270D LL	Total/NA
Fluorene	0.15	I J3		0.20		0.040	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.12	I		0.20		0.040	ug/L	1		8270D LL	Total/NA
Pyrene	0.053	I		0.20		0.025	ug/L	1		8270D LL	Total/NA
Total Petroleum Hydrocarbons (C8-C40)	270			150		24	ug/L	1		FL-PRO	Total/NA
Arsenic	1.3	I		2.5		1.3	ug/L	1		6020A	Total Recoverable
Barium	1100			5.0		1.3	ug/L	1		6020A	Total Recoverable
Chromium	2.6	I		5.0		2.5	ug/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Tampa



# Detection Summary

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Client Sample ID: LMW-B3 (Continued)

## Lab Sample ID: 660-67393-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	2.5		1.5	0.20	ug/L	1		6020A	Total Recoverable

## Client Sample ID: LMW-DP2

## Lab Sample ID: 660-67393-4

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.362	J I	10.2	0.0996	1	0.36	pg/L	1		1613B	Total
Total TCDD	0.362	J I	10.2	0.0996			pg/L	1		1613B	Total
Total PeCDD	2.19	J I	50.8	0.264			pg/L	1		1613B	Total
1,2,3,6,7,8-HxCDD	2.31	J I	50.8	0.333	0.1	0.23	pg/L	1		1613B	Total
1,2,3,7,8,9-HxCDD	1.51	I	50.8	0.317	0.1	0.15	pg/L	1		1613B	Total
Total HxCDD	23.7	J I	50.8	0.329			pg/L	1		1613B	Total
1,2,3,4,6,7,8-HpCDD	129	V	50.8	1.17	0.01	1.3	pg/L	1		1613B	Total
Total HpCDD	291	V	50.8	1.17			pg/L	1		1613B	Total
OCDD	1330	V	102	1.86	0.001	1.3	pg/L	1		1613B	Total
Total TCDF	20.5	I J	10.2	0.243			pg/L	1		1613B	Total
Total PeCDF	16.9	J I	50.8	0.309			pg/L	1		1613B	Total
1,2,3,4,7,8-HxCDF	0.500	J I	50.8	0.287	0.1	0.050	pg/L	1		1613B	Total
Total HxCDF	17.3	J I	50.8	0.298			pg/L	1		1613B	Total
1,2,3,4,6,7,8-HpCDF	4.77	J V I	50.8	0.376	0.01	0.048	pg/L	1		1613B	Total
Total HpCDF	10.6	J I V	50.8	0.470			pg/L	1		1613B	Total
OCDF	6.98	V I	102	0.242	0.001	0.0070	pg/L	1		1613B	Total

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	0.15	I	0.20	0.040	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.032	I	0.20	0.025	ug/L	1		8270D LL	Total/NA
Fluorene	0.064	I J3	0.20	0.040	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.058	I	0.20	0.040	ug/L	1		8270D LL	Total/NA
Pyrene	0.034	I	0.20	0.025	ug/L	1		8270D LL	Total/NA
Total Petroleum Hydrocarbons (C8-C40)	34	I	150	24	ug/L	1		FL-PRO	Total/NA
Barium	780		5.0	1.3	ug/L	1		6020A	Total Recoverable
Lead	8.6		1.5	0.20	ug/L	1		6020A	Total Recoverable

## Client Sample ID: LMW-2A

## Lab Sample ID: 660-67393-5

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total PeCDD	0.162	J I	49.5	0.112			pg/L	1		1613B	Total
Total HxCDD	0.454	J I	49.5	0.145			pg/L	1		1613B	Total
1,2,3,4,6,7,8-HpCDD	2.97	J V I	49.5	0.298	0.01	0.030	pg/L	1		1613B	Total
Total HpCDD	4.53	J I V	49.5	0.298			pg/L	1		1613B	Total
OCDD	20.9	V I	99.0	0.291	0.001	0.021	pg/L	1		1613B	Total
Total TCDF	3.71	J I	9.90	0.135			pg/L	1		1613B	Total
Total PeCDF	1.56	J I	49.5	0.162			pg/L	1		1613B	Total
Total HxCDF	0.675	J I	49.5	0.156			pg/L	1		1613B	Total
OCDF	0.179	J V I	99.0	0.0734	0.001	0.00018	pg/L	1		1613B	Total

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	24		2.5	1.3	ug/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Tampa



# Detection Summary

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-2A (Continued)**

**Lab Sample ID: 660-67393-5**

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	51		5.0	1.3	ug/L	1		6020A	Total Recoverable
Lead	0.88	I	1.5	0.20	ug/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Tampa

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-B4**

**Lab Sample ID: 660-67393-1**

**Date Collected: 06/11/15 09:23**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	9.9	U	20	9.9	ug/L			06/18/15 16:08	1
Benzene	0.50	U	1.0	0.50	ug/L			06/18/15 16:08	1
Bromobenzene	0.58	U	1.0	0.58	ug/L			06/18/15 16:08	1
Bromoform	0.63	U	1.0	0.63	ug/L			06/18/15 16:08	1
Bromomethane	2.5	U	5.0	2.5	ug/L			06/18/15 16:08	1
2-Butanone (MEK)	8.4	U	10	8.4	ug/L			06/18/15 16:08	1
Carbon disulfide	1.0	U	2.0	1.0	ug/L			06/18/15 16:08	1
Carbon tetrachloride	0.43	U	1.0	0.43	ug/L			06/18/15 16:08	1
Chlorobenzene	0.63	U	1.0	0.63	ug/L			06/18/15 16:08	1
Chlorobromomethane	0.58	U	1.0	0.58	ug/L			06/18/15 16:08	1
Chlorodibromomethane	0.31	U	1.0	0.31	ug/L			06/18/15 16:08	1
Chloroethane	2.5	U	5.0	2.5	ug/L			06/18/15 16:08	1
Chloroform	0.90	U	1.0	0.90	ug/L			06/18/15 16:08	1
Chloromethane	1.0	U	4.0	1.0	ug/L			06/18/15 16:08	1
2-Chlorotoluene	0.65	U	1.0	0.65	ug/L			06/18/15 16:08	1
4-Chlorotoluene	0.52	U	1.0	0.52	ug/L			06/18/15 16:08	1
cis-1,2-Dichloroethene	0.65	U	1.0	0.65	ug/L			06/18/15 16:08	1
cis-1,3-Dichloropropene	0.39	U	1.0	0.39	ug/L			06/18/15 16:08	1
1,2-Dibromo-3-Chloropropane	2.5	U	5.0	2.5	ug/L			06/18/15 16:08	1
Dibromomethane	0.46	U	1.0	0.46	ug/L			06/18/15 16:08	1
1,2-Dichlorobenzene	0.49	U	1.0	0.49	ug/L			06/18/15 16:08	1
1,3-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			06/18/15 16:08	1
1,4-Dichlorobenzene	0.60	U	1.0	0.60	ug/L			06/18/15 16:08	1
Dichlorobromomethane	0.44	U	1.0	0.44	ug/L			06/18/15 16:08	1
Dichlorodifluoromethane	2.5	U	5.0	2.5	ug/L			06/18/15 16:08	1
1,1-Dichloroethane	0.52	U	1.0	0.52	ug/L			06/18/15 16:08	1
1,2-Dichloroethane	0.57	U	1.0	0.57	ug/L			06/18/15 16:08	1
1,1-Dichloroethene	0.67	U	1.0	0.67	ug/L			06/18/15 16:08	1
1,2-Dichloropropane	0.52	U	1.0	0.52	ug/L			06/18/15 16:08	1
1,3-Dichloropropane	0.42	U	1.0	0.42	ug/L			06/18/15 16:08	1
2,2-Dichloropropane	0.36	U	1.0	0.36	ug/L			06/18/15 16:08	1
1,1-Dichloropropene	0.65	U	1.0	0.65	ug/L			06/18/15 16:08	1
Ethylbenzene	0.44	U	1.0	0.44	ug/L			06/18/15 16:08	1
Ethylene Dibromide	0.50	U	1.0	0.50	ug/L			06/18/15 16:08	1
Hexachlorobutadiene	0.34	U	1.0	0.34	ug/L			06/18/15 16:08	1
2-Hexanone	4.4	U	10	4.4	ug/L			06/18/15 16:08	1
Isopropylbenzene	0.52	U	1.0	0.52	ug/L			06/18/15 16:08	1
4-Isopropyltoluene	0.69	U	1.0	0.69	ug/L			06/18/15 16:08	1
Methylene Chloride	4.0	U	5.0	4.0	ug/L			06/18/15 16:08	1
4-Methyl-2-pentanone (MIBK)	4.0	U	10	4.0	ug/L			06/18/15 16:08	1
Methyl tert-butyl ether	0.44	U	1.0	0.44	ug/L			06/18/15 16:08	1
m-Xylene & p-Xylene	0.60	U	2.0	0.60	ug/L			06/18/15 16:08	1
n-Butylbenzene	0.67	U	1.0	0.67	ug/L			06/18/15 16:08	1
N-Propylbenzene	0.59	U	1.0	0.59	ug/L			06/18/15 16:08	1
o-Xylene	0.50	U	1.0	0.50	ug/L			06/18/15 16:08	1
sec-Butylbenzene	0.63	U	1.0	0.63	ug/L			06/18/15 16:08	1
Styrene	0.98	U	2.0	0.98	ug/L			06/18/15 16:08	1
tert-Butylbenzene	0.84	U	1.0	0.84	ug/L			06/18/15 16:08	1
1,1,1,2-Tetrachloroethane	0.63	U	1.0	0.63	ug/L			06/18/15 16:08	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-B4**

**Lab Sample ID: 660-67393-1**

**Date Collected: 06/11/15 09:23**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.17	U	1.0	0.17	ug/L			06/18/15 16:08	1
Tetrachloroethene	0.50	U	1.0	0.50	ug/L			06/18/15 16:08	1
Toluene	0.51	U	1.0	0.51	ug/L			06/18/15 16:08	1
trans-1,2-Dichloroethene	0.67	U	1.0	0.67	ug/L			06/18/15 16:08	1
trans-1,3-Dichloropropene	0.27	U	1.0	0.27	ug/L			06/18/15 16:08	1
1,2,3-Trichlorobenzene	0.77	U	1.0	0.77	ug/L			06/18/15 16:08	1
1,2,4-Trichlorobenzene	0.58	U	1.0	0.58	ug/L			06/18/15 16:08	1
1,1,1-Trichloroethane	0.47	U	1.0	0.47	ug/L			06/18/15 16:08	1
1,1,2-Trichloroethane	0.47	U	1.0	0.47	ug/L			06/18/15 16:08	1
Trichloroethene	0.61	U	1.0	0.61	ug/L			06/18/15 16:08	1
Trichlorofluoromethane	2.5	U	5.0	2.5	ug/L			06/18/15 16:08	1
1,2,3-Trichloropropane	0.44	U	1.0	0.44	ug/L			06/18/15 16:08	1
1,2,4-Trimethylbenzene	0.86	U	1.0	0.86	ug/L			06/18/15 16:08	1
1,3,5-Trimethylbenzene	0.54	U	1.0	0.54	ug/L			06/18/15 16:08	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			06/18/15 16:08	1
Xylenes, Total	0.50	U	3.0	0.50	ug/L			06/18/15 16:08	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	107		70 - 130					06/18/15 16:08	1
Dibromofluoromethane	110		70 - 130					06/18/15 16:08	1
Toluene-d8 (Surr)	99		70 - 130					06/18/15 16:08	1

## Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>9.9</b>		0.20	0.040	ug/L		06/15/15 14:09	06/16/15 16:47	1
Acenaphthylene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 16:47	1
<b>Anthracene</b>	<b>1.1</b>		0.20	0.040	ug/L		06/15/15 14:09	06/16/15 16:47	1
<b>Benzo[a]anthracene</b>	<b>0.086</b>	<b>I</b>	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 16:47	1
<b>Benzo[a]pyrene</b>	<b>0.042</b>	<b>I</b>	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 16:47	1
<b>Benzo[b]fluoranthene</b>	<b>0.056</b>	<b>I</b>	0.10	0.025	ug/L		06/15/15 14:09	06/16/15 16:47	1
Benzo[g,h,i]perylene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 16:47	1
Benzo[k]fluoranthene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 16:47	1
<b>Chrysene</b>	<b>0.082</b>	<b>I</b>	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 16:47	1
Dibenz(a,h)anthracene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 16:47	1
<b>Fluoranthene</b>	<b>1.8</b>		0.20	0.025	ug/L		06/15/15 14:09	06/16/15 16:47	1
<b>Fluorene</b>	<b>7.3</b>	<b>J3</b>	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 16:47	1
Indeno[1,2,3-cd]pyrene	0.044	U	0.20	0.044	ug/L		06/15/15 14:09	06/16/15 16:47	1
<b>1-Methylnaphthalene</b>	<b>2.9</b>		0.20	0.040	ug/L		06/15/15 14:09	06/16/15 16:47	1
<b>2-Methylnaphthalene</b>	<b>1.8</b>		0.20	0.031	ug/L		06/15/15 14:09	06/16/15 16:47	1
<b>Naphthalene</b>	<b>0.28</b>		0.20	0.040	ug/L		06/15/15 14:09	06/16/15 16:47	1
<b>Phenanthrene</b>	<b>7.9</b>		0.20	0.040	ug/L		06/15/15 14:09	06/16/15 16:47	1
<b>Pyrene</b>	<b>1.1</b>		0.20	0.025	ug/L		06/15/15 14:09	06/16/15 16:47	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
o-Terphenyl (Surr)	70		40 - 114				06/15/15 14:09	06/16/15 16:47	1

## Method: 8081B - Organochlorine Pesticides by GC

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.0020	U	0.049	0.0020	ug/L		06/16/15 14:49	06/18/15 02:05	1
alpha-BHC	0.0059	U	0.049	0.0059	ug/L		06/16/15 14:49	06/18/15 02:05	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-B4**

**Lab Sample ID: 660-67393-1**

**Date Collected: 06/11/15 09:23**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

**Method: 8081B - Organochlorine Pesticides by GC (Continued)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-Chlordane	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
beta-BHC	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
Chlordane (technical)	0.34	U	0.99	0.34	ug/L		06/16/15 14:49	06/18/15 02:05	1
4,4'-DDD	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
4,4'-DDE	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
4,4'-DDT	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
delta-BHC	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
Dieldrin	0.0020	U	0.099	0.0020	ug/L		06/16/15 14:49	06/18/15 02:05	1
Endosulfan I	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
Endosulfan II	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
Endosulfan sulfate	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
Endrin	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
Endrin aldehyde	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
Endrin ketone	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
gamma-BHC (Lindane)	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
gamma-Chlordane	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
Heptachlor	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
Heptachlor epoxide	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
Methoxychlor	0.013	U	0.49	0.013	ug/L		06/16/15 14:49	06/18/15 02:05	1
Toxaphene	0.67	U	4.9	0.67	ug/L		06/16/15 14:49	06/18/15 02:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	67		20 - 142	06/16/15 14:49	06/18/15 02:05	1
Dibutylchloroendate	108		25 - 137	06/16/15 14:49	06/18/15 02:05	1
Tetrachloro-m-xylene	97		22 - 134	06/16/15 14:49	06/18/15 02:05	1

**Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bolstar	0.091	U	0.96	0.091	ug/L		06/15/15 17:16	06/16/15 19:38	1
Chlorpyrifos	0.11	U	0.96	0.11	ug/L		06/15/15 17:16	06/16/15 19:38	1
Coumaphos	0.078	U	0.96	0.078	ug/L		06/15/15 17:16	06/16/15 19:38	1
Demeton, Total	0.14	U	2.4	0.14	ug/L		06/15/15 17:16	06/16/15 19:38	1
Diazinon	0.11	U	0.96	0.11	ug/L		06/15/15 17:16	06/16/15 19:38	1
Dichlorvos	0.25	U	1.9	0.25	ug/L		06/15/15 17:16	06/16/15 19:38	1
Dimethoate	0.31	U	1.9	0.31	ug/L		06/15/15 17:16	06/16/15 19:38	1
Disulfoton	0.12	U	1.9	0.12	ug/L		06/15/15 17:16	06/16/15 19:38	1
EPN	0.068	U	0.96	0.068	ug/L		06/15/15 17:16	06/16/15 19:38	1
Ethyl Parathion	0.077	U	0.96	0.077	ug/L		06/15/15 17:16	06/16/15 19:38	1
Fensulfothion	0.16	U	4.8	0.16	ug/L		06/15/15 17:16	06/16/15 19:38	1
Guthion	0.32	U	0.96	0.32	ug/L		06/15/15 17:16	06/16/15 19:38	1
Malathion	0.088	U	0.96	0.088	ug/L		06/15/15 17:16	06/16/15 19:38	1
Merphos	0.13	U	0.96	0.13	ug/L		06/15/15 17:16	06/16/15 19:38	1
Methyl parathion	0.12	U	0.48	0.12	ug/L		06/15/15 17:16	06/16/15 19:38	1
Mevinphos	0.14	U	1.9	0.14	ug/L		06/15/15 17:16	06/16/15 19:38	1
Mocap	0.39	U	0.48	0.39	ug/L		06/15/15 17:16	06/16/15 19:38	1
Monochrotophos	2.5	U	9.6	2.5	ug/L		06/15/15 17:16	06/16/15 19:38	1
Naled	0.35	U	4.8	0.35	ug/L		06/15/15 17:16	06/16/15 19:38	1
Phorate	0.15	U	0.96	0.15	ug/L		06/15/15 17:16	06/16/15 19:38	1
Ronnel	0.13	U	0.96	0.13	ug/L		06/15/15 17:16	06/16/15 19:38	1
Sulfotepp	0.053	U	0.48	0.053	ug/L		06/15/15 17:16	06/16/15 19:38	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-B4**

**Lab Sample ID: 660-67393-1**

**Date Collected: 06/11/15 09:23**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

**Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tokuthion	0.084	U	0.96	0.084	ug/L		06/15/15 17:16	06/16/15 19:38	1
Trichloronate	0.11	U	0.96	0.11	ug/L		06/15/15 17:16	06/16/15 19:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Triphenylphosphate (TPP)	89		37 - 139				06/15/15 17:16	06/16/15 19:38	1

**Method: FL-PRO - Florida - Petroleum Range Organics (GC)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Petroleum Hydrocarbons (C8-C40)</b>	<b>400</b>		150	24	ug/L		06/16/15 10:42	06/17/15 14:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-C39	100		42 - 193				06/16/15 10:42	06/17/15 14:05	1
o-Terphenyl	105		82 - 142				06/16/15 10:42	06/17/15 14:05	1

**Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B)**

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.56	0.116	1		pg/L		07/30/15 14:45	08/06/15 16:14	1
Total TCDD	ND		9.56	0.116			pg/L		07/30/15 14:45	08/06/15 16:14	1
1,2,3,7,8-PeCDD	ND		47.8	0.116	0.5		pg/L		07/30/15 14:45	08/06/15 16:14	1
Total PeCDD	ND		47.8	0.116			pg/L		07/30/15 14:45	08/06/15 16:14	1
1,2,3,4,7,8-HxCDD	ND		47.8	0.167	0.1		pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>1,2,3,6,7,8-HxCDD</b>	<b>0.816</b>	<b>J I</b>	47.8	0.183	0.1	0.082	pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>1,2,3,7,8,9-HxCDD</b>	<b>0.607</b>	<b>J I</b>	47.8	0.165	0.1	0.061	pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>Total HxCDD</b>	<b>7.77</b>	<b>J I</b>	47.8	0.171			pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>29.2</b>	<b>V I</b>	47.8	0.524	0.01	0.29	pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>Total HpCDD</b>	<b>62.5</b>	<b>I V</b>	47.8	0.524			pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>OCDD</b>	<b>321</b>	<b>V</b>	95.6	0.871	0.001	0.32	pg/L		07/30/15 14:45	08/06/15 16:14	1
2,3,7,8-TCDF	ND		9.56	0.165	0.1		pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>Total TCDF</b>	<b>4.69</b>	<b>J I</b>	9.56	0.165			pg/L		07/30/15 14:45	08/06/15 16:14	1
1,2,3,7,8-PeCDF	ND		47.8	0.200	0.05		pg/L		07/30/15 14:45	08/06/15 16:14	1
2,3,4,7,8-PeCDF	ND		47.8	0.185	0.5		pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>Total PeCDF</b>	<b>2.97</b>	<b>J I</b>	47.8	0.192			pg/L		07/30/15 14:45	08/06/15 16:14	1
1,2,3,4,7,8-HxCDF	ND		47.8	0.190	0.1		pg/L		07/30/15 14:45	08/06/15 16:14	1
1,2,3,6,7,8-HxCDF	ND		47.8	0.195	0.1		pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>2,3,4,6,7,8-HxCDF</b>	<b>0.500</b>	<b>J V I</b>	47.8	0.215	0.1	0.050	pg/L		07/30/15 14:45	08/06/15 16:14	1
1,2,3,7,8,9-HxCDF	ND		47.8	0.253	0.1		pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>Total HxCDF</b>	<b>5.65</b>	<b>J I V</b>	47.8	0.211			pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>2.42</b>	<b>J V I</b>	47.8	0.112	0.01	0.024	pg/L		07/30/15 14:45	08/06/15 16:14	1
1,2,3,4,7,8,9-HpCDF	ND		47.8	0.165	0.01		pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>Total HpCDF</b>	<b>4.76</b>	<b>J I V</b>	47.8	0.134			pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>OCDF</b>	<b>5.87</b>	<b>V I</b>	95.6	0.130	0.001	0.0059	pg/L		07/30/15 14:45	08/06/15 16:14	1
<b>Total TEQ (EPA 1989)</b>						<b>0.84</b>					
Surrogate	%Recovery	Qualifier	Limits					Prepared	Analyzed	Dil Fac	
37Cl4-2,3,7,8-TCDD	107		35 - 197					07/30/15 14:45	08/06/15 16:14	1	
Internal Standard	%Recovery	Qualifier	Limits					Prepared	Analyzed	Dil Fac	
13C-2,3,7,8-TCDD	83		25 - 164					07/30/15 14:45	08/06/15 16:14	1	
13C-1,2,3,7,8-PeCDD	83		25 - 181					07/30/15 14:45	08/06/15 16:14	1	

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-B4**

**Date Collected: 06/11/15 09:23**

**Date Received: 06/12/15 08:50**

**Lab Sample ID: 660-67393-1**

**Matrix: Water**

**Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)**

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDD	84		32 - 141	07/30/15 14:45	08/06/15 16:14	1
13C-1,2,3,6,7,8-HxCDD	85		28 - 130	07/30/15 14:45	08/06/15 16:14	1
13C-1,2,3,4,6,7,8-HpCDD	89		23 - 140	07/30/15 14:45	08/06/15 16:14	1
13C-OCDD	70		17 - 157	07/30/15 14:45	08/06/15 16:14	1
13C-2,3,7,8-TCDF	83		24 - 169	07/30/15 14:45	08/06/15 16:14	1
13C-1,2,3,7,8-PeCDF	80		24 - 185	07/30/15 14:45	08/06/15 16:14	1
13C-2,3,4,7,8-PeCDF	81		21 - 178	07/30/15 14:45	08/06/15 16:14	1
13C-1,2,3,4,7,8-HxCDF	86		26 - 152	07/30/15 14:45	08/06/15 16:14	1
13C-1,2,3,6,7,8-HxCDF	80		26 - 123	07/30/15 14:45	08/06/15 16:14	1
13C-2,3,4,6,7,8-HxCDF	82		28 - 136	07/30/15 14:45	08/06/15 16:14	1
13C-1,2,3,7,8,9-HxCDF	84		29 - 147	07/30/15 14:45	08/06/15 16:14	1
13C-1,2,3,4,6,7,8-HpCDF	80		28 - 143	07/30/15 14:45	08/06/15 16:14	1
13C-1,2,3,4,7,8,9-HpCDF	83		26 - 138	07/30/15 14:45	08/06/15 16:14	1
13C-OCDF	59		17 - 157	07/30/15 14:45	08/06/15 16:14	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>89</b>		2.5	1.3	ug/L		06/17/15 08:23	06/17/15 22:55	1
<b>Barium</b>	<b>630</b>		5.0	1.3	ug/L		06/17/15 08:23	06/17/15 22:55	1
Cadmium	0.095	U	0.50	0.095	ug/L		06/17/15 08:23	06/17/15 22:55	1
Chromium	2.5	U	5.0	2.5	ug/L		06/17/15 08:23	06/17/15 22:55	1
<b>Lead</b>	<b>4.8</b>		1.5	0.20	ug/L		06/17/15 08:23	06/17/15 22:55	1
Selenium	1.0	U	2.5	1.0	ug/L		06/17/15 08:23	06/17/15 22:55	1
Silver	0.25	U	1.0	0.25	ug/L		06/17/15 08:23	06/17/15 22:55	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	ug/L		06/15/15 14:04	06/16/15 10:56	1

**Client Sample ID: LMW-DP1**

**Date Collected: 06/11/15 10:36**

**Date Received: 06/12/15 08:50**

**Lab Sample ID: 660-67393-2**

**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	9.9	U	20	9.9	ug/L			06/18/15 16:27	1
Benzene	0.50	U	1.0	0.50	ug/L			06/18/15 16:27	1
Bromobenzene	0.58	U	1.0	0.58	ug/L			06/18/15 16:27	1
Bromoform	0.63	U	1.0	0.63	ug/L			06/18/15 16:27	1
Bromomethane	2.5	U	5.0	2.5	ug/L			06/18/15 16:27	1
2-Butanone (MEK)	8.4	U	10	8.4	ug/L			06/18/15 16:27	1
Carbon disulfide	1.0	U	2.0	1.0	ug/L			06/18/15 16:27	1
Carbon tetrachloride	0.43	U	1.0	0.43	ug/L			06/18/15 16:27	1
Chlorobenzene	0.63	U	1.0	0.63	ug/L			06/18/15 16:27	1
Chlorobromomethane	0.58	U	1.0	0.58	ug/L			06/18/15 16:27	1
Chlorodibromomethane	0.31	U	1.0	0.31	ug/L			06/18/15 16:27	1
Chloroethane	2.5	U	5.0	2.5	ug/L			06/18/15 16:27	1
Chloroform	0.90	U	1.0	0.90	ug/L			06/18/15 16:27	1
Chloromethane	1.0	U	4.0	1.0	ug/L			06/18/15 16:27	1
2-Chlorotoluene	0.65	U	1.0	0.65	ug/L			06/18/15 16:27	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-DP1**

**Lab Sample ID: 660-67393-2**

**Date Collected: 06/11/15 10:36**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	0.52	U	1.0	0.52	ug/L			06/18/15 16:27	1
cis-1,2-Dichloroethene	0.65	U	1.0	0.65	ug/L			06/18/15 16:27	1
cis-1,3-Dichloropropene	0.39	U	1.0	0.39	ug/L			06/18/15 16:27	1
1,2-Dibromo-3-Chloropropane	2.5	U	5.0	2.5	ug/L			06/18/15 16:27	1
Dibromomethane	0.46	U	1.0	0.46	ug/L			06/18/15 16:27	1
1,2-Dichlorobenzene	0.49	U	1.0	0.49	ug/L			06/18/15 16:27	1
1,3-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			06/18/15 16:27	1
1,4-Dichlorobenzene	0.60	U	1.0	0.60	ug/L			06/18/15 16:27	1
Dichlorobromomethane	0.44	U	1.0	0.44	ug/L			06/18/15 16:27	1
Dichlorodifluoromethane	2.5	U	5.0	2.5	ug/L			06/18/15 16:27	1
1,1-Dichloroethane	0.52	U	1.0	0.52	ug/L			06/18/15 16:27	1
1,2-Dichloroethane	0.57	U	1.0	0.57	ug/L			06/18/15 16:27	1
1,1-Dichloroethene	0.67	U	1.0	0.67	ug/L			06/18/15 16:27	1
1,2-Dichloropropane	0.52	U	1.0	0.52	ug/L			06/18/15 16:27	1
1,3-Dichloropropane	0.42	U	1.0	0.42	ug/L			06/18/15 16:27	1
2,2-Dichloropropane	0.36	U	1.0	0.36	ug/L			06/18/15 16:27	1
1,1-Dichloropropene	0.65	U	1.0	0.65	ug/L			06/18/15 16:27	1
Ethylbenzene	0.44	U	1.0	0.44	ug/L			06/18/15 16:27	1
Ethylene Dibromide	0.50	U	1.0	0.50	ug/L			06/18/15 16:27	1
Hexachlorobutadiene	0.34	U	1.0	0.34	ug/L			06/18/15 16:27	1
2-Hexanone	4.4	U	10	4.4	ug/L			06/18/15 16:27	1
Isopropylbenzene	0.52	U	1.0	0.52	ug/L			06/18/15 16:27	1
4-Isopropyltoluene	0.69	U	1.0	0.69	ug/L			06/18/15 16:27	1
Methylene Chloride	4.0	U	5.0	4.0	ug/L			06/18/15 16:27	1
4-Methyl-2-pentanone (MIBK)	4.0	U	10	4.0	ug/L			06/18/15 16:27	1
Methyl tert-butyl ether	0.44	U	1.0	0.44	ug/L			06/18/15 16:27	1
m-Xylene & p-Xylene	0.60	U	2.0	0.60	ug/L			06/18/15 16:27	1
n-Butylbenzene	0.67	U	1.0	0.67	ug/L			06/18/15 16:27	1
N-Propylbenzene	0.59	U	1.0	0.59	ug/L			06/18/15 16:27	1
o-Xylene	0.50	U	1.0	0.50	ug/L			06/18/15 16:27	1
sec-Butylbenzene	0.63	U	1.0	0.63	ug/L			06/18/15 16:27	1
Styrene	0.98	U	2.0	0.98	ug/L			06/18/15 16:27	1
tert-Butylbenzene	0.84	U	1.0	0.84	ug/L			06/18/15 16:27	1
1,1,1,2-Tetrachloroethane	0.63	U	1.0	0.63	ug/L			06/18/15 16:27	1
1,1,2,2-Tetrachloroethane	0.17	U	1.0	0.17	ug/L			06/18/15 16:27	1
Tetrachloroethene	0.50	U	1.0	0.50	ug/L			06/18/15 16:27	1
Toluene	0.51	U	1.0	0.51	ug/L			06/18/15 16:27	1
trans-1,2-Dichloroethene	0.67	U	1.0	0.67	ug/L			06/18/15 16:27	1
trans-1,3-Dichloropropene	0.27	U	1.0	0.27	ug/L			06/18/15 16:27	1
1,2,3-Trichlorobenzene	0.77	U	1.0	0.77	ug/L			06/18/15 16:27	1
1,2,4-Trichlorobenzene	0.58	U	1.0	0.58	ug/L			06/18/15 16:27	1
1,1,1-Trichloroethane	0.47	U	1.0	0.47	ug/L			06/18/15 16:27	1
1,1,2-Trichloroethane	0.47	U	1.0	0.47	ug/L			06/18/15 16:27	1
Trichloroethene	0.61	U	1.0	0.61	ug/L			06/18/15 16:27	1
Trichlorofluoromethane	2.5	U	5.0	2.5	ug/L			06/18/15 16:27	1
1,2,3-Trichloropropane	0.44	U	1.0	0.44	ug/L			06/18/15 16:27	1
1,2,4-Trimethylbenzene	0.86	U	1.0	0.86	ug/L			06/18/15 16:27	1
1,3,5-Trimethylbenzene	0.54	U	1.0	0.54	ug/L			06/18/15 16:27	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			06/18/15 16:27	1

TestAmerica Tampa



# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-DP1**

**Lab Sample ID: 660-67393-2**

**Date Collected: 06/11/15 10:36**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.50	U	3.0	0.50	ug/L			06/18/15 16:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		70 - 130					06/18/15 16:27	1
Dibromofluoromethane	111		70 - 130					06/18/15 16:27	1
Toluene-d8 (Surr)	104		70 - 130					06/18/15 16:27	1

## Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.12</b>	<b>I</b>	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:06	1
Acenaphthylene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:06	1
Anthracene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:06	1
Benzo[a]anthracene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:06	1
Benzo[a]pyrene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:06	1
Benzo[b]fluoranthene	0.025	U	0.10	0.025	ug/L		06/15/15 14:09	06/16/15 17:06	1
Benzo[g,h,i]perylene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:06	1
Benzo[k]fluoranthene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:06	1
Chrysene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:06	1
Dibenz(a,h)anthracene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:06	1
<b>Fluoranthene</b>	<b>0.054</b>	<b>I</b>	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:06	1
<b>Fluorene</b>	<b>0.13</b>	<b>I J3</b>	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:06	1
Indeno[1,2,3-cd]pyrene	0.044	U	0.20	0.044	ug/L		06/15/15 14:09	06/16/15 17:06	1
1-Methylnaphthalene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:06	1
2-Methylnaphthalene	0.031	U	0.20	0.031	ug/L		06/15/15 14:09	06/16/15 17:06	1
Naphthalene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:06	1
<b>Phenanthrene</b>	<b>0.066</b>	<b>I</b>	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:06	1
<b>Pyrene</b>	<b>0.032</b>	<b>I</b>	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	76		40 - 114				06/15/15 14:09	06/16/15 17:06	1

## Method: 8081B - Organochlorine Pesticides by GC

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.0020	U	0.049	0.0020	ug/L		06/16/15 14:49	06/18/15 13:12	1
alpha-BHC	0.0059	U	0.049	0.0059	ug/L		06/16/15 14:49	06/18/15 13:12	1
alpha-Chlordane	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
beta-BHC	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
Chlordane (technical)	0.34	U	0.99	0.34	ug/L		06/16/15 14:49	06/18/15 13:12	1
4,4'-DDD	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
4,4'-DDE	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
4,4'-DDT	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
delta-BHC	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
Dieldrin	0.0020	U	0.099	0.0020	ug/L		06/16/15 14:49	06/18/15 13:12	1
Endosulfan I	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
Endosulfan II	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
Endosulfan sulfate	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
Endrin	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
Endrin aldehyde	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
Endrin ketone	0.013	U	0.099	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
gamma-BHC (Lindane)	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-DP1**

**Lab Sample ID: 660-67393-2**

**Date Collected: 06/11/15 10:36**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

## Method: 8081B - Organochlorine Pesticides by GC (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-Chlordane	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
Heptachlor	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
Heptachlor epoxide	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
Methoxychlor	0.013	U	0.49	0.013	ug/L		06/16/15 14:49	06/18/15 13:12	1
Toxaphene	0.67	U	4.9	0.67	ug/L		06/16/15 14:49	06/18/15 13:12	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl	32		20 - 142				06/16/15 14:49	06/18/15 13:12	1
Dibutylchloroendate	108		25 - 137				06/16/15 14:49	06/18/15 13:12	1
Tetrachloro-m-xylene	93		22 - 134				06/16/15 14:49	06/18/15 13:12	1

## Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bolstar	0.095	U	1.0	0.095	ug/L		06/15/15 17:16	06/16/15 19:54	1
Chlorpyrifos	0.11	U	1.0	0.11	ug/L		06/15/15 17:16	06/16/15 19:54	1
Coumaphos	0.081	U	1.0	0.081	ug/L		06/15/15 17:16	06/16/15 19:54	1
Demeton, Total	0.15	U	2.5	0.15	ug/L		06/15/15 17:16	06/16/15 19:54	1
Diazinon	0.11	U	1.0	0.11	ug/L		06/15/15 17:16	06/16/15 19:54	1
Dichlorvos	0.26	U	2.0	0.26	ug/L		06/15/15 17:16	06/16/15 19:54	1
Dimethoate	0.32	U	2.0	0.32	ug/L		06/15/15 17:16	06/16/15 19:54	1
Disulfoton	0.12	U	2.0	0.12	ug/L		06/15/15 17:16	06/16/15 19:54	1
EPN	0.071	U	1.0	0.071	ug/L		06/15/15 17:16	06/16/15 19:54	1
Ethyl Parathion	0.080	U	1.0	0.080	ug/L		06/15/15 17:16	06/16/15 19:54	1
Fensulfothion	0.17	U	5.0	0.17	ug/L		06/15/15 17:16	06/16/15 19:54	1
Guthion	0.33	U	1.0	0.33	ug/L		06/15/15 17:16	06/16/15 19:54	1
Malathion	0.092	U	1.0	0.092	ug/L		06/15/15 17:16	06/16/15 19:54	1
Merphos	0.13	U	1.0	0.13	ug/L		06/15/15 17:16	06/16/15 19:54	1
Methyl parathion	0.12	U	0.50	0.12	ug/L		06/15/15 17:16	06/16/15 19:54	1
Mevinphos	0.15	U	2.0	0.15	ug/L		06/15/15 17:16	06/16/15 19:54	1
Mocap	0.41	U	0.50	0.41	ug/L		06/15/15 17:16	06/16/15 19:54	1
Monochrotophos	2.6	U	10	2.6	ug/L		06/15/15 17:16	06/16/15 19:54	1
Naled	0.36	U	5.0	0.36	ug/L		06/15/15 17:16	06/16/15 19:54	1
Phorate	0.16	U	1.0	0.16	ug/L		06/15/15 17:16	06/16/15 19:54	1
Ronnel	0.13	U	1.0	0.13	ug/L		06/15/15 17:16	06/16/15 19:54	1
Sulfotepp	0.055	U	0.50	0.055	ug/L		06/15/15 17:16	06/16/15 19:54	1
Tokuthion	0.087	U	1.0	0.087	ug/L		06/15/15 17:16	06/16/15 19:54	1
Trichloronate	0.11	U	1.0	0.11	ug/L		06/15/15 17:16	06/16/15 19:54	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Triphenylphosphate (TPP)	87		37 - 139				06/15/15 17:16	06/16/15 19:54	1

## Method: FL-PRO - Florida - Petroleum Range Organics (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Petroleum Hydrocarbons (C8-C40)	24	U	150	24	ug/L		06/16/15 10:42	06/17/15 14:15	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
n-C39	97		42 - 193				06/16/15 10:42	06/17/15 14:15	1
o-Terphenyl	113		82 - 142				06/16/15 10:42	06/17/15 14:15	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-DP1**

**Lab Sample ID: 660-67393-2**

Date Collected: 06/11/15 10:36

Matrix: Water

Date Received: 06/12/15 08:50

**Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B)**

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.60	0.161	1		pg/L		07/30/15 14:45	08/06/15 17:16	1
<b>Total TCDD</b>	<b>0.137</b>	<b>J I</b>	9.60	0.161			pg/L		07/30/15 14:45	08/06/15 17:16	1
1,2,3,7,8-PeCDD	ND		48.0	0.102	0.5		pg/L		07/30/15 14:45	08/06/15 17:16	1
<b>Total PeCDD</b>	<b>0.419</b>	<b>J I</b>	48.0	0.102			pg/L		07/30/15 14:45	08/06/15 17:16	1
1,2,3,4,7,8-HxCDD	ND		48.0	0.208	0.1		pg/L		07/30/15 14:45	08/06/15 17:16	1
1,2,3,6,7,8-HxCDD	ND		48.0	0.224	0.1		pg/L		07/30/15 14:45	08/06/15 17:16	1
<b>1,2,3,7,8,9-HxCDD</b>	<b>0.541</b>	<b>J I</b>	48.0	0.204	0.1	0.054	pg/L		07/30/15 14:45	08/06/15 17:16	1
<b>Total HxCDD</b>	<b>3.10</b>	<b>J I</b>	48.0	0.211			pg/L		07/30/15 14:45	08/06/15 17:16	1
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>24.4</b>	<b>J V I</b>	48.0	0.679	0.01	0.24	pg/L		07/30/15 14:45	08/06/15 17:16	1
<b>Total HpCDD</b>	<b>40.6</b>	<b>J I V</b>	48.0	0.679			pg/L		07/30/15 14:45	08/06/15 17:16	1
<b>OCDD</b>	<b>156</b>	<b>V</b>	96.0	0.631	0.001	0.16	pg/L		07/30/15 14:45	08/06/15 17:16	1
2,3,7,8-TCDF	ND		9.60	0.173	0.1		pg/L		07/30/15 14:45	08/06/15 17:16	1
<b>Total TCDF</b>	<b>0.551</b>	<b>J I</b>	9.60	0.173			pg/L		07/30/15 14:45	08/06/15 17:16	1
1,2,3,7,8-PeCDF	ND		48.0	0.235	0.05		pg/L		07/30/15 14:45	08/06/15 17:16	1
2,3,4,7,8-PeCDF	ND		48.0	0.233	0.5		pg/L		07/30/15 14:45	08/06/15 17:16	1
<b>Total PeCDF</b>	<b>1.67</b>	<b>J I</b>	48.0	0.234			pg/L		07/30/15 14:45	08/06/15 17:16	1
1,2,3,4,7,8-HxCDF	ND		48.0	0.205	0.1		pg/L		07/30/15 14:45	08/06/15 17:16	1
1,2,3,6,7,8-HxCDF	ND		48.0	0.209	0.1		pg/L		07/30/15 14:45	08/06/15 17:16	1
2,3,4,6,7,8-HxCDF	ND		48.0	0.208	0.1		pg/L		07/30/15 14:45	08/06/15 17:16	1
1,2,3,7,8,9-HxCDF	ND		48.0	0.264	0.1		pg/L		07/30/15 14:45	08/06/15 17:16	1
<b>Total HxCDF</b>	<b>1.07</b>	<b>J I</b>	48.0	0.219			pg/L		07/30/15 14:45	08/06/15 17:16	1
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>0.690</b>	<b>J V I</b>	48.0	0.138	0.01	0.0069	pg/L		07/30/15 14:45	08/06/15 17:16	1
1,2,3,4,7,8,9-HpCDF	ND		48.0	0.218	0.01		pg/L		07/30/15 14:45	08/06/15 17:16	1
<b>Total HpCDF</b>	<b>1.86</b>	<b>I J V</b>	48.0	0.170			pg/L		07/30/15 14:45	08/06/15 17:16	1
<b>OCDF</b>	<b>2.38</b>	<b>V I</b>	96.0	0.146	0.001	0.0024	pg/L		07/30/15 14:45	08/06/15 17:16	1

**Total TEQ (EPA 1989)**

**0.46**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl-2,3,7,8-TCDD	105		35 - 197	07/30/15 14:45	08/06/15 17:16	1

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	80		25 - 164	07/30/15 14:45	08/06/15 17:16	1
13C-1,2,3,7,8-PeCDD	77		25 - 181	07/30/15 14:45	08/06/15 17:16	1
13C-1,2,3,4,7,8-HxCDD	74		32 - 141	07/30/15 14:45	08/06/15 17:16	1
13C-1,2,3,6,7,8-HxCDD	74		28 - 130	07/30/15 14:45	08/06/15 17:16	1
13C-1,2,3,4,6,7,8-HpCDD	79		23 - 140	07/30/15 14:45	08/06/15 17:16	1
13C-OCDD	54		17 - 157	07/30/15 14:45	08/06/15 17:16	1
13C-2,3,7,8-TCDF	78		24 - 169	07/30/15 14:45	08/06/15 17:16	1
13C-1,2,3,7,8-PeCDF	82		24 - 185	07/30/15 14:45	08/06/15 17:16	1
13C-2,3,4,7,8-PeCDF	78		21 - 178	07/30/15 14:45	08/06/15 17:16	1
13C-1,2,3,4,7,8-HxCDF	74		26 - 152	07/30/15 14:45	08/06/15 17:16	1
13C-1,2,3,6,7,8-HxCDF	73		26 - 123	07/30/15 14:45	08/06/15 17:16	1
13C-2,3,4,6,7,8-HxCDF	77		28 - 136	07/30/15 14:45	08/06/15 17:16	1
13C-1,2,3,7,8,9-HxCDF	77		29 - 147	07/30/15 14:45	08/06/15 17:16	1
13C-1,2,3,4,6,7,8-HpCDF	77		28 - 143	07/30/15 14:45	08/06/15 17:16	1
13C-1,2,3,4,7,8,9-HpCDF	69		26 - 138	07/30/15 14:45	08/06/15 17:16	1
13C-OCDF	48		17 - 157	07/30/15 14:45	08/06/15 17:16	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-DP1**

**Lab Sample ID: 660-67393-2**

**Date Collected: 06/11/15 10:36**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>8.4</b>		2.5	1.3	ug/L		06/17/15 08:23	06/17/15 23:00	1
<b>Barium</b>	<b>460</b>		5.0	1.3	ug/L		06/17/15 08:23	06/17/15 23:00	1
Cadmium	0.095	U	0.50	0.095	ug/L		06/17/15 08:23	06/17/15 23:00	1
Chromium	2.5	U	5.0	2.5	ug/L		06/17/15 08:23	06/17/15 23:00	1
<b>Lead</b>	<b>1.6</b>		1.5	0.20	ug/L		06/17/15 08:23	06/17/15 23:00	1
Selenium	1.0	U	2.5	1.0	ug/L		06/17/15 08:23	06/17/15 23:00	1
Silver	0.25	U	1.0	0.25	ug/L		06/17/15 08:23	06/17/15 23:00	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	ug/L		06/15/15 14:04	06/16/15 11:05	1

**Client Sample ID: LMW-B3**

**Lab Sample ID: 660-67393-3**

**Date Collected: 06/11/15 12:41**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>11</b>	<b>I</b>	20	9.9	ug/L			06/18/15 16:46	1
Benzene	0.50	U	1.0	0.50	ug/L			06/18/15 16:46	1
Bromobenzene	0.58	U	1.0	0.58	ug/L			06/18/15 16:46	1
Bromoform	0.63	U	1.0	0.63	ug/L			06/18/15 16:46	1
Bromomethane	2.5	U	5.0	2.5	ug/L			06/18/15 16:46	1
2-Butanone (MEK)	8.4	U	10	8.4	ug/L			06/18/15 16:46	1
Carbon disulfide	1.0	U	2.0	1.0	ug/L			06/18/15 16:46	1
Carbon tetrachloride	0.43	U	1.0	0.43	ug/L			06/18/15 16:46	1
<b>Chlorobenzene</b>	<b>0.82</b>	<b>I</b>	1.0	0.63	ug/L			06/18/15 16:46	1
Chlorobromomethane	0.58	U	1.0	0.58	ug/L			06/18/15 16:46	1
Chlorodibromomethane	0.31	U	1.0	0.31	ug/L			06/18/15 16:46	1
Chloroethane	2.5	U	5.0	2.5	ug/L			06/18/15 16:46	1
Chloroform	0.90	U	1.0	0.90	ug/L			06/18/15 16:46	1
Chloromethane	1.0	U	4.0	1.0	ug/L			06/18/15 16:46	1
2-Chlorotoluene	0.65	U	1.0	0.65	ug/L			06/18/15 16:46	1
4-Chlorotoluene	0.52	U	1.0	0.52	ug/L			06/18/15 16:46	1
cis-1,2-Dichloroethene	0.65	U	1.0	0.65	ug/L			06/18/15 16:46	1
cis-1,3-Dichloropropene	0.39	U	1.0	0.39	ug/L			06/18/15 16:46	1
1,2-Dibromo-3-Chloropropane	2.5	U	5.0	2.5	ug/L			06/18/15 16:46	1
Dibromomethane	0.46	U	1.0	0.46	ug/L			06/18/15 16:46	1
1,2-Dichlorobenzene	0.49	U	1.0	0.49	ug/L			06/18/15 16:46	1
1,3-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			06/18/15 16:46	1
1,4-Dichlorobenzene	0.60	U	1.0	0.60	ug/L			06/18/15 16:46	1
Dichlorobromomethane	0.44	U	1.0	0.44	ug/L			06/18/15 16:46	1
Dichlorodifluoromethane	2.5	U	5.0	2.5	ug/L			06/18/15 16:46	1
1,1-Dichloroethane	0.52	U	1.0	0.52	ug/L			06/18/15 16:46	1
1,2-Dichloroethane	0.57	U	1.0	0.57	ug/L			06/18/15 16:46	1
1,1-Dichloroethene	0.67	U	1.0	0.67	ug/L			06/18/15 16:46	1
1,2-Dichloropropane	0.52	U	1.0	0.52	ug/L			06/18/15 16:46	1
1,3-Dichloropropane	0.42	U	1.0	0.42	ug/L			06/18/15 16:46	1
2,2-Dichloropropane	0.36	U	1.0	0.36	ug/L			06/18/15 16:46	1
1,1-Dichloropropene	0.65	U	1.0	0.65	ug/L			06/18/15 16:46	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-B3**

**Lab Sample ID: 660-67393-3**

**Date Collected: 06/11/15 12:41**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.44	U	1.0	0.44	ug/L			06/18/15 16:46	1
Ethylene Dibromide	0.50	U	1.0	0.50	ug/L			06/18/15 16:46	1
Hexachlorobutadiene	0.34	U	1.0	0.34	ug/L			06/18/15 16:46	1
2-Hexanone	4.4	U	10	4.4	ug/L			06/18/15 16:46	1
<b>Isopropylbenzene</b>	<b>0.67</b>	<b>I</b>	1.0	0.52	ug/L			06/18/15 16:46	1
4-Isopropyltoluene	0.69	U	1.0	0.69	ug/L			06/18/15 16:46	1
Methylene Chloride	4.0	U	5.0	4.0	ug/L			06/18/15 16:46	1
4-Methyl-2-pentanone (MIBK)	4.0	U	10	4.0	ug/L			06/18/15 16:46	1
Methyl tert-butyl ether	0.44	U	1.0	0.44	ug/L			06/18/15 16:46	1
m-Xylene & p-Xylene	0.60	U	2.0	0.60	ug/L			06/18/15 16:46	1
n-Butylbenzene	0.67	U	1.0	0.67	ug/L			06/18/15 16:46	1
N-Propylbenzene	0.59	U	1.0	0.59	ug/L			06/18/15 16:46	1
o-Xylene	0.50	U	1.0	0.50	ug/L			06/18/15 16:46	1
sec-Butylbenzene	0.63	U	1.0	0.63	ug/L			06/18/15 16:46	1
Styrene	0.98	U	2.0	0.98	ug/L			06/18/15 16:46	1
tert-Butylbenzene	0.84	U	1.0	0.84	ug/L			06/18/15 16:46	1
1,1,1,2-Tetrachloroethane	0.63	U	1.0	0.63	ug/L			06/18/15 16:46	1
1,1,2,2-Tetrachloroethane	0.17	U	1.0	0.17	ug/L			06/18/15 16:46	1
Tetrachloroethene	0.50	U	1.0	0.50	ug/L			06/18/15 16:46	1
Toluene	0.51	U	1.0	0.51	ug/L			06/18/15 16:46	1
trans-1,2-Dichloroethene	0.67	U	1.0	0.67	ug/L			06/18/15 16:46	1
trans-1,3-Dichloropropene	0.27	U	1.0	0.27	ug/L			06/18/15 16:46	1
1,2,3-Trichlorobenzene	0.77	U	1.0	0.77	ug/L			06/18/15 16:46	1
1,2,4-Trichlorobenzene	0.58	U	1.0	0.58	ug/L			06/18/15 16:46	1
1,1,1-Trichloroethane	0.47	U	1.0	0.47	ug/L			06/18/15 16:46	1
1,1,2-Trichloroethane	0.47	U	1.0	0.47	ug/L			06/18/15 16:46	1
Trichloroethene	0.61	U	1.0	0.61	ug/L			06/18/15 16:46	1
Trichlorofluoromethane	2.5	U	5.0	2.5	ug/L			06/18/15 16:46	1
1,2,3-Trichloropropane	0.44	U	1.0	0.44	ug/L			06/18/15 16:46	1
1,2,4-Trimethylbenzene	0.86	U	1.0	0.86	ug/L			06/18/15 16:46	1
1,3,5-Trimethylbenzene	0.54	U	1.0	0.54	ug/L			06/18/15 16:46	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			06/18/15 16:46	1
Xylenes, Total	0.50	U	3.0	0.50	ug/L			06/18/15 16:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		70 - 130		06/18/15 16:46	1
Dibromofluoromethane	114		70 - 130		06/18/15 16:46	1
Toluene-d8 (Surr)	100		70 - 130		06/18/15 16:46	1

**Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.21</b>		0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:30	1
Acenaphthylene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:30	1
<b>Anthracene</b>	<b>0.050</b>	<b>I</b>	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:30	1
Benzo[a]anthracene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:30	1
Benzo[a]pyrene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:30	1
Benzo[b]fluoranthene	0.025	U	0.10	0.025	ug/L		06/15/15 14:09	06/16/15 17:30	1
Benzo[g,h,i]perylene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:30	1
Benzo[k]fluoranthene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:30	1
Chrysene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:30	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-B3**

**Lab Sample ID: 660-67393-3**

**Date Collected: 06/11/15 12:41**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

**Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:30	1
<b>Fluoranthene</b>	<b>0.050</b>	<b>I</b>	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:30	1
<b>Fluorene</b>	<b>0.15</b>	<b>I J3</b>	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:30	1
Indeno[1,2,3-cd]pyrene	0.044	U	0.20	0.044	ug/L		06/15/15 14:09	06/16/15 17:30	1
1-Methylnaphthalene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:30	1
2-Methylnaphthalene	0.031	U	0.20	0.031	ug/L		06/15/15 14:09	06/16/15 17:30	1
Naphthalene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:30	1
<b>Phenanthrene</b>	<b>0.12</b>	<b>I</b>	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:30	1
<b>Pyrene</b>	<b>0.053</b>	<b>I</b>	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:30	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>o</i> -Terphenyl (Surr)	67		40 - 114				06/15/15 14:09	06/16/15 17:30	1

**Method: 8081B - Organochlorine Pesticides by GC**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.0020	U	0.050	0.0020	ug/L		06/16/15 14:49	06/17/15 22:43	1
alpha-BHC	0.0060	U	0.050	0.0060	ug/L		06/16/15 14:49	06/17/15 22:43	1
alpha-Chlordane	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
beta-BHC	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
Chlordane (technical)	0.34	U	1.0	0.34	ug/L		06/16/15 14:49	06/17/15 22:43	1
4,4'-DDD	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
4,4'-DDE	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
4,4'-DDT	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
delta-BHC	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
Dieldrin	0.0020	U	0.10	0.0020	ug/L		06/16/15 14:49	06/17/15 22:43	1
Endosulfan I	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
Endosulfan II	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
Endosulfan sulfate	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
Endrin	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
Endrin aldehyde	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
Endrin ketone	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
gamma-BHC (Lindane)	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
gamma-Chlordane	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
Heptachlor	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
Heptachlor epoxide	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
Methoxychlor	0.013	U	0.50	0.013	ug/L		06/16/15 14:49	06/17/15 22:43	1
Toxaphene	0.68	U	5.0	0.68	ug/L		06/16/15 14:49	06/17/15 22:43	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>DCB</i> Decachlorobiphenyl	44		20 - 142				06/16/15 14:49	06/17/15 22:43	1
<i>Dibutyl</i> chlorendate	109		25 - 137				06/16/15 14:49	06/17/15 22:43	1
<i>Tetrachloro-m-xylene</i>	95		22 - 134				06/16/15 14:49	06/17/15 22:43	1

**Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bolstar	0.090	U	0.94	0.090	ug/L		06/15/15 17:16	06/16/15 20:10	1
Chlorpyrifos	0.10	U	0.94	0.10	ug/L		06/15/15 17:16	06/16/15 20:10	1
Coumaphos	0.076	U	0.94	0.076	ug/L		06/15/15 17:16	06/16/15 20:10	1
Demeton, Total	0.14	U	2.4	0.14	ug/L		06/15/15 17:16	06/16/15 20:10	1
Diazinon	0.10	U	0.94	0.10	ug/L		06/15/15 17:16	06/16/15 20:10	1

TestAmerica Tampa



# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-B3**

**Lab Sample ID: 660-67393-3**

**Date Collected: 06/11/15 12:41**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

**Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorvos	0.25	U	1.9	0.25	ug/L		06/15/15 17:16	06/16/15 20:10	1
Dimethoate	0.30	U	1.9	0.30	ug/L		06/15/15 17:16	06/16/15 20:10	1
Disulfoton	0.11	U	1.9	0.11	ug/L		06/15/15 17:16	06/16/15 20:10	1
EPN	0.067	U	0.94	0.067	ug/L		06/15/15 17:16	06/16/15 20:10	1
Ethyl Parathion	0.075	U	0.94	0.075	ug/L		06/15/15 17:16	06/16/15 20:10	1
Fensulfothion	0.16	U	4.7	0.16	ug/L		06/15/15 17:16	06/16/15 20:10	1
Guthion	0.31	U	0.94	0.31	ug/L		06/15/15 17:16	06/16/15 20:10	1
Malathion	0.087	U	0.94	0.087	ug/L		06/15/15 17:16	06/16/15 20:10	1
Merphos	0.12	U	0.94	0.12	ug/L		06/15/15 17:16	06/16/15 20:10	1
Methyl parathion	0.11	U	0.47	0.11	ug/L		06/15/15 17:16	06/16/15 20:10	1
Mevinphos	0.14	U	1.9	0.14	ug/L		06/15/15 17:16	06/16/15 20:10	1
Mocap	0.39	U	0.47	0.39	ug/L		06/15/15 17:16	06/16/15 20:10	1
Monochrotophos	2.5	U	9.4	2.5	ug/L		06/15/15 17:16	06/16/15 20:10	1
Naled	0.34	U	4.7	0.34	ug/L		06/15/15 17:16	06/16/15 20:10	1
Phorate	0.15	U	0.94	0.15	ug/L		06/15/15 17:16	06/16/15 20:10	1
Ronnel	0.12	U	0.94	0.12	ug/L		06/15/15 17:16	06/16/15 20:10	1
Sulfotepp	0.052	U	0.47	0.052	ug/L		06/15/15 17:16	06/16/15 20:10	1
Tokuthion	0.082	U	0.94	0.082	ug/L		06/15/15 17:16	06/16/15 20:10	1
Trichloronate	0.10	U	0.94	0.10	ug/L		06/15/15 17:16	06/16/15 20:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Triphenylphosphate (TPP)	82		37 - 139	06/15/15 17:16	06/16/15 20:10	1

**Method: FL-PRO - Florida - Petroleum Range Organics (GC)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Petroleum Hydrocarbons (C8-C40)	270		150	24	ug/L		06/16/15 10:42	06/17/15 14:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-C39	112		42 - 193	06/16/15 10:42	06/17/15 14:25	1
o-Terphenyl	118		82 - 142	06/16/15 10:42	06/17/15 14:25	1

**Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B)**

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.68	0.0795	1		pg/L		07/30/15 14:45	08/06/15 18:17	1
Total TCDD	ND		9.68	0.0795			pg/L		07/30/15 14:45	08/06/15 18:17	1
1,2,3,7,8-PeCDD	0.473	J V I	48.4	0.157	0.5	0.24	pg/L		07/30/15 14:45	08/06/15 18:17	1
Total PeCDD	0.473	J V I	48.4	0.157			pg/L		07/30/15 14:45	08/06/15 18:17	1
1,2,3,4,7,8-HxCDD	ND		48.4	0.194	0.1		pg/L		07/30/15 14:45	08/06/15 18:17	1
1,2,3,6,7,8-HxCDD	1.67	J I	48.4	0.215	0.1	0.17	pg/L		07/30/15 14:45	08/06/15 18:17	1
1,2,3,7,8,9-HxCDD	0.990	J I	48.4	0.193	0.1	0.099	pg/L		07/30/15 14:45	08/06/15 18:17	1
Total HxCDD	18.3	J I	48.4	0.200			pg/L		07/30/15 14:45	08/06/15 18:17	1
1,2,3,4,6,7,8-HpCDD	71.7	V	48.4	0.659	0.01	0.72	pg/L		07/30/15 14:45	08/06/15 18:17	1
Total HpCDD	138	V	48.4	0.659			pg/L		07/30/15 14:45	08/06/15 18:17	1
OCDD	636	V	96.8	0.883	0.001	0.64	pg/L		07/30/15 14:45	08/06/15 18:17	1
2,3,7,8-TCDF	0.0983	J I	9.68	0.127	0.1	0.0098	pg/L		07/30/15 14:45	08/06/15 18:17	1
Total TCDF	2.06	J I	9.68	0.127			pg/L		07/30/15 14:45	08/06/15 18:17	1
1,2,3,7,8-PeCDF	ND		48.4	0.175	0.05		pg/L		07/30/15 14:45	08/06/15 18:17	1
2,3,4,7,8-PeCDF	ND		48.4	0.175	0.5		pg/L		07/30/15 14:45	08/06/15 18:17	1
Total PeCDF	0.357	J I	48.4	0.175			pg/L		07/30/15 14:45	08/06/15 18:17	1

TestAmerica Tampa



# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-B3**

**Lab Sample ID: 660-67393-3**

Date Collected: 06/11/15 12:41

Matrix: Water

Date Received: 06/12/15 08:50

**Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)**

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDF	ND		48.4	0.167	0.1		pg/L		07/30/15 14:45	08/06/15 18:17	1
<b>1,2,3,6,7,8-HxCDF</b>	<b>0.501</b>	<b>J I</b>	48.4	0.170	0.1	0.050	pg/L		07/30/15 14:45	08/06/15 18:17	1
2,3,4,6,7,8-HxCDF	ND		48.4	0.182	0.1		pg/L		07/30/15 14:45	08/06/15 18:17	1
1,2,3,7,8,9-HxCDF	ND		48.4	0.224	0.1		pg/L		07/30/15 14:45	08/06/15 18:17	1
<b>Total HxCDF</b>	<b>6.25</b>	<b>J I</b>	48.4	0.183			pg/L		07/30/15 14:45	08/06/15 18:17	1
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>2.06</b>	<b>V I</b>	48.4	0.137	0.01	0.021	pg/L		07/30/15 14:45	08/06/15 18:17	1
1,2,3,4,7,8,9-HpCDF	ND		48.4	0.209	0.01		pg/L		07/30/15 14:45	08/06/15 18:17	1
<b>Total HpCDF</b>	<b>4.76</b>	<b>J I V</b>	48.4	0.166			pg/L		07/30/15 14:45	08/06/15 18:17	1
<b>OCDF</b>	<b>3.67</b>	<b>J V I</b>	96.8	0.137	0.001	0.0037	pg/L		07/30/15 14:45	08/06/15 18:17	1
<b>Total TEQ (EPA 1989)</b>						<b>1.9</b>					

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	112		35 - 197	07/30/15 14:45	08/06/15 18:17	1

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	85		25 - 164	07/30/15 14:45	08/06/15 18:17	1
13C-1,2,3,7,8-PeCDD	80		25 - 181	07/30/15 14:45	08/06/15 18:17	1
13C-1,2,3,4,7,8-HxCDD	81		32 - 141	07/30/15 14:45	08/06/15 18:17	1
13C-1,2,3,6,7,8-HxCDD	78		28 - 130	07/30/15 14:45	08/06/15 18:17	1
13C-1,2,3,4,6,7,8-HpCDD	85		23 - 140	07/30/15 14:45	08/06/15 18:17	1
13C-OCDD	70		17 - 157	07/30/15 14:45	08/06/15 18:17	1
13C-2,3,7,8-TCDF	84		24 - 169	07/30/15 14:45	08/06/15 18:17	1
13C-1,2,3,7,8-PeCDF	84		24 - 185	07/30/15 14:45	08/06/15 18:17	1
13C-2,3,4,7,8-PeCDF	83		21 - 178	07/30/15 14:45	08/06/15 18:17	1
13C-1,2,3,4,7,8-HxCDF	83		26 - 152	07/30/15 14:45	08/06/15 18:17	1
13C-1,2,3,6,7,8-HxCDF	77		26 - 123	07/30/15 14:45	08/06/15 18:17	1
13C-2,3,4,6,7,8-HxCDF	80		28 - 136	07/30/15 14:45	08/06/15 18:17	1
13C-1,2,3,7,8,9-HxCDF	80		29 - 147	07/30/15 14:45	08/06/15 18:17	1
13C-1,2,3,4,6,7,8-HpCDF	79		28 - 143	07/30/15 14:45	08/06/15 18:17	1
13C-1,2,3,4,7,8,9-HpCDF	73		26 - 138	07/30/15 14:45	08/06/15 18:17	1
13C-OCDF	61		17 - 157	07/30/15 14:45	08/06/15 18:17	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>1.3</b>	<b>I</b>	2.5	1.3	ug/L		06/17/15 08:23	06/17/15 23:05	1
<b>Barium</b>	<b>1100</b>		5.0	1.3	ug/L		06/17/15 08:23	06/17/15 23:05	1
Cadmium	0.095	U	0.50	0.095	ug/L		06/17/15 08:23	06/17/15 23:05	1
<b>Chromium</b>	<b>2.6</b>	<b>I</b>	5.0	2.5	ug/L		06/17/15 08:23	06/17/15 23:05	1
<b>Lead</b>	<b>2.5</b>		1.5	0.20	ug/L		06/17/15 08:23	06/17/15 23:05	1
Selenium	1.0	U	2.5	1.0	ug/L		06/17/15 08:23	06/17/15 23:05	1
Silver	0.25	U	1.0	0.25	ug/L		06/17/15 08:23	06/17/15 23:05	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	ug/L		06/15/15 14:04	06/16/15 11:08	1

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-DP2**

**Lab Sample ID: 660-67393-4**

**Date Collected: 06/11/15 13:41**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	9.9	U	20	9.9	ug/L			06/18/15 17:05	1
Benzene	0.50	U	1.0	0.50	ug/L			06/18/15 17:05	1
Bromobenzene	0.58	U	1.0	0.58	ug/L			06/18/15 17:05	1
Bromoform	0.63	U	1.0	0.63	ug/L			06/18/15 17:05	1
Bromomethane	2.5	U	5.0	2.5	ug/L			06/18/15 17:05	1
2-Butanone (MEK)	8.4	U	10	8.4	ug/L			06/18/15 17:05	1
Carbon disulfide	1.0	U	2.0	1.0	ug/L			06/18/15 17:05	1
Carbon tetrachloride	0.43	U	1.0	0.43	ug/L			06/18/15 17:05	1
Chlorobenzene	0.63	U	1.0	0.63	ug/L			06/18/15 17:05	1
Chlorobromomethane	0.58	U	1.0	0.58	ug/L			06/18/15 17:05	1
Chlorodibromomethane	0.31	U	1.0	0.31	ug/L			06/18/15 17:05	1
Chloroethane	2.5	U	5.0	2.5	ug/L			06/18/15 17:05	1
Chloroform	0.90	U	1.0	0.90	ug/L			06/18/15 17:05	1
Chloromethane	1.0	U	4.0	1.0	ug/L			06/18/15 17:05	1
2-Chlorotoluene	0.65	U	1.0	0.65	ug/L			06/18/15 17:05	1
4-Chlorotoluene	0.52	U	1.0	0.52	ug/L			06/18/15 17:05	1
cis-1,2-Dichloroethene	0.65	U	1.0	0.65	ug/L			06/18/15 17:05	1
cis-1,3-Dichloropropene	0.39	U	1.0	0.39	ug/L			06/18/15 17:05	1
1,2-Dibromo-3-Chloropropane	2.5	U	5.0	2.5	ug/L			06/18/15 17:05	1
Dibromomethane	0.46	U	1.0	0.46	ug/L			06/18/15 17:05	1
1,2-Dichlorobenzene	0.49	U	1.0	0.49	ug/L			06/18/15 17:05	1
1,3-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			06/18/15 17:05	1
1,4-Dichlorobenzene	0.60	U	1.0	0.60	ug/L			06/18/15 17:05	1
Dichlorobromomethane	0.44	U	1.0	0.44	ug/L			06/18/15 17:05	1
Dichlorodifluoromethane	2.5	U	5.0	2.5	ug/L			06/18/15 17:05	1
1,1-Dichloroethane	0.52	U	1.0	0.52	ug/L			06/18/15 17:05	1
1,2-Dichloroethane	0.57	U	1.0	0.57	ug/L			06/18/15 17:05	1
1,1-Dichloroethene	0.67	U	1.0	0.67	ug/L			06/18/15 17:05	1
1,2-Dichloropropane	0.52	U	1.0	0.52	ug/L			06/18/15 17:05	1
1,3-Dichloropropane	0.42	U	1.0	0.42	ug/L			06/18/15 17:05	1
2,2-Dichloropropane	0.36	U	1.0	0.36	ug/L			06/18/15 17:05	1
1,1-Dichloropropene	0.65	U	1.0	0.65	ug/L			06/18/15 17:05	1
Ethylbenzene	0.44	U	1.0	0.44	ug/L			06/18/15 17:05	1
Ethylene Dibromide	0.50	U	1.0	0.50	ug/L			06/18/15 17:05	1
Hexachlorobutadiene	0.34	U	1.0	0.34	ug/L			06/18/15 17:05	1
2-Hexanone	4.4	U	10	4.4	ug/L			06/18/15 17:05	1
Isopropylbenzene	0.52	U	1.0	0.52	ug/L			06/18/15 17:05	1
4-Isopropyltoluene	0.69	U	1.0	0.69	ug/L			06/18/15 17:05	1
Methylene Chloride	4.0	U	5.0	4.0	ug/L			06/18/15 17:05	1
4-Methyl-2-pentanone (MIBK)	4.0	U	10	4.0	ug/L			06/18/15 17:05	1
Methyl tert-butyl ether	0.44	U	1.0	0.44	ug/L			06/18/15 17:05	1
m-Xylene & p-Xylene	0.60	U	2.0	0.60	ug/L			06/18/15 17:05	1
n-Butylbenzene	0.67	U	1.0	0.67	ug/L			06/18/15 17:05	1
N-Propylbenzene	0.59	U	1.0	0.59	ug/L			06/18/15 17:05	1
o-Xylene	0.50	U	1.0	0.50	ug/L			06/18/15 17:05	1
sec-Butylbenzene	0.63	U	1.0	0.63	ug/L			06/18/15 17:05	1
Styrene	0.98	U	2.0	0.98	ug/L			06/18/15 17:05	1
tert-Butylbenzene	0.84	U	1.0	0.84	ug/L			06/18/15 17:05	1
1,1,1,2-Tetrachloroethane	0.63	U	1.0	0.63	ug/L			06/18/15 17:05	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-DP2**

**Lab Sample ID: 660-67393-4**

**Date Collected: 06/11/15 13:41**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.17	U	1.0	0.17	ug/L			06/18/15 17:05	1
Tetrachloroethene	0.50	U	1.0	0.50	ug/L			06/18/15 17:05	1
Toluene	0.51	U	1.0	0.51	ug/L			06/18/15 17:05	1
trans-1,2-Dichloroethene	0.67	U	1.0	0.67	ug/L			06/18/15 17:05	1
trans-1,3-Dichloropropene	0.27	U	1.0	0.27	ug/L			06/18/15 17:05	1
1,2,3-Trichlorobenzene	0.77	U	1.0	0.77	ug/L			06/18/15 17:05	1
1,2,4-Trichlorobenzene	0.58	U	1.0	0.58	ug/L			06/18/15 17:05	1
1,1,1-Trichloroethane	0.47	U	1.0	0.47	ug/L			06/18/15 17:05	1
1,1,2-Trichloroethane	0.47	U	1.0	0.47	ug/L			06/18/15 17:05	1
Trichloroethene	0.61	U	1.0	0.61	ug/L			06/18/15 17:05	1
Trichlorofluoromethane	2.5	U	5.0	2.5	ug/L			06/18/15 17:05	1
1,2,3-Trichloropropane	0.44	U	1.0	0.44	ug/L			06/18/15 17:05	1
1,2,4-Trimethylbenzene	0.86	U	1.0	0.86	ug/L			06/18/15 17:05	1
1,3,5-Trimethylbenzene	0.54	U	1.0	0.54	ug/L			06/18/15 17:05	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			06/18/15 17:05	1
Xylenes, Total	0.50	U	3.0	0.50	ug/L			06/18/15 17:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		70 - 130					06/18/15 17:05	1
Dibromofluoromethane	113		70 - 130					06/18/15 17:05	1
Toluene-d8 (Surr)	104		70 - 130					06/18/15 17:05	1

## Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.15</b>	<b>I</b>	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:49	1
Acenaphthylene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:49	1
Anthracene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:49	1
Benzo[a]anthracene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:49	1
Benzo[a]pyrene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:49	1
Benzo[b]fluoranthene	0.025	U	0.10	0.025	ug/L		06/15/15 14:09	06/16/15 17:49	1
Benzo[g,h,i]perylene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:49	1
Benzo[k]fluoranthene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:49	1
Chrysene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:49	1
Dibenz(a,h)anthracene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:49	1
<b>Fluoranthene</b>	<b>0.032</b>	<b>I</b>	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:49	1
<b>Fluorene</b>	<b>0.064</b>	<b>I J3</b>	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:49	1
Indeno[1,2,3-cd]pyrene	0.044	U	0.20	0.044	ug/L		06/15/15 14:09	06/16/15 17:49	1
1-Methylnaphthalene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:49	1
2-Methylnaphthalene	0.031	U	0.20	0.031	ug/L		06/15/15 14:09	06/16/15 17:49	1
Naphthalene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:49	1
<b>Phenanthrene</b>	<b>0.058</b>	<b>I</b>	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 17:49	1
<b>Pyrene</b>	<b>0.034</b>	<b>I</b>	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 17:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	48		40 - 114				06/15/15 14:09	06/16/15 17:49	1

## Method: 8081B - Organochlorine Pesticides by GC

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.0020	U	0.050	0.0020	ug/L		06/16/15 14:49	06/17/15 22:58	1
alpha-BHC	0.0060	U	0.050	0.0060	ug/L		06/16/15 14:49	06/17/15 22:58	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-DP2**

**Lab Sample ID: 660-67393-4**

**Date Collected: 06/11/15 13:41**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

## Method: 8081B - Organochlorine Pesticides by GC (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-Chlordane	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
beta-BHC	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
Chlordane (technical)	0.34	U	1.0	0.34	ug/L		06/16/15 14:49	06/17/15 22:58	1
4,4'-DDD	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
4,4'-DDE	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
4,4'-DDT	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
delta-BHC	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
Dieldrin	0.0020	U	0.10	0.0020	ug/L		06/16/15 14:49	06/17/15 22:58	1
Endosulfan I	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
Endosulfan II	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
Endosulfan sulfate	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
Endrin	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
Endrin aldehyde	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
Endrin ketone	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
gamma-BHC (Lindane)	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
gamma-Chlordane	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
Heptachlor	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
Heptachlor epoxide	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
Methoxychlor	0.013	U	0.50	0.013	ug/L		06/16/15 14:49	06/17/15 22:58	1
Toxaphene	0.68	U	5.0	0.68	ug/L		06/16/15 14:49	06/17/15 22:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	64		20 - 142	06/16/15 14:49	06/17/15 22:58	1
Dibutylchloroendate	107		25 - 137	06/16/15 14:49	06/17/15 22:58	1
Tetrachloro-m-xylene	99		22 - 134	06/16/15 14:49	06/17/15 22:58	1

## Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bolstar	0.090	U	0.94	0.090	ug/L		06/15/15 17:16	06/16/15 20:26	1
Chlorpyrifos	0.10	U	0.94	0.10	ug/L		06/15/15 17:16	06/16/15 20:26	1
Coumaphos	0.076	U	0.94	0.076	ug/L		06/15/15 17:16	06/16/15 20:26	1
Demeton, Total	0.14	U	2.4	0.14	ug/L		06/15/15 17:16	06/16/15 20:26	1
Diazinon	0.10	U	0.94	0.10	ug/L		06/15/15 17:16	06/16/15 20:26	1
Dichlorvos	0.25	U	1.9	0.25	ug/L		06/15/15 17:16	06/16/15 20:26	1
Dimethoate	0.30	U	1.9	0.30	ug/L		06/15/15 17:16	06/16/15 20:26	1
Disulfoton	0.11	U	1.9	0.11	ug/L		06/15/15 17:16	06/16/15 20:26	1
EPN	0.067	U	0.94	0.067	ug/L		06/15/15 17:16	06/16/15 20:26	1
Ethyl Parathion	0.075	U	0.94	0.075	ug/L		06/15/15 17:16	06/16/15 20:26	1
Fensulfothion	0.16	U	4.7	0.16	ug/L		06/15/15 17:16	06/16/15 20:26	1
Guthion	0.31	U	0.94	0.31	ug/L		06/15/15 17:16	06/16/15 20:26	1
Malathion	0.087	U	0.94	0.087	ug/L		06/15/15 17:16	06/16/15 20:26	1
Merphos	0.12	U	0.94	0.12	ug/L		06/15/15 17:16	06/16/15 20:26	1
Methyl parathion	0.11	U	0.47	0.11	ug/L		06/15/15 17:16	06/16/15 20:26	1
Mevinphos	0.14	U	1.9	0.14	ug/L		06/15/15 17:16	06/16/15 20:26	1
Mocap	0.39	U	0.47	0.39	ug/L		06/15/15 17:16	06/16/15 20:26	1
Monochrotophos	2.5	U	9.4	2.5	ug/L		06/15/15 17:16	06/16/15 20:26	1
Naled	0.34	U	4.7	0.34	ug/L		06/15/15 17:16	06/16/15 20:26	1
Phorate	0.15	U	0.94	0.15	ug/L		06/15/15 17:16	06/16/15 20:26	1
Ronnel	0.12	U	0.94	0.12	ug/L		06/15/15 17:16	06/16/15 20:26	1
Sulfotepp	0.052	U	0.47	0.052	ug/L		06/15/15 17:16	06/16/15 20:26	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-DP2**

**Lab Sample ID: 660-67393-4**

**Date Collected: 06/11/15 13:41**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

**Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tokuthion	0.082	U	0.94	0.082	ug/L		06/15/15 17:16	06/16/15 20:26	1
Trichloronate	0.10	U	0.94	0.10	ug/L		06/15/15 17:16	06/16/15 20:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Triphenylphosphate (TPP)	85		37 - 139				06/15/15 17:16	06/16/15 20:26	1

**Method: FL-PRO - Florida - Petroleum Range Organics (GC)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Petroleum Hydrocarbons (C8-C40)</b>	<b>34</b>	<b>I</b>	150	24	ug/L		06/16/15 10:42	06/17/15 14:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-C39	90		42 - 193				06/16/15 10:42	06/17/15 14:35	1
o-Terphenyl	102		82 - 142				06/16/15 10:42	06/17/15 14:35	1

**Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B)**

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
<b>2,3,7,8-TCDD</b>	<b>0.362</b>	<b>J I</b>	10.2	0.0996	1	0.36	pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>Total TCDD</b>	<b>0.362</b>	<b>J I</b>	10.2	0.0996			pg/L		07/30/15 14:45	08/06/15 19:19	1
1,2,3,7,8-PeCDD	ND		50.8	0.264	0.5		pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>Total PeCDD</b>	<b>2.19</b>	<b>J I</b>	50.8	0.264			pg/L		07/30/15 14:45	08/06/15 19:19	1
1,2,3,4,7,8-HxCDD	ND		50.8	0.337	0.1		pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>1,2,3,6,7,8-HxCDD</b>	<b>2.31</b>	<b>J I</b>	50.8	0.333	0.1	0.23	pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>1,2,3,7,8,9-HxCDD</b>	<b>1.51</b>	<b>I</b>	50.8	0.317	0.1	0.15	pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>Total HxCDD</b>	<b>23.7</b>	<b>J I</b>	50.8	0.329			pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>129</b>	<b>V</b>	50.8	1.17	0.01	1.3	pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>Total HpCDD</b>	<b>291</b>	<b>V</b>	50.8	1.17			pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>OCDD</b>	<b>1330</b>	<b>V</b>	102	1.86	0.001	1.3	pg/L		07/30/15 14:45	08/06/15 19:19	1
2,3,7,8-TCDF	ND		10.2	0.243	0.1		pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>Total TCDF</b>	<b>20.5</b>	<b>I J</b>	10.2	0.243			pg/L		07/30/15 14:45	08/06/15 19:19	1
1,2,3,7,8-PeCDF	ND		50.8	0.319	0.05		pg/L		07/30/15 14:45	08/06/15 19:19	1
2,3,4,7,8-PeCDF	ND		50.8	0.301	0.5		pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>Total PeCDF</b>	<b>16.9</b>	<b>J I</b>	50.8	0.309			pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>1,2,3,4,7,8-HxCDF</b>	<b>0.500</b>	<b>J I</b>	50.8	0.287	0.1	0.050	pg/L		07/30/15 14:45	08/06/15 19:19	1
1,2,3,6,7,8-HxCDF	ND		50.8	0.258	0.1		pg/L		07/30/15 14:45	08/06/15 19:19	1
2,3,4,6,7,8-HxCDF	ND		50.8	0.307	0.1		pg/L		07/30/15 14:45	08/06/15 19:19	1
1,2,3,7,8,9-HxCDF	ND		50.8	0.353	0.1		pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>Total HxCDF</b>	<b>17.3</b>	<b>J I</b>	50.8	0.298			pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>4.77</b>	<b>J V I</b>	50.8	0.376	0.01	0.048	pg/L		07/30/15 14:45	08/06/15 19:19	1
1,2,3,4,7,8,9-HpCDF	ND		50.8	0.612	0.01		pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>Total HpCDF</b>	<b>10.6</b>	<b>J I V</b>	50.8	0.470			pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>OCDF</b>	<b>6.98</b>	<b>V I</b>	102	0.242	0.001	0.0070	pg/L		07/30/15 14:45	08/06/15 19:19	1
<b>Total TEQ (EPA 1989)</b>						<b>3.5</b>					
Surrogate	%Recovery	Qualifier	Limits					Prepared	Analyzed	Dil Fac	
37Cl4-2,3,7,8-TCDD	105		35 - 197					07/30/15 14:45	08/06/15 19:19	1	
Internal Standard	%Recovery	Qualifier	Limits					Prepared	Analyzed	Dil Fac	
13C-2,3,7,8-TCDD	83		25 - 164					07/30/15 14:45	08/06/15 19:19	1	
13C-1,2,3,7,8-PeCDD	76		25 - 181					07/30/15 14:45	08/06/15 19:19	1	

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-DP2**

**Date Collected: 06/11/15 13:41**

**Date Received: 06/12/15 08:50**

**Lab Sample ID: 660-67393-4**

**Matrix: Water**

**Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)**

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDD	80		32 - 141	07/30/15 14:45	08/06/15 19:19	1
13C-1,2,3,6,7,8-HxCDD	78		28 - 130	07/30/15 14:45	08/06/15 19:19	1
13C-1,2,3,4,6,7,8-HpCDD	82		23 - 140	07/30/15 14:45	08/06/15 19:19	1
13C-OCDD	67		17 - 157	07/30/15 14:45	08/06/15 19:19	1
13C-2,3,7,8-TCDF	79		24 - 169	07/30/15 14:45	08/06/15 19:19	1
13C-1,2,3,7,8-PeCDF	73		24 - 185	07/30/15 14:45	08/06/15 19:19	1
13C-2,3,4,7,8-PeCDF	75		21 - 178	07/30/15 14:45	08/06/15 19:19	1
13C-1,2,3,4,7,8-HxCDF	77		26 - 152	07/30/15 14:45	08/06/15 19:19	1
13C-1,2,3,6,7,8-HxCDF	80		26 - 123	07/30/15 14:45	08/06/15 19:19	1
13C-2,3,4,6,7,8-HxCDF	80		28 - 136	07/30/15 14:45	08/06/15 19:19	1
13C-1,2,3,7,8,9-HxCDF	82		29 - 147	07/30/15 14:45	08/06/15 19:19	1
13C-1,2,3,4,6,7,8-HpCDF	78		28 - 143	07/30/15 14:45	08/06/15 19:19	1
13C-1,2,3,4,7,8,9-HpCDF	77		26 - 138	07/30/15 14:45	08/06/15 19:19	1
13C-OCDF	57		17 - 157	07/30/15 14:45	08/06/15 19:19	1

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.3	U	2.5	1.3	ug/L		06/17/15 08:23	06/17/15 23:10	1
<b>Barium</b>	<b>780</b>		5.0	1.3	ug/L		06/17/15 08:23	06/17/15 23:10	1
Cadmium	0.095	U	0.50	0.095	ug/L		06/17/15 08:23	06/17/15 23:10	1
Chromium	2.5	U	5.0	2.5	ug/L		06/17/15 08:23	06/17/15 23:10	1
<b>Lead</b>	<b>8.6</b>		1.5	0.20	ug/L		06/17/15 08:23	06/17/15 23:10	1
Selenium	1.0	U	2.5	1.0	ug/L		06/17/15 08:23	06/17/15 23:10	1
Silver	0.25	U	1.0	0.25	ug/L		06/17/15 08:23	06/17/15 23:10	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	ug/L		06/15/15 14:04	06/16/15 11:11	1

**Client Sample ID: LMW-2A**

**Date Collected: 06/11/15 15:36**

**Date Received: 06/12/15 08:50**

**Lab Sample ID: 660-67393-5**

**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	9.9	U	20	9.9	ug/L			06/18/15 17:24	1
Benzene	0.50	U	1.0	0.50	ug/L			06/18/15 17:24	1
Bromobenzene	0.58	U	1.0	0.58	ug/L			06/18/15 17:24	1
Bromoform	0.63	U	1.0	0.63	ug/L			06/18/15 17:24	1
Bromomethane	2.5	U	5.0	2.5	ug/L			06/18/15 17:24	1
2-Butanone (MEK)	8.4	U	10	8.4	ug/L			06/18/15 17:24	1
Carbon disulfide	1.0	U	2.0	1.0	ug/L			06/18/15 17:24	1
Carbon tetrachloride	0.43	U	1.0	0.43	ug/L			06/18/15 17:24	1
Chlorobenzene	0.63	U	1.0	0.63	ug/L			06/18/15 17:24	1
Chlorobromomethane	0.58	U	1.0	0.58	ug/L			06/18/15 17:24	1
Chlorodibromomethane	0.31	U	1.0	0.31	ug/L			06/18/15 17:24	1
Chloroethane	2.5	U	5.0	2.5	ug/L			06/18/15 17:24	1
Chloroform	0.90	U	1.0	0.90	ug/L			06/18/15 17:24	1
Chloromethane	1.0	U	4.0	1.0	ug/L			06/18/15 17:24	1
2-Chlorotoluene	0.65	U	1.0	0.65	ug/L			06/18/15 17:24	1

TestAmerica Tampa



# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-2A**

**Lab Sample ID: 660-67393-5**

**Date Collected: 06/11/15 15:36**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	0.52	U	1.0	0.52	ug/L			06/18/15 17:24	1
cis-1,2-Dichloroethene	0.65	U	1.0	0.65	ug/L			06/18/15 17:24	1
cis-1,3-Dichloropropene	0.39	U	1.0	0.39	ug/L			06/18/15 17:24	1
1,2-Dibromo-3-Chloropropane	2.5	U	5.0	2.5	ug/L			06/18/15 17:24	1
Dibromomethane	0.46	U	1.0	0.46	ug/L			06/18/15 17:24	1
1,2-Dichlorobenzene	0.49	U	1.0	0.49	ug/L			06/18/15 17:24	1
1,3-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			06/18/15 17:24	1
1,4-Dichlorobenzene	0.60	U	1.0	0.60	ug/L			06/18/15 17:24	1
Dichlorobromomethane	0.44	U	1.0	0.44	ug/L			06/18/15 17:24	1
Dichlorodifluoromethane	2.5	U	5.0	2.5	ug/L			06/18/15 17:24	1
1,1-Dichloroethane	0.52	U	1.0	0.52	ug/L			06/18/15 17:24	1
1,2-Dichloroethane	0.57	U	1.0	0.57	ug/L			06/18/15 17:24	1
1,1-Dichloroethene	0.67	U	1.0	0.67	ug/L			06/18/15 17:24	1
1,2-Dichloropropane	0.52	U	1.0	0.52	ug/L			06/18/15 17:24	1
1,3-Dichloropropane	0.42	U	1.0	0.42	ug/L			06/18/15 17:24	1
2,2-Dichloropropane	0.36	U	1.0	0.36	ug/L			06/18/15 17:24	1
1,1-Dichloropropene	0.65	U	1.0	0.65	ug/L			06/18/15 17:24	1
Ethylbenzene	0.44	U	1.0	0.44	ug/L			06/18/15 17:24	1
Ethylene Dibromide	0.50	U	1.0	0.50	ug/L			06/18/15 17:24	1
Hexachlorobutadiene	0.34	U	1.0	0.34	ug/L			06/18/15 17:24	1
2-Hexanone	4.4	U	10	4.4	ug/L			06/18/15 17:24	1
Isopropylbenzene	0.52	U	1.0	0.52	ug/L			06/18/15 17:24	1
4-Isopropyltoluene	0.69	U	1.0	0.69	ug/L			06/18/15 17:24	1
Methylene Chloride	4.0	U	5.0	4.0	ug/L			06/18/15 17:24	1
4-Methyl-2-pentanone (MIBK)	4.0	U	10	4.0	ug/L			06/18/15 17:24	1
Methyl tert-butyl ether	0.44	U	1.0	0.44	ug/L			06/18/15 17:24	1
m-Xylene & p-Xylene	0.60	U	2.0	0.60	ug/L			06/18/15 17:24	1
n-Butylbenzene	0.67	U	1.0	0.67	ug/L			06/18/15 17:24	1
N-Propylbenzene	0.59	U	1.0	0.59	ug/L			06/18/15 17:24	1
o-Xylene	0.50	U	1.0	0.50	ug/L			06/18/15 17:24	1
sec-Butylbenzene	0.63	U	1.0	0.63	ug/L			06/18/15 17:24	1
Styrene	0.98	U	2.0	0.98	ug/L			06/18/15 17:24	1
tert-Butylbenzene	0.84	U	1.0	0.84	ug/L			06/18/15 17:24	1
1,1,1,2-Tetrachloroethane	0.63	U	1.0	0.63	ug/L			06/18/15 17:24	1
1,1,2,2-Tetrachloroethane	0.17	U	1.0	0.17	ug/L			06/18/15 17:24	1
Tetrachloroethene	0.50	U	1.0	0.50	ug/L			06/18/15 17:24	1
Toluene	0.51	U	1.0	0.51	ug/L			06/18/15 17:24	1
trans-1,2-Dichloroethene	0.67	U	1.0	0.67	ug/L			06/18/15 17:24	1
trans-1,3-Dichloropropene	0.27	U	1.0	0.27	ug/L			06/18/15 17:24	1
1,2,3-Trichlorobenzene	0.77	U	1.0	0.77	ug/L			06/18/15 17:24	1
1,2,4-Trichlorobenzene	0.58	U	1.0	0.58	ug/L			06/18/15 17:24	1
1,1,1-Trichloroethane	0.47	U	1.0	0.47	ug/L			06/18/15 17:24	1
1,1,2-Trichloroethane	0.47	U	1.0	0.47	ug/L			06/18/15 17:24	1
Trichloroethene	0.61	U	1.0	0.61	ug/L			06/18/15 17:24	1
Trichlorofluoromethane	2.5	U	5.0	2.5	ug/L			06/18/15 17:24	1
1,2,3-Trichloropropane	0.44	U	1.0	0.44	ug/L			06/18/15 17:24	1
1,2,4-Trimethylbenzene	0.86	U	1.0	0.86	ug/L			06/18/15 17:24	1
1,3,5-Trimethylbenzene	0.54	U	1.0	0.54	ug/L			06/18/15 17:24	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			06/18/15 17:24	1

TestAmerica Tampa



# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-2A**

**Lab Sample ID: 660-67393-5**

**Date Collected: 06/11/15 15:36**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.50	U	3.0	0.50	ug/L			06/18/15 17:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		70 - 130					06/18/15 17:24	1
Dibromofluoromethane	111		70 - 130					06/18/15 17:24	1
Toluene-d8 (Surr)	101		70 - 130					06/18/15 17:24	1

## Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 18:08	1
Acenaphthylene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 18:08	1
Anthracene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 18:08	1
Benzo[a]anthracene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 18:08	1
Benzo[a]pyrene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 18:08	1
Benzo[b]fluoranthene	0.025	U	0.10	0.025	ug/L		06/15/15 14:09	06/16/15 18:08	1
Benzo[g,h,i]perylene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 18:08	1
Benzo[k]fluoranthene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 18:08	1
Chrysene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 18:08	1
Dibenz(a,h)anthracene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 18:08	1
Fluoranthene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 18:08	1
Fluorene	0.040	J3 U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 18:08	1
Indeno[1,2,3-cd]pyrene	0.044	U	0.20	0.044	ug/L		06/15/15 14:09	06/16/15 18:08	1
1-Methylnaphthalene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 18:08	1
2-Methylnaphthalene	0.031	U	0.20	0.031	ug/L		06/15/15 14:09	06/16/15 18:08	1
Naphthalene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 18:08	1
Phenanthrene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 18:08	1
Pyrene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 18:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	53		40 - 114				06/15/15 14:09	06/16/15 18:08	1

## Method: 8081B - Organochlorine Pesticides by GC

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.0020	U	0.049	0.0020	ug/L		06/16/15 14:49	06/17/15 23:13	1
alpha-BHC	0.0059	U	0.049	0.0059	ug/L		06/16/15 14:49	06/17/15 23:13	1
alpha-Chlordane	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
beta-BHC	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
Chlordane (technical)	0.33	U	0.98	0.33	ug/L		06/16/15 14:49	06/17/15 23:13	1
4,4'-DDD	0.013	U	0.098	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
4,4'-DDE	0.013	U	0.098	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
4,4'-DDT	0.013	U	0.098	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
delta-BHC	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
Dieldrin	0.0020	U	0.098	0.0020	ug/L		06/16/15 14:49	06/17/15 23:13	1
Endosulfan I	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
Endosulfan II	0.013	U	0.098	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
Endosulfan sulfate	0.013	U	0.098	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
Endrin	0.013	U	0.098	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
Endrin aldehyde	0.013	U	0.098	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
Endrin ketone	0.013	U	0.098	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
gamma-BHC (Lindane)	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-2A**

**Lab Sample ID: 660-67393-5**

**Date Collected: 06/11/15 15:36**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

**Method: 8081B - Organochlorine Pesticides by GC (Continued)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-Chlordane	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
Heptachlor	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
Heptachlor epoxide	0.013	U	0.049	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
Methoxychlor	0.013	U	0.49	0.013	ug/L		06/16/15 14:49	06/17/15 23:13	1
Toxaphene	0.67	U	4.9	0.67	ug/L		06/16/15 14:49	06/17/15 23:13	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl	73		20 - 142				06/16/15 14:49	06/17/15 23:13	1
Dibutylchloroendate	54		25 - 137				06/16/15 14:49	06/17/15 23:13	1
Tetrachloro-m-xylene	91		22 - 134				06/16/15 14:49	06/17/15 23:13	1

**Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bolstar	0.091	U	0.96	0.091	ug/L		06/15/15 17:16	06/16/15 20:42	1
Chlorpyrifos	0.11	U	0.96	0.11	ug/L		06/15/15 17:16	06/16/15 20:42	1
Coumaphos	0.078	U	0.96	0.078	ug/L		06/15/15 17:16	06/16/15 20:42	1
Demeton, Total	0.14	U	2.4	0.14	ug/L		06/15/15 17:16	06/16/15 20:42	1
Diazinon	0.11	U	0.96	0.11	ug/L		06/15/15 17:16	06/16/15 20:42	1
Dichlorvos	0.25	U	1.9	0.25	ug/L		06/15/15 17:16	06/16/15 20:42	1
Dimethoate	0.31	U	1.9	0.31	ug/L		06/15/15 17:16	06/16/15 20:42	1
Disulfoton	0.12	U	1.9	0.12	ug/L		06/15/15 17:16	06/16/15 20:42	1
EPN	0.068	U	0.96	0.068	ug/L		06/15/15 17:16	06/16/15 20:42	1
Ethyl Parathion	0.077	U	0.96	0.077	ug/L		06/15/15 17:16	06/16/15 20:42	1
Fensulfothion	0.16	U	4.8	0.16	ug/L		06/15/15 17:16	06/16/15 20:42	1
Guthion	0.32	U	0.96	0.32	ug/L		06/15/15 17:16	06/16/15 20:42	1
Malathion	0.088	U	0.96	0.088	ug/L		06/15/15 17:16	06/16/15 20:42	1
Merphos	0.13	U	0.96	0.13	ug/L		06/15/15 17:16	06/16/15 20:42	1
Methyl parathion	0.12	U	0.48	0.12	ug/L		06/15/15 17:16	06/16/15 20:42	1
Mevinphos	0.14	U	1.9	0.14	ug/L		06/15/15 17:16	06/16/15 20:42	1
Mocap	0.39	U	0.48	0.39	ug/L		06/15/15 17:16	06/16/15 20:42	1
Monochrotophos	2.5	U	9.6	2.5	ug/L		06/15/15 17:16	06/16/15 20:42	1
Naled	0.35	U	4.8	0.35	ug/L		06/15/15 17:16	06/16/15 20:42	1
Phorate	0.15	U	0.96	0.15	ug/L		06/15/15 17:16	06/16/15 20:42	1
Ronnel	0.13	U	0.96	0.13	ug/L		06/15/15 17:16	06/16/15 20:42	1
Sulfotepp	0.053	U	0.48	0.053	ug/L		06/15/15 17:16	06/16/15 20:42	1
Tokuthion	0.084	U	0.96	0.084	ug/L		06/15/15 17:16	06/16/15 20:42	1
Trichloronate	0.11	U	0.96	0.11	ug/L		06/15/15 17:16	06/16/15 20:42	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Triphenylphosphate (TPP)	97		37 - 139				06/15/15 17:16	06/16/15 20:42	1

**Method: FL-PRO - Florida - Petroleum Range Organics (GC)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Petroleum Hydrocarbons (C8-C40)	24	U	150	24	ug/L		06/16/15 10:42	06/17/15 14:45	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
n-C39	98		42 - 193				06/16/15 10:42	06/17/15 14:45	1
o-Terphenyl	115		82 - 142				06/16/15 10:42	06/17/15 14:45	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-2A**

**Lab Sample ID: 660-67393-5**

Date Collected: 06/11/15 15:36

Matrix: Water

Date Received: 06/12/15 08:50

**Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B)**

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.90	0.0584	1		pg/L		07/30/15 14:45	08/06/15 20:21	1
Total TCDD	ND		9.90	0.0584			pg/L		07/30/15 14:45	08/06/15 20:21	1
1,2,3,7,8-PeCDD	ND		49.5	0.112	0.5		pg/L		07/30/15 14:45	08/06/15 20:21	1
<b>Total PeCDD</b>	<b>0.162</b>	<b>J I</b>	49.5	0.112			pg/L		07/30/15 14:45	08/06/15 20:21	1
1,2,3,4,7,8-HxCDD	ND		49.5	0.143	0.1		pg/L		07/30/15 14:45	08/06/15 20:21	1
1,2,3,6,7,8-HxCDD	ND		49.5	0.152	0.1		pg/L		07/30/15 14:45	08/06/15 20:21	1
1,2,3,7,8,9-HxCDD	ND		49.5	0.139	0.1		pg/L		07/30/15 14:45	08/06/15 20:21	1
<b>Total HxCDD</b>	<b>0.454</b>	<b>J I</b>	49.5	0.145			pg/L		07/30/15 14:45	08/06/15 20:21	1
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>2.97</b>	<b>J V I</b>	49.5	0.298	0.01	0.030	pg/L		07/30/15 14:45	08/06/15 20:21	1
<b>Total HpCDD</b>	<b>4.53</b>	<b>J I V</b>	49.5	0.298			pg/L		07/30/15 14:45	08/06/15 20:21	1
<b>OCDD</b>	<b>20.9</b>	<b>V I</b>	99.0	0.291	0.001	0.021	pg/L		07/30/15 14:45	08/06/15 20:21	1
2,3,7,8-TCDF	ND		9.90	0.135	0.1		pg/L		07/30/15 14:45	08/06/15 20:21	1
<b>Total TCDF</b>	<b>3.71</b>	<b>J I</b>	9.90	0.135			pg/L		07/30/15 14:45	08/06/15 20:21	1
1,2,3,7,8-PeCDF	ND		49.5	0.166	0.05		pg/L		07/30/15 14:45	08/06/15 20:21	1
2,3,4,7,8-PeCDF	ND		49.5	0.159	0.5		pg/L		07/30/15 14:45	08/06/15 20:21	1
<b>Total PeCDF</b>	<b>1.56</b>	<b>J I</b>	49.5	0.162			pg/L		07/30/15 14:45	08/06/15 20:21	1
1,2,3,4,7,8-HxCDF	ND		49.5	0.148	0.1		pg/L		07/30/15 14:45	08/06/15 20:21	1
1,2,3,6,7,8-HxCDF	ND		49.5	0.132	0.1		pg/L		07/30/15 14:45	08/06/15 20:21	1
2,3,4,6,7,8-HxCDF	ND		49.5	0.158	0.1		pg/L		07/30/15 14:45	08/06/15 20:21	1
1,2,3,7,8,9-HxCDF	ND		49.5	0.199	0.1		pg/L		07/30/15 14:45	08/06/15 20:21	1
<b>Total HxCDF</b>	<b>0.675</b>	<b>J I</b>	49.5	0.156			pg/L		07/30/15 14:45	08/06/15 20:21	1
1,2,3,4,6,7,8-HpCDF	ND		49.5	0.0472	0.01		pg/L		07/30/15 14:45	08/06/15 20:21	1
1,2,3,4,7,8,9-HpCDF	ND		49.5	0.0721	0.01		pg/L		07/30/15 14:45	08/06/15 20:21	1
Total HpCDF	ND		49.5	0.0574			pg/L		07/30/15 14:45	08/06/15 20:21	1
<b>OCDF</b>	<b>0.179</b>	<b>J V I</b>	99.0	0.0734	0.001	0.00018	pg/L		07/30/15 14:45	08/06/15 20:21	1
<b>Total TEQ (EPA 1989)</b>						<b>0.051</b>					

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	109		35 - 197	07/30/15 14:45	08/06/15 20:21	1
<b>Internal Standard</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	80		25 - 164	07/30/15 14:45	08/06/15 20:21	1
13C-1,2,3,7,8-PeCDD	77		25 - 181	07/30/15 14:45	08/06/15 20:21	1
13C-1,2,3,4,7,8-HxCDD	83		32 - 141	07/30/15 14:45	08/06/15 20:21	1
13C-1,2,3,6,7,8-HxCDD	76		28 - 130	07/30/15 14:45	08/06/15 20:21	1
13C-1,2,3,4,6,7,8-HpCDD	84		23 - 140	07/30/15 14:45	08/06/15 20:21	1
13C-OCDD	69		17 - 157	07/30/15 14:45	08/06/15 20:21	1
13C-2,3,7,8-TCDF	80		24 - 169	07/30/15 14:45	08/06/15 20:21	1
13C-1,2,3,7,8-PeCDF	75		24 - 185	07/30/15 14:45	08/06/15 20:21	1
13C-2,3,4,7,8-PeCDF	75		21 - 178	07/30/15 14:45	08/06/15 20:21	1
13C-1,2,3,4,7,8-HxCDF	78		26 - 152	07/30/15 14:45	08/06/15 20:21	1
13C-1,2,3,6,7,8-HxCDF	79		26 - 123	07/30/15 14:45	08/06/15 20:21	1
13C-2,3,4,6,7,8-HxCDF	77		28 - 136	07/30/15 14:45	08/06/15 20:21	1
13C-1,2,3,7,8,9-HxCDF	77		29 - 147	07/30/15 14:45	08/06/15 20:21	1
13C-1,2,3,4,6,7,8-HpCDF	72		28 - 143	07/30/15 14:45	08/06/15 20:21	1
13C-1,2,3,4,7,8,9-HpCDF	66		26 - 138	07/30/15 14:45	08/06/15 20:21	1
13C-OCDF	56		17 - 157	07/30/15 14:45	08/06/15 20:21	1

TestAmerica Tampa

# Client Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-2A**  
**Date Collected: 06/11/15 15:36**  
**Date Received: 06/12/15 08:50**

**Lab Sample ID: 660-67393-5**  
**Matrix: Water**

**Method: 6020A - Metals (ICP/MS) - Total Recoverable**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>24</b>		2.5	1.3	ug/L		06/17/15 08:23	06/17/15 23:15	1
<b>Barium</b>	<b>51</b>		5.0	1.3	ug/L		06/17/15 08:23	06/17/15 23:15	1
Cadmium	0.095	U	0.50	0.095	ug/L		06/17/15 08:23	06/17/15 23:15	1
Chromium	2.5	U	5.0	2.5	ug/L		06/17/15 08:23	06/17/15 23:15	1
<b>Lead</b>	<b>0.88</b>	<b>I</b>	1.5	0.20	ug/L		06/17/15 08:23	06/17/15 23:15	1
Selenium	1.0	U	2.5	1.0	ug/L		06/17/15 08:23	06/17/15 23:15	1
Silver	0.25	U	1.0	0.25	ug/L		06/17/15 08:23	06/17/15 23:15	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	ug/L		06/15/15 14:04	06/16/15 11:15	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 660-158876/6**

**Matrix: Water**

**Analysis Batch: 158876**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	9.9	U	20	9.9	ug/L			06/18/15 11:53	1
Benzene	0.50	U	1.0	0.50	ug/L			06/18/15 11:53	1
Bromobenzene	0.58	U	1.0	0.58	ug/L			06/18/15 11:53	1
Bromoform	0.63	U	1.0	0.63	ug/L			06/18/15 11:53	1
Bromomethane	2.5	U	5.0	2.5	ug/L			06/18/15 11:53	1
2-Butanone (MEK)	8.4	U	10	8.4	ug/L			06/18/15 11:53	1
Carbon disulfide	1.0	U	2.0	1.0	ug/L			06/18/15 11:53	1
Carbon tetrachloride	0.43	U	1.0	0.43	ug/L			06/18/15 11:53	1
Chlorobenzene	0.63	U	1.0	0.63	ug/L			06/18/15 11:53	1
Chlorobromomethane	0.58	U	1.0	0.58	ug/L			06/18/15 11:53	1
Chlorodibromomethane	0.31	U	1.0	0.31	ug/L			06/18/15 11:53	1
Chloroethane	2.5	U	5.0	2.5	ug/L			06/18/15 11:53	1
Chloroform	0.90	U	1.0	0.90	ug/L			06/18/15 11:53	1
Chloromethane	1.0	U	4.0	1.0	ug/L			06/18/15 11:53	1
2-Chlorotoluene	0.65	U	1.0	0.65	ug/L			06/18/15 11:53	1
4-Chlorotoluene	0.52	U	1.0	0.52	ug/L			06/18/15 11:53	1
cis-1,2-Dichloroethene	0.65	U	1.0	0.65	ug/L			06/18/15 11:53	1
cis-1,3-Dichloropropene	0.39	U	1.0	0.39	ug/L			06/18/15 11:53	1
1,2-Dibromo-3-Chloropropane	2.5	U	5.0	2.5	ug/L			06/18/15 11:53	1
Dibromomethane	0.46	U	1.0	0.46	ug/L			06/18/15 11:53	1
1,2-Dichlorobenzene	0.49	U	1.0	0.49	ug/L			06/18/15 11:53	1
1,3-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			06/18/15 11:53	1
1,4-Dichlorobenzene	0.60	U	1.0	0.60	ug/L			06/18/15 11:53	1
Dichlorobromomethane	0.44	U	1.0	0.44	ug/L			06/18/15 11:53	1
Dichlorodifluoromethane	2.5	U	5.0	2.5	ug/L			06/18/15 11:53	1
1,1-Dichloroethane	0.52	U	1.0	0.52	ug/L			06/18/15 11:53	1
1,2-Dichloroethane	0.57	U	1.0	0.57	ug/L			06/18/15 11:53	1
1,1-Dichloroethene	0.67	U	1.0	0.67	ug/L			06/18/15 11:53	1
1,2-Dichloropropane	0.52	U	1.0	0.52	ug/L			06/18/15 11:53	1
1,3-Dichloropropane	0.42	U	1.0	0.42	ug/L			06/18/15 11:53	1
2,2-Dichloropropane	0.36	U	1.0	0.36	ug/L			06/18/15 11:53	1
1,1-Dichloropropene	0.65	U	1.0	0.65	ug/L			06/18/15 11:53	1
Ethylbenzene	0.44	U	1.0	0.44	ug/L			06/18/15 11:53	1
Ethylene Dibromide	0.50	U	1.0	0.50	ug/L			06/18/15 11:53	1
Hexachlorobutadiene	0.34	U	1.0	0.34	ug/L			06/18/15 11:53	1
2-Hexanone	4.4	U	10	4.4	ug/L			06/18/15 11:53	1
Isopropylbenzene	0.52	U	1.0	0.52	ug/L			06/18/15 11:53	1
4-Isopropyltoluene	0.69	U	1.0	0.69	ug/L			06/18/15 11:53	1
Methylene Chloride	4.0	U	5.0	4.0	ug/L			06/18/15 11:53	1
4-Methyl-2-pentanone (MIBK)	4.0	U	10	4.0	ug/L			06/18/15 11:53	1
Methyl tert-butyl ether	0.44	U	1.0	0.44	ug/L			06/18/15 11:53	1
m-Xylene & p-Xylene	0.60	U	2.0	0.60	ug/L			06/18/15 11:53	1
n-Butylbenzene	0.67	U	1.0	0.67	ug/L			06/18/15 11:53	1
N-Propylbenzene	0.59	U	1.0	0.59	ug/L			06/18/15 11:53	1
o-Xylene	0.50	U	1.0	0.50	ug/L			06/18/15 11:53	1
sec-Butylbenzene	0.63	U	1.0	0.63	ug/L			06/18/15 11:53	1
Styrene	0.98	U	2.0	0.98	ug/L			06/18/15 11:53	1
tert-Butylbenzene	0.84	U	1.0	0.84	ug/L			06/18/15 11:53	1

TestAmerica Tampa

# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 660-158876/6**  
**Matrix: Water**  
**Analysis Batch: 158876**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.63	U	1.0	0.63	ug/L			06/18/15 11:53	1
1,1,1,2,2-Tetrachloroethane	0.17	U	1.0	0.17	ug/L			06/18/15 11:53	1
Tetrachloroethene	0.50	U	1.0	0.50	ug/L			06/18/15 11:53	1
Toluene	0.51	U	1.0	0.51	ug/L			06/18/15 11:53	1
trans-1,2-Dichloroethene	0.67	U	1.0	0.67	ug/L			06/18/15 11:53	1
trans-1,3-Dichloropropene	0.27	U	1.0	0.27	ug/L			06/18/15 11:53	1
1,2,3-Trichlorobenzene	0.77	U	1.0	0.77	ug/L			06/18/15 11:53	1
1,2,4-Trichlorobenzene	0.58	U	1.0	0.58	ug/L			06/18/15 11:53	1
1,1,1-Trichloroethane	0.47	U	1.0	0.47	ug/L			06/18/15 11:53	1
1,1,2-Trichloroethane	0.47	U	1.0	0.47	ug/L			06/18/15 11:53	1
Trichloroethene	0.61	U	1.0	0.61	ug/L			06/18/15 11:53	1
Trichlorofluoromethane	2.5	U	5.0	2.5	ug/L			06/18/15 11:53	1
1,2,3-Trichloropropane	0.44	U	1.0	0.44	ug/L			06/18/15 11:53	1
1,2,4-Trimethylbenzene	0.86	U	1.0	0.86	ug/L			06/18/15 11:53	1
1,3,5-Trimethylbenzene	0.54	U	1.0	0.54	ug/L			06/18/15 11:53	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			06/18/15 11:53	1
Xylenes, Total	0.50	U	3.0	0.50	ug/L			06/18/15 11:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		70 - 130		06/18/15 11:53	1
Dibromofluoromethane	112		70 - 130		06/18/15 11:53	1
Toluene-d8 (Surr)	101		70 - 130		06/18/15 11:53	1

**Lab Sample ID: LCS 660-158876/7**  
**Matrix: Water**  
**Analysis Batch: 158876**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	100	107		ug/L		107	62 - 142
Benzene	10.0	9.85		ug/L		99	68 - 134
Bromobenzene	10.0	9.87		ug/L		99	70 - 130
Bromoform	10.0	8.51		ug/L		85	65 - 130
Bromomethane	10.0	8.49		ug/L		85	22 - 150
2-Butanone (MEK)	100	99.6		ug/L		100	63 - 140
Carbon disulfide	10.0	9.40		ug/L		94	30 - 150
Carbon tetrachloride	10.0	12.2		ug/L		122	61 - 134
Chlorobenzene	10.0	9.79		ug/L		98	70 - 130
Chlorobromomethane	10.0	10.8		ug/L		108	70 - 130
Chlorodibromomethane	10.0	9.31		ug/L		93	70 - 130
Chloroethane	10.0	6.85		ug/L		68	39 - 150
Chloroform	10.0	11.7		ug/L		117	68 - 130
Chloromethane	10.0	8.73		ug/L		87	35 - 150
2-Chlorotoluene	10.0	11.1		ug/L		111	70 - 130
4-Chlorotoluene	10.0	11.3		ug/L		113	70 - 130
cis-1,2-Dichloroethene	10.0	12.4		ug/L		124	66 - 130
cis-1,3-Dichloropropene	10.0	10.5		ug/L		105	70 - 130
1,2-Dibromo-3-Chloropropane	10.0	8.00		ug/L		80	63 - 130
Dibromomethane	10.0	10.4		ug/L		104	70 - 130

TestAmerica Tampa

# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 660-158876/7**

**Matrix: Water**

**Analysis Batch: 158876**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	10.0	10.4		ug/L		104	70 - 130
1,3-Dichlorobenzene	10.0	10.3		ug/L		103	70 - 130
1,4-Dichlorobenzene	10.0	9.64		ug/L		96	70 - 130
Dichlorobromomethane	10.0	10.5		ug/L		105	70 - 130
Dichlorodifluoromethane	10.0	8.88		ug/L		89	16 - 149
1,1-Dichloroethane	10.0	11.4		ug/L		114	66 - 130
1,2-Dichloroethane	10.0	12.6		ug/L		126	70 - 130
1,1-Dichloroethene	10.0	9.92		ug/L		99	51 - 150
1,2-Dichloropropane	10.0	10.4		ug/L		104	70 - 130
1,3-Dichloropropane	10.0	9.78		ug/L		98	70 - 130
2,2-Dichloropropane	10.0	11.7		ug/L		117	66 - 134
1,1-Dichloropropene	10.0	12.3		ug/L		123	65 - 136
Ethylbenzene	10.0	10.2		ug/L		102	70 - 130
Ethylene Dibromide	10.0	10.5		ug/L		105	66 - 130
Hexachlorobutadiene	10.0	11.2		ug/L		112	62 - 143
2-Hexanone	100	90.7		ug/L		91	60 - 148
Isopropylbenzene	10.0	10.5		ug/L		105	62 - 130
4-Isopropyltoluene	10.0	10.2		ug/L		102	65 - 134
Methylene Chloride	10.0	10.2		ug/L		102	57 - 130
4-Methyl-2-pentanone (MIBK)	100	90.5		ug/L		91	64 - 137
Methyl tert-butyl ether	10.0	10.3		ug/L		103	67 - 130
n-Butylbenzene	10.0	10.4		ug/L		104	61 - 131
N-Propylbenzene	10.0	10.8		ug/L		108	67 - 130
o-Xylene	10.0	10.7		ug/L		107	69 - 130
sec-Butylbenzene	10.0	10.4		ug/L		104	68 - 133
Styrene	10.0	9.51		ug/L		95	68 - 131
tert-Butylbenzene	10.0	11.0		ug/L		110	64 - 130
1,1,1,2-Tetrachloroethane	10.0	10.2		ug/L		102	70 - 130
1,1,1,2,2-Tetrachloroethane	10.0	8.06		ug/L		81	70 - 130
Tetrachloroethene	10.0	10.2		ug/L		102	50 - 143
Toluene	10.0	10.1		ug/L		101	70 - 131
trans-1,2-Dichloroethene	10.0	10.8		ug/L		108	62 - 139
trans-1,3-Dichloropropene	10.0	11.3		ug/L		113	67 - 130
1,2,3-Trichlorobenzene	10.0	10.2		ug/L		102	58 - 132
1,2,4-Trichlorobenzene	10.0	10.3		ug/L		103	66 - 130
1,1,1-Trichloroethane	10.0	12.0		ug/L		120	63 - 132
1,1,2-Trichloroethane	10.0	8.90		ug/L		89	70 - 130
Trichloroethene	10.0	10.9		ug/L		109	63 - 139
Trichlorofluoromethane	10.0	11.8		ug/L		118	62 - 146
1,2,3-Trichloropropane	10.0	9.76		ug/L		98	66 - 130
1,2,4-Trimethylbenzene	10.0	11.0		ug/L		110	70 - 132
1,3,5-Trimethylbenzene	10.0	10.6		ug/L		106	65 - 134
Vinyl chloride	10.0	8.16		ug/L		82	48 - 147

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	104		70 - 130
Dibromofluoromethane	106		70 - 130
Toluene-d8 (Surr)	99		70 - 130

TestAmerica Tampa



# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

**Lab Sample ID: MB 640-117308/1-A**

**Matrix: Water**

**Analysis Batch: 117333**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 117308**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 15:11	1
Acenaphthylene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 15:11	1
Anthracene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 15:11	1
Benzo[a]anthracene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 15:11	1
Benzo[a]pyrene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 15:11	1
Benzo[b]fluoranthene	0.025	U	0.10	0.025	ug/L		06/15/15 14:09	06/16/15 15:11	1
Benzo[g,h,i]perylene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 15:11	1
Benzo[k]fluoranthene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 15:11	1
Chrysene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 15:11	1
Dibenz(a,h)anthracene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 15:11	1
Fluoranthene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 15:11	1
Fluorene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 15:11	1
Indeno[1,2,3-cd]pyrene	0.044	U	0.20	0.044	ug/L		06/15/15 14:09	06/16/15 15:11	1
1-Methylnaphthalene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 15:11	1
2-Methylnaphthalene	0.031	U	0.20	0.031	ug/L		06/15/15 14:09	06/16/15 15:11	1
Naphthalene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 15:11	1
Phenanthrene	0.040	U	0.20	0.040	ug/L		06/15/15 14:09	06/16/15 15:11	1
Pyrene	0.025	U	0.20	0.025	ug/L		06/15/15 14:09	06/16/15 15:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	82		40 - 114	06/15/15 14:09	06/16/15 15:11	1

**Lab Sample ID: LCS 640-117308/2-A**

**Matrix: Water**

**Analysis Batch: 117333**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 117308**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	8.00	4.64		ug/L		58	50 - 110
Acenaphthylene	8.00	4.88		ug/L		61	27 - 105
Anthracene	8.00	6.10		ug/L		76	33 - 103
Benzo[a]anthracene	8.00	7.33		ug/L		92	58 - 112
Benzo[a]pyrene	8.00	6.77		ug/L		85	34 - 115
Benzo[b]fluoranthene	8.00	6.68		ug/L		84	68 - 120
Benzo[g,h,i]perylene	8.00	6.13		ug/L		77	57 - 128
Benzo[k]fluoranthene	8.00	7.01		ug/L		88	67 - 115
Chrysene	8.00	7.42		ug/L		93	64 - 115
Dibenz(a,h)anthracene	8.00	6.11		ug/L		76	52 - 128
Fluoranthene	8.00	6.26		ug/L		78	66 - 113
Fluorene	8.00	4.76		ug/L		60	59 - 113
Indeno[1,2,3-cd]pyrene	8.00	6.11		ug/L		76	58 - 121
1-Methylnaphthalene	8.00	4.57		ug/L		57	46 - 103
2-Methylnaphthalene	8.00	4.26		ug/L		53	46 - 106
Naphthalene	8.00	4.55		ug/L		57	43 - 104
Phenanthrene	8.00	4.92		ug/L		62	57 - 109
Pyrene	8.00	6.52		ug/L		82	60 - 114

TestAmerica Tampa

# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

**Lab Sample ID: LCS 640-117308/2-A**  
**Matrix: Water**  
**Analysis Batch: 117333**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 117308**

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl (Surr)	65		40 - 114

**Lab Sample ID: LCSD 640-117308/3-A**  
**Matrix: Water**  
**Analysis Batch: 117333**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 117308**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	8.00	4.58		ug/L		57	50 - 110	1	40
Acenaphthylene	8.00	4.68		ug/L		59	27 - 105	4	40
Anthracene	8.00	6.01		ug/L		75	33 - 103	1	40
Benzo[a]anthracene	8.00	7.55		ug/L		94	58 - 112	3	37
Benzo[a]pyrene	8.00	7.06		ug/L		88	34 - 115	4	40
Benzo[b]fluoranthene	8.00	6.81		ug/L		85	68 - 120	2	23
Benzo[g,h,i]perylene	8.00	6.34		ug/L		79	57 - 128	3	27
Benzo[k]fluoranthene	8.00	7.31		ug/L		91	67 - 115	4	23
Chrysene	8.00	7.56		ug/L		95	64 - 115	2	34
Dibenz(a,h)anthracene	8.00	6.29		ug/L		79	52 - 128	3	30
Fluoranthene	8.00	6.39		ug/L		80	66 - 113	2	32
Fluorene	8.00	4.67	J3	ug/L		58	59 - 113	2	36
Indeno[1,2,3-cd]pyrene	8.00	6.30		ug/L		79	58 - 121	3	26
1-Methylnaphthalene	8.00	4.27		ug/L		53	46 - 103	7	40
2-Methylnaphthalene	8.00	3.99		ug/L		50	46 - 106	6	40
Naphthalene	8.00	4.06		ug/L		51	43 - 104	11	40
Phenanthrene	8.00	5.06		ug/L		63	57 - 109	3	32
Pyrene	8.00	6.64		ug/L		83	60 - 114	2	37

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>o</i> -Terphenyl (Surr)	69		40 - 114

## Method: 8081B - Organochlorine Pesticides by GC

**Lab Sample ID: MB 640-117345/1-A**  
**Matrix: Water**  
**Analysis Batch: 117354**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 117345**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.0020	U	0.050	0.0020	ug/L		06/16/15 14:49	06/17/15 23:50	1
alpha-BHC	0.0060	U	0.050	0.0060	ug/L		06/16/15 14:49	06/17/15 23:50	1
alpha-Chlordane	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
beta-BHC	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
Chlordane (technical)	0.34	U	1.0	0.34	ug/L		06/16/15 14:49	06/17/15 23:50	1
4,4'-DDD	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
4,4'-DDE	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
4,4'-DDT	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
delta-BHC	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
Dieldrin	0.0020	U	0.10	0.0020	ug/L		06/16/15 14:49	06/17/15 23:50	1
Endosulfan I	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1

TestAmerica Tampa

# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 8081B - Organochlorine Pesticides by GC (Continued)

**Lab Sample ID: MB 640-117345/1-A**  
**Matrix: Water**  
**Analysis Batch: 117354**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 117345**

Analyte	MB	MB	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Endosulfan II	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
Endosulfan sulfate	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
Endrin	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
Endrin aldehyde	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
Endrin ketone	0.013	U	0.10	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
gamma-BHC (Lindane)	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
gamma-Chlordane	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
Heptachlor	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
Heptachlor epoxide	0.013	U	0.050	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
Methoxychlor	0.013	U	0.50	0.013	ug/L		06/16/15 14:49	06/17/15 23:50	1
Toxaphene	0.68	U	5.0	0.68	ug/L		06/16/15 14:49	06/17/15 23:50	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
DCB Decachlorobiphenyl	101		20 - 142	06/16/15 14:49	06/17/15 23:50	1
Dibutylchlorodate	105		25 - 137	06/16/15 14:49	06/17/15 23:50	1
Tetrachloro-m-xylene	90		22 - 134	06/16/15 14:49	06/17/15 23:50	1

**Lab Sample ID: LCS 640-117345/2-A**  
**Matrix: Water**  
**Analysis Batch: 117354**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 117345**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
Aldrin	0.270	0.272		ug/L		101	54 - 144
alpha-BHC	0.270	0.303		ug/L		112	66 - 129
alpha-Chlordane	0.270	0.328		ug/L		121	49 - 163
beta-BHC	0.270	0.310		ug/L		115	47 - 167
4,4'-DDD	0.270	0.325		ug/L		120	38 - 156
4,4'-DDE	0.270	0.253		ug/L		94	38 - 145
4,4'-DDT	0.270	0.237		ug/L		88	21 - 137
delta-BHC	0.270	0.290		ug/L		107	51 - 132
Dieldrin	0.270	0.350		ug/L		130	51 - 161
Endosulfan I	0.270	0.290		ug/L		107	32 - 152
Endosulfan II	0.270	0.328		ug/L		121	52 - 151
Endosulfan sulfate	0.270	0.249		ug/L		92	38 - 158
Endrin	0.270	0.298		ug/L		110	59 - 144
Endrin aldehyde	0.270	0.376		ug/L		139	53 - 165
Endrin ketone	0.270	0.345		ug/L		128	60 - 167
gamma-BHC (Lindane)	0.270	0.316		ug/L		117	58 - 141
gamma-Chlordane	0.270	0.288		ug/L		107	62 - 148
Heptachlor	0.270	0.270		ug/L		100	55 - 151
Heptachlor epoxide	0.270	0.327		ug/L		121	68 - 155
Methoxychlor	0.270	0.257	I	ug/L		95	33 - 151

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl	107		20 - 142
Dibutylchlorodate	104		25 - 137
Tetrachloro-m-xylene	96		22 - 134

TestAmerica Tampa

# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 8081B - Organochlorine Pesticides by GC (Continued)

**Lab Sample ID: LCSD 640-117345/3-A**

**Matrix: Water**

**Analysis Batch: 117354**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 117345**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Aldrin	0.270	0.275		ug/L		102	54 - 144	1	34
alpha-BHC	0.270	0.263		ug/L		97	66 - 129	14	20
alpha-Chlordane	0.270	0.327		ug/L		121	49 - 163	0	51
beta-BHC	0.270	0.256		ug/L		95	47 - 167	19	28
4,4'-DDD	0.270	0.327		ug/L		121	38 - 156	0	31
4,4'-DDE	0.270	0.266		ug/L		98	38 - 145	5	28
4,4'-DDT	0.270	0.238		ug/L		88	21 - 137	0	35
delta-BHC	0.270	0.249		ug/L		92	51 - 132	15	28
Dieldrin	0.270	0.350		ug/L		129	51 - 161	0	29
Endosulfan I	0.270	0.296		ug/L		109	32 - 152	2	50
Endosulfan II	0.270	0.326		ug/L		120	52 - 151	1	39
Endosulfan sulfate	0.270	0.248		ug/L		92	38 - 158	0	36
Endrin	0.270	0.297		ug/L		110	59 - 144	0	21
Endrin aldehyde	0.270	0.370		ug/L		137	53 - 165	1	41
Endrin ketone	0.270	0.342		ug/L		127	60 - 167	1	38
gamma-BHC (Lindane)	0.270	0.273		ug/L		101	58 - 141	15	38
gamma-Chlordane	0.270	0.294		ug/L		109	62 - 148	2	27
Heptachlor	0.270	0.252		ug/L		93	55 - 151	7	25
Heptachlor epoxide	0.270	0.321		ug/L		119	68 - 155	2	24
Methoxychlor	0.270	0.284	I	ug/L		105	33 - 151	10	44

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
DCB Decachlorobiphenyl	106		20 - 142
Dibutylchloroendate	104		25 - 137
Tetrachloro-m-xylene	90		22 - 134

**Lab Sample ID: 660-67393-2 MS**

**Matrix: Water**

**Analysis Batch: 117354**

**Client Sample ID: LMW-DP1**

**Prep Type: Total/NA**

**Prep Batch: 117345**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aldrin	0.0020	U	0.541	0.546		ug/L		101	25 - 135
alpha-BHC	0.0059	U	0.541	0.577		ug/L		107	47 - 130
alpha-Chlordane	0.013	U	0.541	0.654		ug/L		121	50 - 130
beta-BHC	0.013	U	0.541	0.608		ug/L		112	50 - 142
4,4'-DDD	0.013	U	0.541	0.614		ug/L		114	50 - 130
4,4'-DDE	0.013	U	0.541	0.517		ug/L		96	50 - 130
4,4'-DDT	0.013	U	0.541	0.424		ug/L		78	36 - 140
delta-BHC	0.013	U	0.541	0.548		ug/L		101	54 - 124
Dieldrin	0.0020	U	0.541	0.675		ug/L		125	30 - 146
Endosulfan I	0.013	U	0.541	0.589		ug/L		109	44 - 130
Endosulfan II	0.013	U	0.541	0.653		ug/L		121	47 - 130
Endosulfan sulfate	0.013	U	0.541	0.494		ug/L		91	50 - 139
Endrin	0.013	U	0.541	0.602		ug/L		111	38 - 140
Endrin aldehyde	0.013	U	0.541	0.670		ug/L		124	49 - 143
Endrin ketone	0.013	U	0.541	0.659		ug/L		122	39 - 144
gamma-BHC (Lindane)	0.013	U	0.541	0.620		ug/L		115	36 - 135
gamma-Chlordane	0.013	U	0.541	0.587		ug/L		109	50 - 130

TestAmerica Tampa

# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 8081B - Organochlorine Pesticides by GC (Continued)

**Lab Sample ID: 660-67393-2 MS**

**Matrix: Water**

**Analysis Batch: 117354**

**Client Sample ID: LMW-DP1**

**Prep Type: Total/NA**

**Prep Batch: 117345**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Heptachlor	0.013	U	0.541	0.567		ug/L		105		26 - 131
Heptachlor epoxide	0.013	U	0.541	0.669		ug/L		124		50 - 130
Methoxychlor	0.013	U	0.541	0.520	I	ug/L		96		48 - 144

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl	51		20 - 142
Dibutylchloroendate	105		25 - 137
Tetrachloro-m-xylene	96		22 - 134

**Lab Sample ID: 660-67393-2 MSD**

**Matrix: Water**

**Analysis Batch: 117354**

**Client Sample ID: LMW-DP1**

**Prep Type: Total/NA**

**Prep Batch: 117345**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						Limit	
Aldrin	0.0020	U	0.541	0.528		ug/L		98		25 - 135	3	30
alpha-BHC	0.0059	U	0.541	0.538		ug/L		100		47 - 130	7	30
alpha-Chlordane	0.013	U	0.541	0.640		ug/L		118		50 - 130	2	30
beta-BHC	0.013	U	0.541	0.519		ug/L		96		50 - 142	16	30
4,4'-DDD	0.013	U	0.541	0.601		ug/L		111		50 - 130	2	30
4,4'-DDE	0.013	U	0.541	0.502		ug/L		93		50 - 130	3	30
4,4'-DDT	0.013	U	0.541	0.425		ug/L		79		36 - 140	0	24
delta-BHC	0.013	U	0.541	0.491		ug/L		91		54 - 124	11	30
Dieldrin	0.0020	U	0.541	0.656		ug/L		121		30 - 146	3	30
Endosulfan I	0.013	U	0.541	0.561		ug/L		104		44 - 130	5	30
Endosulfan II	0.013	U	0.541	0.634		ug/L		117		47 - 130	3	30
Endosulfan sulfate	0.013	U	0.541	0.473		ug/L		88		50 - 139	4	30
Endrin	0.013	U	0.541	0.602		ug/L		111		38 - 140	0	32
Endrin aldehyde	0.013	U	0.541	0.639		ug/L		118		49 - 143	5	30
Endrin ketone	0.013	U	0.541	0.634		ug/L		117		39 - 144	4	30
gamma-BHC (Lindane)	0.013	U	0.541	0.538		ug/L		100		36 - 135	14	34
gamma-Chlordane	0.013	U	0.541	0.572		ug/L		106		50 - 130	2	30
Heptachlor	0.013	U	0.541	0.572		ug/L		106		26 - 131	1	30
Heptachlor epoxide	0.013	U	0.541	0.645		ug/L		119		50 - 130	4	30
Methoxychlor	0.013	U	0.541	0.486	I	ug/L		90		48 - 144	7	30

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl	44		20 - 142
Dibutylchloroendate	106		25 - 137
Tetrachloro-m-xylene	96		22 - 134

TestAmerica Tampa

# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

**Lab Sample ID: MB 640-117314/1-A**  
**Matrix: Water**  
**Analysis Batch: 117339**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 117314**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bolstar	0.095	U	1.0	0.095	ug/L		06/15/15 17:16	06/16/15 18:01	1
Chlorpyrifos	0.11	U	1.0	0.11	ug/L		06/15/15 17:16	06/16/15 18:01	1
Coumaphos	0.081	U	1.0	0.081	ug/L		06/15/15 17:16	06/16/15 18:01	1
Demeton, Total	0.15	U	2.5	0.15	ug/L		06/15/15 17:16	06/16/15 18:01	1
Diazinon	0.11	U	1.0	0.11	ug/L		06/15/15 17:16	06/16/15 18:01	1
Dichlorvos	0.26	U	2.0	0.26	ug/L		06/15/15 17:16	06/16/15 18:01	1
Dimethoate	0.32	U	2.0	0.32	ug/L		06/15/15 17:16	06/16/15 18:01	1
Disulfoton	0.12	U	2.0	0.12	ug/L		06/15/15 17:16	06/16/15 18:01	1
EPN	0.071	U	1.0	0.071	ug/L		06/15/15 17:16	06/16/15 18:01	1
Ethyl Parathion	0.080	U	1.0	0.080	ug/L		06/15/15 17:16	06/16/15 18:01	1
Fensulfothion	0.17	U	5.0	0.17	ug/L		06/15/15 17:16	06/16/15 18:01	1
Guthion	0.33	U	1.0	0.33	ug/L		06/15/15 17:16	06/16/15 18:01	1
Malathion	0.092	U	1.0	0.092	ug/L		06/15/15 17:16	06/16/15 18:01	1
Merphos	0.13	U	1.0	0.13	ug/L		06/15/15 17:16	06/16/15 18:01	1
Methyl parathion	0.12	U	0.50	0.12	ug/L		06/15/15 17:16	06/16/15 18:01	1
Mevinphos	0.15	U	2.0	0.15	ug/L		06/15/15 17:16	06/16/15 18:01	1
Mocap	0.41	U	0.50	0.41	ug/L		06/15/15 17:16	06/16/15 18:01	1
Monochrotophos	2.6	U	10	2.6	ug/L		06/15/15 17:16	06/16/15 18:01	1
Naled	0.36	U	5.0	0.36	ug/L		06/15/15 17:16	06/16/15 18:01	1
Phorate	0.16	U	1.0	0.16	ug/L		06/15/15 17:16	06/16/15 18:01	1
Ronnel	0.13	U	1.0	0.13	ug/L		06/15/15 17:16	06/16/15 18:01	1
Sulfotepp	0.055	U	0.50	0.055	ug/L		06/15/15 17:16	06/16/15 18:01	1
Tokuthion	0.087	U	1.0	0.087	ug/L		06/15/15 17:16	06/16/15 18:01	1
Trichloronate	0.11	U	1.0	0.11	ug/L		06/15/15 17:16	06/16/15 18:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Triphenylphosphate (TPP)	97		37 - 139	06/15/15 17:16	06/16/15 18:01	1

**Lab Sample ID: LCS 640-117314/2-A**  
**Matrix: Water**  
**Analysis Batch: 117339**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 117314**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Bolstar	2.50	2.47		ug/L		99	50 - 130
Chlorpyrifos	2.50	2.07		ug/L		83	50 - 130
Coumaphos	2.50	2.16		ug/L		86	50 - 130
Demeton, Total	5.00	3.50		ug/L		70	50 - 130
Diazinon	2.50	1.59		ug/L		64	42 - 132
Dichlorvos	2.50	1.69	I	ug/L		68	50 - 130
EPN	2.50	2.15		ug/L		86	50 - 130
Ethyl Parathion	2.50	2.31		ug/L		92	49 - 134
Fensulfothion	2.50	1.71	I	ug/L		68	50 - 130
Guthion	2.50	2.30		ug/L		92	50 - 130
Malathion	2.50	2.28		ug/L		91	50 - 130
Methyl parathion	2.50	2.18		ug/L		87	43 - 140
Mevinphos	2.50	1.99	I	ug/L		80	50 - 130

TestAmerica Tampa



# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

**Lab Sample ID: LCS 640-117314/2-A**

**Matrix: Water**

**Analysis Batch: 117339**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 117314**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mocap	2.50	2.26		ug/L		90	50 - 130
Monochrotophos	10.0	4.49	I	ug/L		45	10 - 100
Naled	10.0	6.65		ug/L		66	50 - 130
Phorate	2.50	1.81		ug/L		72	50 - 130
Ronnel	2.50	1.95		ug/L		78	38 - 124
Tokuthion	2.50	2.26		ug/L		90	50 - 130
Trichloronate	2.50	2.04		ug/L		82	50 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Triphenylphosphate (TPP)	97		37 - 139

**Lab Sample ID: LCSD 640-117314/3-A**

**Matrix: Water**

**Analysis Batch: 117339**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 117314**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Bolstar	2.50	2.42		ug/L		97	50 - 130	2	30
Chlorpyrifos	2.50	1.89		ug/L		75	50 - 130	9	30
Coumaphos	2.50	2.18		ug/L		87	50 - 130	1	30
Demeton, Total	5.00	3.38		ug/L		68	50 - 130	3	30
Diazinon	2.50	1.45		ug/L		58	42 - 132	11	30
Dichlorvos	2.50	1.51	I	ug/L		61	50 - 130	11	30
EPN	2.50	2.23		ug/L		89	50 - 130	4	30
Ethyl Parathion	2.50	2.03		ug/L		81	49 - 134	13	30
Fensulfothion	2.50	1.85	I	ug/L		74	50 - 130	8	30
Guthion	2.50	2.34		ug/L		94	50 - 130	2	30
Malathion	2.50	2.15		ug/L		86	50 - 130	6	30
Methyl parathion	2.50	2.01		ug/L		81	43 - 140	8	30
Mevinphos	2.50	1.97	I	ug/L		79	50 - 130	1	30
Mocap	2.50	2.16		ug/L		86	50 - 130	5	30
Monochrotophos	10.0	5.29	I	ug/L		53	10 - 100	16	30
Naled	10.0	6.01		ug/L		60	50 - 130	10	30
Phorate	2.50	1.69		ug/L		68	50 - 130	7	30
Ronnel	2.50	1.77		ug/L		71	38 - 124	10	30
Tokuthion	2.50	2.13		ug/L		85	50 - 130	6	30
Trichloronate	2.50	1.87		ug/L		75	50 - 130	9	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Triphenylphosphate (TPP)	101		37 - 139

TestAmerica Tampa

# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: FL-PRO - Florida - Petroleum Range Organics (GC)

**Lab Sample ID: MB 400-261268/1-A**

**Matrix: Water**

**Analysis Batch: 261409**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 261268**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Petroleum Hydrocarbons (C8-C40)	24	U	150	24	ug/L		06/16/15 10:42	06/17/15 13:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-C39	111		42 - 193	06/16/15 10:42	06/17/15 13:36	1
o-Terphenyl	111		82 - 142	06/16/15 10:42	06/17/15 13:36	1

**Lab Sample ID: LCS 400-261268/2-A**

**Matrix: Water**

**Analysis Batch: 261409**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 261268**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Petroleum Hydrocarbons (C8-C40)	3400	3360		ug/L		99	55 - 118

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-C39	112		42 - 193
o-Terphenyl	132		82 - 142

**Lab Sample ID: LCSD 400-261268/3-A**

**Matrix: Water**

**Analysis Batch: 261409**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 261268**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Petroleum Hydrocarbons (C8-C40)	3400	3280		ug/L		96	55 - 118	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
n-C39	112		42 - 193
o-Terphenyl	125		82 - 142

## Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B)

**Lab Sample ID: H5G30000018B**

**Matrix: Water**

**Analysis Batch: 5211018**

**Client Sample ID: Method Blank**

**Prep Type: Total**

**Prep Batch: 5211018\_P**

Analyte	MB Result	MB Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10.0	0.0849	1		pg/L		07/30/15 14:45	08/06/15 15:11	1
Total TCDD	ND		10.0	0.0849			pg/L		07/30/15 14:45	08/06/15 15:11	1
1,2,3,7,8-PeCDD	0.152	J I	50.0	0.0519	0.5	0.076	pg/L		07/30/15 14:45	08/06/15 15:11	1
Total PeCDD	0.152	J I	50.0	0.0519			pg/L		07/30/15 14:45	08/06/15 15:11	1
1,2,3,4,7,8-HxCDD	ND		50.0	0.102	0.1		pg/L		07/30/15 14:45	08/06/15 15:11	1
1,2,3,6,7,8-HxCDD	ND		50.0	0.104	0.1		pg/L		07/30/15 14:45	08/06/15 15:11	1
1,2,3,7,8,9-HxCDD	ND		50.0	0.0976	0.1		pg/L		07/30/15 14:45	08/06/15 15:11	1
Total HxCDD	ND		50.0	0.101			pg/L		07/30/15 14:45	08/06/15 15:11	1
1,2,3,4,6,7,8-HpCDD	1.28	J I	50.0	0.201	0.01	0.013	pg/L		07/30/15 14:45	08/06/15 15:11	1
Total HpCDD	1.96	J I	50.0	0.201			pg/L		07/30/15 14:45	08/06/15 15:11	1

TestAmerica Tampa

# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)

**Lab Sample ID: H5G30000018B**

**Matrix: Water**

**Analysis Batch: 5211018**

**Client Sample ID: Method Blank**

**Prep Type: Total**

**Prep Batch: 5211018\_P**

Analyte	MB MB		ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
OCDD	3.85	J I	100	0.140	0.001	0.0039	pg/L		07/30/15 14:45	08/06/15 15:11	1
2,3,7,8-TCDF	ND		10.0	0.103	0.1		pg/L		07/30/15 14:45	08/06/15 15:11	1
Total TCDF	ND		10.0	0.103			pg/L		07/30/15 14:45	08/06/15 15:11	1
1,2,3,7,8-PeCDF	ND		50.0	0.128	0.05		pg/L		07/30/15 14:45	08/06/15 15:11	1
2,3,4,7,8-PeCDF	ND		50.0	0.125	0.5		pg/L		07/30/15 14:45	08/06/15 15:11	1
Total PeCDF	ND		50.0	0.126			pg/L		07/30/15 14:45	08/06/15 15:11	1
1,2,3,4,7,8-HxCDF	ND		50.0	0.107	0.1		pg/L		07/30/15 14:45	08/06/15 15:11	1
1,2,3,6,7,8-HxCDF	ND		50.0	0.104	0.1		pg/L		07/30/15 14:45	08/06/15 15:11	1
2,3,4,6,7,8-HxCDF	0.181	J I	50.0	0.118	0.1	0.018	pg/L		07/30/15 14:45	08/06/15 15:11	1
1,2,3,7,8,9-HxCDF	ND		50.0	0.145	0.1		pg/L		07/30/15 14:45	08/06/15 15:11	1
Total HxCDF	0.181	J I	50.0	0.116			pg/L		07/30/15 14:45	08/06/15 15:11	1
1,2,3,4,6,7,8-HpCDF	0.365	J I	50.0	0.0459	0.01	0.0037	pg/L		07/30/15 14:45	08/06/15 15:11	1
1,2,3,4,7,8,9-HpCDF	0.388	J I	50.0	0.0778	0.01	0.0039	pg/L		07/30/15 14:45	08/06/15 15:11	1
Total HpCDF	0.753	J I	50.0	0.0583			pg/L		07/30/15 14:45	08/06/15 15:11	1
OCDF	1.92	I	100	0.0757	0.001	0.0019	pg/L		07/30/15 14:45	08/06/15 15:11	1
<b>Total TEQ</b>						<b>0.12</b>					

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
37Cl4-2,3,7,8-TCDD	104		35 - 197	07/30/15 14:45	08/06/15 15:11	1

Internal Standard	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-2,3,7,8-TCDD	79		25 - 164	07/30/15 14:45	08/06/15 15:11	1
13C-1,2,3,7,8-PeCDD	80		25 - 181	07/30/15 14:45	08/06/15 15:11	1
13C-1,2,3,4,7,8-HxCDD	81		32 - 141	07/30/15 14:45	08/06/15 15:11	1
13C-1,2,3,6,7,8-HxCDD	77		28 - 130	07/30/15 14:45	08/06/15 15:11	1
13C-1,2,3,4,6,7,8-HpCDD	82		23 - 140	07/30/15 14:45	08/06/15 15:11	1
13C-OCDD	68		17 - 157	07/30/15 14:45	08/06/15 15:11	1
13C-2,3,7,8-TCDF	82		24 - 169	07/30/15 14:45	08/06/15 15:11	1
13C-1,2,3,7,8-PeCDF	80		24 - 185	07/30/15 14:45	08/06/15 15:11	1
13C-2,3,4,7,8-PeCDF	79		21 - 178	07/30/15 14:45	08/06/15 15:11	1
13C-1,2,3,4,7,8-HxCDF	82		26 - 152	07/30/15 14:45	08/06/15 15:11	1
13C-1,2,3,6,7,8-HxCDF	80		26 - 123	07/30/15 14:45	08/06/15 15:11	1
13C-2,3,4,6,7,8-HxCDF	79		28 - 136	07/30/15 14:45	08/06/15 15:11	1
13C-1,2,3,7,8,9-HxCDF	78		29 - 147	07/30/15 14:45	08/06/15 15:11	1
13C-1,2,3,4,6,7,8-HpCDF	82		28 - 143	07/30/15 14:45	08/06/15 15:11	1
13C-1,2,3,4,7,8,9-HpCDF	72		26 - 138	07/30/15 14:45	08/06/15 15:11	1
13C-OCDF	51		17 - 157	07/30/15 14:45	08/06/15 15:11	1

**Lab Sample ID: H5G30000018C**

**Matrix: Water**

**Analysis Batch: 5211018**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total**

**Prep Batch: 5211018\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2,3,7,8-TCDD	200	204		pg/L		102	67 - 158
1,2,3,7,8-PeCDD	1000	1090	V	pg/L		109	70 - 142
1,2,3,4,7,8-HxCDD	1000	1020		pg/L		102	70 - 164
1,2,3,6,7,8-HxCDD	1000	1000		pg/L		100	76 - 134

TestAmerica Tampa

# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)

**Lab Sample ID: H5G30000018C**

**Matrix: Water**

**Analysis Batch: 5211018**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total**

**Prep Batch: 5211018\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,7,8,9-HxCDD	1000	1110		pg/L		111	64 - 162
1,2,3,4,6,7,8-HpCDD	1000	969	V	pg/L		97	70 - 140
OCDD	2000	1780	V	pg/L		89	78 - 144
2,3,7,8-TCDF	200	208		pg/L		104	75 - 158
1,2,3,7,8-PeCDF	1000	944		pg/L		94	80 - 134
2,3,4,7,8-PeCDF	1000	1040		pg/L		104	68 - 160
1,2,3,4,7,8-HxCDF	1000	967		pg/L		97	72 - 134
1,2,3,6,7,8-HxCDF	1000	973		pg/L		97	84 - 130
2,3,4,6,7,8-HxCDF	1000	985	V	pg/L		99	70 - 156
1,2,3,7,8,9-HxCDF	1000	938		pg/L		94	78 - 130
1,2,3,4,6,7,8-HpCDF	1000	918	V	pg/L		92	82 - 122
1,2,3,4,7,8,9-HpCDF	1000	981	V	pg/L		98	78 - 138
OCDF	2000	1930	V	pg/L		96	63 - 170

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	109		31 - 191

Internal Standard	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	77		20 - 175
13C-1,2,3,7,8-PeCDD	75		21 - 227
13C-1,2,3,4,7,8-HxCDD	79		21 - 193
13C-1,2,3,6,7,8-HxCDD	75		25 - 163
13C-1,2,3,4,6,7,8-HpCDD	88		26 - 166
13C-OCDD	82		13 - 199
13C-2,3,7,8-TCDF	74		22 - 152
13C-1,2,3,7,8-PeCDF	73		21 - 192
13C-2,3,4,7,8-PeCDF	73		13 - 328
13C-1,2,3,4,7,8-HxCDF	78		19 - 202
13C-1,2,3,6,7,8-HxCDF	76		21 - 159
13C-2,3,4,6,7,8-HxCDF	78		22 - 176
13C-1,2,3,7,8,9-HxCDF	77		17 - 205
13C-1,2,3,4,6,7,8-HpCDF	84		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	81		20 - 186
13C-OCDF	68		13 - 199

## Method: 6020A - Metals (ICP/MS)

**Lab Sample ID: MB 680-387936/23-A**

**Matrix: Water**

**Analysis Batch: 388223**

**Client Sample ID: Method Blank**

**Prep Type: Total Recoverable**

**Prep Batch: 387936**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.3	U	2.5	1.3	ug/L		06/17/15 08:23	06/17/15 22:30	1
Barium	1.3	U	5.0	1.3	ug/L		06/17/15 08:23	06/17/15 22:30	1
Cadmium	0.095	U	0.50	0.095	ug/L		06/17/15 08:23	06/17/15 22:30	1
Chromium	2.5	U	5.0	2.5	ug/L		06/17/15 08:23	06/17/15 22:30	1
Lead	0.20	U	1.5	0.20	ug/L		06/17/15 08:23	06/17/15 22:30	1

TestAmerica Tampa

# QC Sample Results

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 6020A - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 680-387936/23-A**  
**Matrix: Water**  
**Analysis Batch: 388223**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 387936**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	1.0	U	2.5	1.0	ug/L		06/17/15 08:23	06/17/15 22:30	1
Silver	0.25	U	1.0	0.25	ug/L		06/17/15 08:23	06/17/15 22:30	1

**Lab Sample ID: LCS 680-387936/24-A**  
**Matrix: Water**  
**Analysis Batch: 388223**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 387936**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	100	101		ug/L		101	75 - 125
Barium	100	106		ug/L		106	75 - 125
Cadmium	50.0	54.0		ug/L		108	75 - 125
Chromium	100	103		ug/L		103	75 - 125
Lead	500	508		ug/L		102	75 - 125
Selenium	100	101		ug/L		101	75 - 125
Silver	50.0	53.1		ug/L		106	75 - 125

## Method: 7470A - Mercury (CVAA)

**Lab Sample ID: MB 680-387654/13-A**  
**Matrix: Water**  
**Analysis Batch: 387859**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 387654**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	ug/L		06/15/15 14:04	06/16/15 10:50	1

**Lab Sample ID: LCS 680-387654/14-A**  
**Matrix: Water**  
**Analysis Batch: 387859**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 387654**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	2.50	2.48		ug/L		99	80 - 120

**Lab Sample ID: 660-67393-1 MS**  
**Matrix: Water**  
**Analysis Batch: 387859**

**Client Sample ID: LMW-B4**  
**Prep Type: Total/NA**  
**Prep Batch: 387654**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	0.080	U	1.00	1.04		ug/L		104	80 - 120

**Lab Sample ID: 660-67393-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 387859**

**Client Sample ID: LMW-B4**  
**Prep Type: Total/NA**  
**Prep Batch: 387654**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Mercury	0.080	U	1.00	1.05		ug/L		105	80 - 120	1	20

TestAmerica Tampa

# Internal Standards Summary

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B)

Matrix: Water

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Internal Standard Recovery (Acceptance Limits)								
		TCDD (25-164)	,2,3,7,8-Pi (25-181)	2,3,4,7,8-F (32-141)	2,3,6,7,8-F (28-130)	,3,4,6,7,8- (23-140)	13C-OCDF (17-157)	TCDF (24-169)	,2,3,7,8-P (24-185)	
660-67393-1	LMW-B4	83	83	84	85	89	70	83	80	
660-67393-2	LMW-DP1	80	77	74	74	79	54	78	82	
660-67393-3	LMW-B3	85	80	81	78	85	70	84	84	
660-67393-4	LMW-DP2	83	76	80	78	82	67	79	73	
660-67393-5	LMW-2A	80	77	83	76	84	69	80	75	
H5G300000018B	Method Blank	79	80	81	77	82	68	82	80	

Lab Sample ID	Client Sample ID	Percent Internal Standard Recovery (Acceptance Limits)								
		PeCDF2 (21-178)	2,3,4,7,8-F (26-152)	HxCDF2 (26-123)	HxCDF3 (28-136)	HxCDF4 (29-147)	,3,4,6,7,8- (28-143)	,3,4,7,8,9- (26-138)	13C-OCDF (17-157)	
660-67393-1	LMW-B4	81	86	80	82	84	80	83	59	
660-67393-2	LMW-DP1	78	74	73	77	77	77	69	48	
660-67393-3	LMW-B3	83	83	77	80	80	79	73	61	
660-67393-4	LMW-DP2	75	77	80	80	82	78	77	57	
660-67393-5	LMW-2A	75	78	79	77	77	72	66	56	
H5G300000018B	Method Blank	79	82	80	79	78	82	72	51	

### Internal Standard Legend

- TCDD = 13C-2,3,7,8-TCDD
- 13C-1,2,3,7,8-PeCDD = 13C-1,2,3,7,8-PeCDD
- 13C-1,2,3,4,7,8-HxCDD = 13C-1,2,3,4,7,8-HxCDD
- 13C-1,2,3,6,7,8-HxCDD = 13C-1,2,3,6,7,8-HxCDD
- 13C-1,2,3,4,6,7,8-HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- 13C-OCDD = 13C-OCDD
- TCDF = 13C-2,3,7,8-TCDF
- 13C-1,2,3,7,8-PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCDF2 = 13C-2,3,4,7,8-PeCDF
- 13C-1,2,3,4,7,8-HxCDF = 13C-1,2,3,4,7,8-HxCDF
- HxCDF2 = 13C-1,2,3,6,7,8-HxCDF
- HxCDF3 = 13C-2,3,4,6,7,8-HxCDF
- HxCDF4 = 13C-1,2,3,7,8,9-HxCDF
- 13C-1,2,3,4,6,7,8-HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
- 13C-1,2,3,4,7,8,9-HpCDF = 13C-1,2,3,4,7,8,9-HpCDF
- 13C-OCDF = 13C-OCDF

## Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B)

Matrix: Water

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Internal Standard Recovery (Acceptance Limits)								
		TCDD (20-175)	,2,3,7,8-Pi (21-227)	2,3,4,7,8-F (21-193)	2,3,6,7,8-F (25-163)	,3,4,6,7,8- (26-166)	13C-OCDF (13-199)	TCDF (22-152)	,2,3,7,8-P (21-192)	
H5G300000018C	Lab Control Sample	77	75	79	75	88	82	74	73	

Lab Sample ID	Client Sample ID	Percent Internal Standard Recovery (Acceptance Limits)								
		PeCDF2 (13-328)	2,3,4,7,8-F (19-202)	HxCDF2 (21-159)	HxCDF3 (22-176)	HxCDF4 (17-205)	,3,4,6,7,8- (21-158)	,3,4,7,8,9- (20-186)	13C-OCDF (13-199)	
H5G300000018C	Lab Control Sample	73	78	76	78	77	84	81	68	

### Internal Standard Legend

- TCDD = 13C-2,3,7,8-TCDD
- 13C-1,2,3,7,8-PeCDD = 13C-1,2,3,7,8-PeCDD

TestAmerica Tampa



# Internal Standards Summary

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

13C-1,2,3,4,7,8-HxCDD = 13C-1,2,3,4,7,8-HxCDD  
13C-1,2,3,6,7,8-HxCDD = 13C-1,2,3,6,7,8-HxCDD  
13C-1,2,3,4,6,7,8-HpCDD = 13C-1,2,3,4,6,7,8-HpCDD  
13C-OCDD = 13C-OCDD  
TCDF = 13C-2,3,7,8-TCDF  
13C-1,2,3,7,8-PeCDF = 13C-1,2,3,7,8-PeCDF  
PeCDF2 = 13C-2,3,4,7,8-PeCDF  
13C-1,2,3,4,7,8-HxCDF = 13C-1,2,3,4,7,8-HxCDF  
HxCDF2 = 13C-1,2,3,6,7,8-HxCDF  
HxCDF3 = 13C-2,3,4,6,7,8-HxCDF  
HxCDF4 = 13C-1,2,3,7,8,9-HxCDF  
13C-1,2,3,4,6,7,8-HpCDF = 13C-1,2,3,4,6,7,8-HpCDF  
13C-1,2,3,4,7,8,9-HpCDF = 13C-1,2,3,4,7,8,9-HpCDF  
13C-OCDF = 13C-OCDF

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# QC Association Summary

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## GC/MS VOA

### Analysis Batch: 158876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total/NA	Water	8260B	
660-67393-2	LMW-DP1	Total/NA	Water	8260B	
660-67393-3	LMW-B3	Total/NA	Water	8260B	
660-67393-4	LMW-DP2	Total/NA	Water	8260B	
660-67393-5	LMW-2A	Total/NA	Water	8260B	
LCS 660-158876/7	Lab Control Sample	Total/NA	Water	8260B	
MB 660-158876/6	Method Blank	Total/NA	Water	8260B	

## GC/MS Semi VOA

### Prep Batch: 117308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total/NA	Water	3520C	
660-67393-2	LMW-DP1	Total/NA	Water	3520C	
660-67393-3	LMW-B3	Total/NA	Water	3520C	
660-67393-4	LMW-DP2	Total/NA	Water	3520C	
660-67393-5	LMW-2A	Total/NA	Water	3520C	
LCS 640-117308/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 640-117308/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 640-117308/1-A	Method Blank	Total/NA	Water	3520C	

### Analysis Batch: 117333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total/NA	Water	8270D LL	117308
660-67393-2	LMW-DP1	Total/NA	Water	8270D LL	117308
660-67393-3	LMW-B3	Total/NA	Water	8270D LL	117308
660-67393-4	LMW-DP2	Total/NA	Water	8270D LL	117308
660-67393-5	LMW-2A	Total/NA	Water	8270D LL	117308
LCS 640-117308/2-A	Lab Control Sample	Total/NA	Water	8270D LL	117308
LCSD 640-117308/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	117308
MB 640-117308/1-A	Method Blank	Total/NA	Water	8270D LL	117308

## GC Semi VOA

### Prep Batch: 117314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total/NA	Water	3520C	
660-67393-2	LMW-DP1	Total/NA	Water	3520C	
660-67393-3	LMW-B3	Total/NA	Water	3520C	
660-67393-4	LMW-DP2	Total/NA	Water	3520C	
660-67393-5	LMW-2A	Total/NA	Water	3520C	
LCS 640-117314/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 640-117314/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 640-117314/1-A	Method Blank	Total/NA	Water	3520C	

### Analysis Batch: 117339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total/NA	Water	8141B	117314
660-67393-2	LMW-DP1	Total/NA	Water	8141B	117314
660-67393-3	LMW-B3	Total/NA	Water	8141B	117314

TestAmerica Tampa

# QC Association Summary

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## GC Semi VOA (Continued)

### Analysis Batch: 117339 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-4	LMW-DP2	Total/NA	Water	8141B	117314
660-67393-5	LMW-2A	Total/NA	Water	8141B	117314
LCS 640-117314/2-A	Lab Control Sample	Total/NA	Water	8141B	117314
LCSD 640-117314/3-A	Lab Control Sample Dup	Total/NA	Water	8141B	117314
MB 640-117314/1-A	Method Blank	Total/NA	Water	8141B	117314

### Prep Batch: 117345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total/NA	Water	3511	
660-67393-2	LMW-DP1	Total/NA	Water	3511	
660-67393-2 MS	LMW-DP1	Total/NA	Water	3511	
660-67393-2 MSD	LMW-DP1	Total/NA	Water	3511	
660-67393-3	LMW-B3	Total/NA	Water	3511	
660-67393-4	LMW-DP2	Total/NA	Water	3511	
660-67393-5	LMW-2A	Total/NA	Water	3511	
LCS 640-117345/2-A	Lab Control Sample	Total/NA	Water	3511	
LCSD 640-117345/3-A	Lab Control Sample Dup	Total/NA	Water	3511	
MB 640-117345/1-A	Method Blank	Total/NA	Water	3511	

### Analysis Batch: 117354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total/NA	Water	8081B	117345
660-67393-2 MS	LMW-DP1	Total/NA	Water	8081B	117345
660-67393-2 MSD	LMW-DP1	Total/NA	Water	8081B	117345
LCS 640-117345/2-A	Lab Control Sample	Total/NA	Water	8081B	117345
LCSD 640-117345/3-A	Lab Control Sample Dup	Total/NA	Water	8081B	117345
MB 640-117345/1-A	Method Blank	Total/NA	Water	8081B	117345

### Analysis Batch: 117355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-3	LMW-B3	Total/NA	Water	8081B	117345
660-67393-4	LMW-DP2	Total/NA	Water	8081B	117345
660-67393-5	LMW-2A	Total/NA	Water	8081B	117345

### Analysis Batch: 117390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-2	LMW-DP1	Total/NA	Water	8081B	117345

### Prep Batch: 261268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total/NA	Water	3520C	
660-67393-2	LMW-DP1	Total/NA	Water	3520C	
660-67393-3	LMW-B3	Total/NA	Water	3520C	
660-67393-4	LMW-DP2	Total/NA	Water	3520C	
660-67393-5	LMW-2A	Total/NA	Water	3520C	
LCS 400-261268/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-261268/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 400-261268/1-A	Method Blank	Total/NA	Water	3520C	

TestAmerica Tampa

# QC Association Summary

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## GC Semi VOA (Continued)

### Analysis Batch: 261409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total/NA	Water	FL-PRO	261268
660-67393-2	LMW-DP1	Total/NA	Water	FL-PRO	261268
660-67393-3	LMW-B3	Total/NA	Water	FL-PRO	261268
660-67393-4	LMW-DP2	Total/NA	Water	FL-PRO	261268
660-67393-5	LMW-2A	Total/NA	Water	FL-PRO	261268
LCS 400-261268/2-A	Lab Control Sample	Total/NA	Water	FL-PRO	261268
LCS 400-261268/3-A	Lab Control Sample Dup	Total/NA	Water	FL-PRO	261268
MB 400-261268/1-A	Method Blank	Total/NA	Water	FL-PRO	261268

## Specialty Organics

### Analysis Batch: 5211018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total	Water	1613B	
660-67393-2	LMW-DP1	Total	Water	1613B	
660-67393-3	LMW-B3	Total	Water	1613B	
660-67393-4	LMW-DP2	Total	Water	1613B	
660-67393-5	LMW-2A	Total	Water	1613B	
H5G300000018B	Method Blank	Total	Water	1613B	
H5G300000018C	Lab Control Sample	Total	Water	1613B	

### Prep Batch: 5211018\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total	Water	1613	
660-67393-2	LMW-DP1	Total	Water	1613	
660-67393-3	LMW-B3	Total	Water	1613	
660-67393-4	LMW-DP2	Total	Water	1613	
660-67393-5	LMW-2A	Total	Water	1613	
H5G300000018B	Method Blank	Total	Water	1613	
H5G300000018C	Lab Control Sample	Total	Water	1613	

## Metals

### Prep Batch: 387654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total/NA	Water	7470A	
660-67393-1 MS	LMW-B4	Total/NA	Water	7470A	
660-67393-1 MSD	LMW-B4	Total/NA	Water	7470A	
660-67393-2	LMW-DP1	Total/NA	Water	7470A	
660-67393-3	LMW-B3	Total/NA	Water	7470A	
660-67393-4	LMW-DP2	Total/NA	Water	7470A	
660-67393-5	LMW-2A	Total/NA	Water	7470A	
LCS 680-387654/14-A	Lab Control Sample	Total/NA	Water	7470A	
MB 680-387654/13-A	Method Blank	Total/NA	Water	7470A	

### Analysis Batch: 387859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total/NA	Water	7470A	387654
660-67393-1 MS	LMW-B4	Total/NA	Water	7470A	387654
660-67393-1 MSD	LMW-B4	Total/NA	Water	7470A	387654

TestAmerica Tampa

# QC Association Summary

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Metals (Continued)

### Analysis Batch: 387859 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-2	LMW-DP1	Total/NA	Water	7470A	387654
660-67393-3	LMW-B3	Total/NA	Water	7470A	387654
660-67393-4	LMW-DP2	Total/NA	Water	7470A	387654
660-67393-5	LMW-2A	Total/NA	Water	7470A	387654
LCS 680-387654/14-A	Lab Control Sample	Total/NA	Water	7470A	387654
MB 680-387654/13-A	Method Blank	Total/NA	Water	7470A	387654

### Prep Batch: 387936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total Recoverable	Water	3005A	
660-67393-2	LMW-DP1	Total Recoverable	Water	3005A	
660-67393-3	LMW-B3	Total Recoverable	Water	3005A	
660-67393-4	LMW-DP2	Total Recoverable	Water	3005A	
660-67393-5	LMW-2A	Total Recoverable	Water	3005A	
LCS 680-387936/24-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-387936/23-A	Method Blank	Total Recoverable	Water	3005A	

### Analysis Batch: 388223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-67393-1	LMW-B4	Total Recoverable	Water	6020A	387936
660-67393-2	LMW-DP1	Total Recoverable	Water	6020A	387936
660-67393-3	LMW-B3	Total Recoverable	Water	6020A	387936
660-67393-4	LMW-DP2	Total Recoverable	Water	6020A	387936
660-67393-5	LMW-2A	Total Recoverable	Water	6020A	387936
LCS 680-387936/24-A	Lab Control Sample	Total Recoverable	Water	6020A	387936
MB 680-387936/23-A	Method Blank	Total Recoverable	Water	6020A	387936

# Lab Chronicle

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-B4**  
**Date Collected: 06/11/15 09:23**  
**Date Received: 06/12/15 08:50**

**Lab Sample ID: 660-67393-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	158876	06/18/15 16:08	ECC	TAL TAM
Total/NA	Prep	3520C			117308	06/15/15 14:09	QMC	TAL TAL
Total/NA	Analysis	8270D LL		1	117333	06/16/15 16:47	JMF	TAL TAL
Total/NA	Prep	3511			117345	06/16/15 14:49	RDD	TAL TAL
Total/NA	Analysis	8081B		1	117354	06/18/15 02:05	CWA	TAL TAL
Total/NA	Prep	3520C			117314	06/15/15 17:16	QMC	TAL TAL
Total/NA	Analysis	8141B		1	117339	06/16/15 19:38	MLT	TAL TAL
Total/NA	Prep	3520C			261268	06/16/15 10:42	KH1	TAL PEN
Total/NA	Analysis	FL-PRO		1	261409	06/17/15 14:05	IDR	TAL PEN
Total	Prep	1613			5211018_P	07/30/15 14:45		TAL KNX
Total	Analysis	1613B		1	5211018	08/06/15 16:14	MAD	TAL KNX
Total Recoverable	Prep	3005A			387936	06/17/15 08:23	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	388223	06/17/15 22:55	BWR	TAL SAV
Total/NA	Prep	7470A			387654	06/15/15 14:04	JKL	TAL SAV
Total/NA	Analysis	7470A		1	387859	06/16/15 10:56	JKL	TAL SAV

**Client Sample ID: LMW-DP1**  
**Date Collected: 06/11/15 10:36**  
**Date Received: 06/12/15 08:50**

**Lab Sample ID: 660-67393-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	158876	06/18/15 16:27	ECC	TAL TAM
Total/NA	Prep	3520C			117308	06/15/15 14:09	QMC	TAL TAL
Total/NA	Analysis	8270D LL		1	117333	06/16/15 17:06	JMF	TAL TAL
Total/NA	Prep	3511			117345	06/16/15 14:49	RDD	TAL TAL
Total/NA	Analysis	8081B		1	117390	06/18/15 13:12	CWA	TAL TAL
Total/NA	Prep	3520C			117314	06/15/15 17:16	QMC	TAL TAL
Total/NA	Analysis	8141B		1	117339	06/16/15 19:54	MLT	TAL TAL
Total/NA	Prep	3520C			261268	06/16/15 10:42	KH1	TAL PEN
Total/NA	Analysis	FL-PRO		1	261409	06/17/15 14:15	IDR	TAL PEN
Total	Prep	1613			5211018_P	07/30/15 14:45		TAL KNX
Total	Analysis	1613B		1	5211018	08/06/15 17:16	MAD	TAL KNX
Total Recoverable	Prep	3005A			387936	06/17/15 08:23	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	388223	06/17/15 23:00	BWR	TAL SAV
Total/NA	Prep	7470A			387654	06/15/15 14:04	JKL	TAL SAV
Total/NA	Analysis	7470A		1	387859	06/16/15 11:05	JKL	TAL SAV

**Client Sample ID: LMW-B3**  
**Date Collected: 06/11/15 12:41**  
**Date Received: 06/12/15 08:50**

**Lab Sample ID: 660-67393-3**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	158876	06/18/15 16:46	ECC	TAL TAM

TestAmerica Tampa



# Lab Chronicle

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-B3**

**Lab Sample ID: 660-67393-3**

**Date Collected: 06/11/15 12:41**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			117308	06/15/15 14:09	QMC	TAL TAL
Total/NA	Analysis	8270D LL		1	117333	06/16/15 17:30	JMF	TAL TAL
Total/NA	Prep	3511			117345	06/16/15 14:49	RDD	TAL TAL
Total/NA	Analysis	8081B		1	117355	06/17/15 22:43	CWA	TAL TAL
Total/NA	Prep	3520C			117314	06/15/15 17:16	QMC	TAL TAL
Total/NA	Analysis	8141B		1	117339	06/16/15 20:10	MLT	TAL TAL
Total/NA	Prep	3520C			261268	06/16/15 10:42	KH1	TAL PEN
Total/NA	Analysis	FL-PRO		1	261409	06/17/15 14:25	IDR	TAL PEN
Total	Prep	1613			5211018_P	07/30/15 14:45		TAL KNX
Total	Analysis	1613B		1	5211018	08/06/15 18:17	MAD	TAL KNX
Total Recoverable	Prep	3005A			387936	06/17/15 08:23	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	388223	06/17/15 23:05	BWR	TAL SAV
Total/NA	Prep	7470A			387654	06/15/15 14:04	JKL	TAL SAV
Total/NA	Analysis	7470A		1	387859	06/16/15 11:08	JKL	TAL SAV

**Client Sample ID: LMW-DP2**

**Lab Sample ID: 660-67393-4**

**Date Collected: 06/11/15 13:41**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	158876	06/18/15 17:05	ECC	TAL TAM
Total/NA	Prep	3520C			117308	06/15/15 14:09	QMC	TAL TAL
Total/NA	Analysis	8270D LL		1	117333	06/16/15 17:49	JMF	TAL TAL
Total/NA	Prep	3511			117345	06/16/15 14:49	RDD	TAL TAL
Total/NA	Analysis	8081B		1	117355	06/17/15 22:58	CWA	TAL TAL
Total/NA	Prep	3520C			117314	06/15/15 17:16	QMC	TAL TAL
Total/NA	Analysis	8141B		1	117339	06/16/15 20:26	MLT	TAL TAL
Total/NA	Prep	3520C			261268	06/16/15 10:42	KH1	TAL PEN
Total/NA	Analysis	FL-PRO		1	261409	06/17/15 14:35	IDR	TAL PEN
Total	Prep	1613			5211018_P	07/30/15 14:45		TAL KNX
Total	Analysis	1613B		1	5211018	08/06/15 19:19	MAD	TAL KNX
Total Recoverable	Prep	3005A			387936	06/17/15 08:23	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	388223	06/17/15 23:10	BWR	TAL SAV
Total/NA	Prep	7470A			387654	06/15/15 14:04	JKL	TAL SAV
Total/NA	Analysis	7470A		1	387859	06/16/15 11:11	JKL	TAL SAV

**Client Sample ID: LMW-2A**

**Lab Sample ID: 660-67393-5**

**Date Collected: 06/11/15 15:36**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	158876	06/18/15 17:24	ECC	TAL TAM
Total/NA	Prep	3520C			117308	06/15/15 14:09	QMC	TAL TAL

TestAmerica Tampa

# Lab Chronicle

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

**Client Sample ID: LMW-2A**

**Lab Sample ID: 660-67393-5**

**Date Collected: 06/11/15 15:36**

**Matrix: Water**

**Date Received: 06/12/15 08:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270D LL		1	117333	06/16/15 18:08	JMF	TAL TAL
Total/NA	Prep	3511			117345	06/16/15 14:49	RDD	TAL TAL
Total/NA	Analysis	8081B		1	117355	06/17/15 23:13	CWA	TAL TAL
Total/NA	Prep	3520C			117314	06/15/15 17:16	QMC	TAL TAL
Total/NA	Analysis	8141B		1	117339	06/16/15 20:42	MLT	TAL TAL
Total/NA	Prep	3520C			261268	06/16/15 10:42	KH1	TAL PEN
Total/NA	Analysis	FL-PRO		1	261409	06/17/15 14:45	IDR	TAL PEN
Total	Prep	1613			5211018_P	07/30/15 14:45		TAL KNX
Total	Analysis	1613B		1	5211018	08/06/15 20:21	MAD	TAL KNX
Total Recoverable	Prep	3005A			387936	06/17/15 08:23	BJB	TAL SAV
Total Recoverable	Analysis	6020A		1	388223	06/17/15 23:15	BWR	TAL SAV
Total/NA	Prep	7470A			387654	06/15/15 14:04	JKL	TAL SAV
Total/NA	Analysis	7470A		1	387859	06/16/15 11:15	JKL	TAL SAV

**Laboratory References:**

- TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000
- TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001
- TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858
- TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994
- TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

# Method Summary

Client: Langan Engineering & Environmental Svcs  
Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL TAM
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL TAL
8081B	Organochlorine Pesticides by GC	SW846	TAL TAL
8141B	Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique	SW846	TAL TAL
FL-PRO	Florida - Petroleum Range Organics (GC)	FL-DEP	TAL PEN
1613B	Dioxins/Furans, HRGC/HRMS (1613B)	EPA-5	TAL KNX
6020A	Metals (ICP/MS)	SW846	TAL SAV
7470A	Mercury (CVAA)	SW846	TAL SAV

#### Protocol References:

EPA-5 = EPA-5

FL-DEP = State Of Florida Department Of Environmental Protection, Florida Administrative Code.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994

TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

# Certification Summary

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Laboratory: TestAmerica Tampa

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Florida	NELAP	4	E84282	06-30-16

## Laboratory: TestAmerica Knoxville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0688	06-16-16
California	State Program	9	2423	06-30-16
Colorado	State Program	8	N/A	02-28-16
Connecticut	State Program	1	PH-0223	09-30-15
Florida	NELAP	4	E87177	06-30-16
Georgia	State Program	4	906	04-13-17
Hawaii	State Program	9	N/A	04-13-16
Kansas	NELAP	7	E-10349	10-31-15
Kentucky (DW)	State Program	4	90101	12-31-15
L-A-B	DoD ELAP		L2311	02-13-16
Louisiana	NELAP	6	83979	06-30-16
Louisiana (DW)	NELAP	6	LA110001	12-31-15
Maryland	State Program	3	277	03-31-16
Michigan	State Program	5	9933	04-13-17
Nevada	State Program	9	TN00009	07-31-16
New Jersey	NELAP	2	TN001	09-30-15
New York	NELAP	2	10781	03-31-16
North Carolina (DW)	State Program	4	21705	07-31-16
North Carolina (WW/SW)	State Program	4	64	12-31-15
Ohio VAP	State Program	5	CL0059	01-16-17
Oklahoma	State Program	6	9415	08-31-15
Pennsylvania	NELAP	3	68-00576	12-31-15
South Carolina	State Program	4	84001	06-30-15
Tennessee	State Program	4	2014	04-13-17
Texas	NELAP	6	T104704380-TX	08-31-15
USDA	Federal		P330-13-00260	08-29-16
Utah	NELAP	8	QUAN3	07-31-16
Virginia	NELAP	3	460176	09-14-15
Washington	State Program	10	C593	01-19-16
West Virginia (DW)	State Program	3	9955C	12-31-15
West Virginia DEP	State Program	3	345	04-30-16
Wisconsin	State Program	5	998044300	08-31-15

## Laboratory: TestAmerica Pensacola

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	01-31-16
Arizona	State Program	9	AZ0710	01-11-16
Arkansas DEQ	State Program	6	88-0689	09-01-16
Florida	NELAP	4	E81010	06-30-16
Georgia	State Program	4	N/A	06-30-16
Illinois	NELAP	5	200041	10-09-16
Iowa	State Program	7	367	07-31-16
Kansas	NELAP	7	E-10253	01-31-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Tampa

# Certification Summary

Client: Langan Engineering & Environmental Svcs  
 Project/Site: City of Hollywood

TestAmerica Job ID: 660-67393-1

## Laboratory: TestAmerica Pensacola (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Kentucky (UST)	State Program	4	53	06-30-16
Kentucky (WW)	State Program	4	98030	12-31-15 *
Louisiana	NELAP	6	30976	06-30-16
Maryland	State Program	3	233	09-30-16
Massachusetts	State Program	1	M-FL094	06-30-16
Michigan	State Program	5	9912	06-30-16
New Jersey	NELAP	2	FL006	06-30-16
North Carolina (WW/SW)	State Program	4	314	12-31-15 *
Oklahoma	State Program	6	9810	08-31-16
Pennsylvania	NELAP	3	68-00467	01-31-16
Rhode Island	State Program	1	LAO00307	12-30-15 *
South Carolina	State Program	4	96026	06-30-16
Tennessee	State Program	4	TN02907	06-30-16
Texas	NELAP	6	T104704286-15-9	09-30-16
USDA	Federal		P330-13-00193	07-01-16
Virginia	NELAP	3	460166	06-14-16
West Virginia DEP	State Program	3	136	06-30-16

## Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Florida	NELAP	4	E87052	06-30-16

## Laboratory: TestAmerica Tallahassee

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Florida	NELAP	4	E81005	06-30-16

The following analytes are included in this report, but are not certified under this certification:

Analysis Method	Prep Method	Matrix	Analyte
8141B	3520C	Water	Demeton, Total

\* Certification renewal pending - certification considered valid.

**TestAmerica Tampa**  
 6712 Benjamin Road Suite 100  
 Tampa, FL 33634  
 Phone (813) 885-7427 Fax (813) 885-7049

**Chain of Custody Record**

**TestAmerica**  
 THE LEADER IN ENVIRONMENTAL TESTING

**Client Information**  
 Client Contact: Dan Spector  
 Phone: (813) 321-2854  
 Email: amy.atkins@testamericainc.com  
 Lab Piv: Atkins, Amy

**Company:** Langan Engineering & Environmental Svcs  
 Address: 15150 NW 79th Court Suite 200  
 City: Miami Lakes  
 State/Zip: FL 33016  
 Phone: 786-284-7218 (Tel)  
 Email: dspector@langan.com  
 Project Name: 66008634  
 City of Hollywood  
 Site: SSOV#:

**Due Date Requested:** TAT Requested (days):  
**Analysis Requested**

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=Soil, O=Other)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Carrier Tracking No(s)	COC No.
LMM-B4	6/11/15	9:23	GW	Water	8081B_8082A, 8141B, 8270D, FL_PRO				660-62633-20108.4
LMM-OP1	6/11/15	10:36	GW	Water	8260B - Standard 8260 List (QV)				Page 4 of 4
LMM-B3	6/11/15	12:49	GW	Water	6020A, 7471B				
LMM-DP2	6/11/15	1:41	GW	Water	8260B - Standard 8260 List (QV)				
LMM-2A	6/11/15	3:36	GW	Water	8270D_LL - PAH list				
					FL_PRO - FL-PRO				
					8081B_8082A - 8081 Standard List				
					8141B - 8141 Standard List				
					6020A, 7470A				
					8260A - 17 Isomers & Totals				
					<b>Total Number of containers</b>				

**Possible Hazard Identification**  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological

**Deliverable Requested:** I, II, III, IV Other (specify) \_\_\_\_\_

**Empty Kit Relinquished by:** [Signature] Date: 6/11/15

**Relinquished by:** [Signature] Date/Time: 6/11/15 1:00

**Relinquished by:** [Signature] Date/Time: 6/11/15 0850

**Relinquished by:** [Signature] Date/Time: 6/11/15 0850

**Custody Seals Intact:** A Yes A No  
 Custody Seal No.: A.14.0.9 0.810.7 0.871.3 1.015.0.2/0.7 0.0-0.9

**Special Instructions/OC Requirements:**  
 660-67393 Chain of Custody  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

**Method of Shipment:** \_\_\_\_\_

**Receiving by:** [Signature] Date/Time: 6/11/15 7:00

**Redefined by:** [Signature] Date/Time: 6/11/15 0850

**Received by:** [Signature] Date/Time: 6/11/15 0850

**Company:** TPA



Loc: 660  
 67393

**Ft Lauderdale**



660325

## Login Sample Receipt Checklist

Client: Langan Engineering & Environmental Svcs

Job Number: 660-67393-1

**Login Number: 67393**

**List Source: TestAmerica Tampa**

**List Number: 1**

**Creator: Southers, Kristin B**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	False	Headspace larger than 1/4" in one or more vials, one vial with accpt. headspace
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Langan Engineering & Environmental Svcs

Job Number: 660-67393-1

**Login Number: 67393**  
**List Number: 4**  
**Creator: Benforado, Jessica L**

**List Source: TestAmerica Pensacola**  
**List Creation: 06/13/15 12:26 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4°C IR2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Langan Engineering & Environmental Svcs

Job Number: 660-67393-1

**Login Number: 67393**  
**List Number: 5**  
**Creator: Benforado, Jessica L**

**List Source: TestAmerica Pensacola**  
**List Creation: 06/13/15 02:59 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.3°C IR2
COC is present.	False	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Langan Engineering & Environmental Svcs

Job Number: 660-67393-1

**Login Number: 67393**  
**List Number: 2**  
**Creator: Baumgartner, Todd**

**List Source: TestAmerica Savannah**  
**List Creation: 06/13/15 09:42 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Langan Engineering & Environmental Svcs

Job Number: 660-67393-1

**Login Number: 67393**  
**List Number: 3**  
**Creator: Savoie, Joseph L**

**List Source: TestAmerica Tallahassee**  
**List Creation: 06/13/15 10:21 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

