APPENDIX E

First Quarter 2018 Analytical Laboratory Reports and Validation Reports

APPENDIX E

TABLE OF CONTENTS

Section No.

APPENDIX E
Table of Contents (continued)

Section No.

DATA VALIDATION REPORT

Boeing SSFL Arroyo Simi

SAMPLE DELIVERY GROUP: 440-208369-1

Prepared for

Haley & Aldrich

April 18, 2018

MEC^X, Inc.
8864 Interchange Drive
Houston, Texas 77054

www.mecx.net

TABLE OF CONTENTS

TABLES

I. INTRODUCTION

Task Order Title: Boeing SSFL Arroyo Simi

Contract: 40458-078 and 40458-083

MEC^X Project No.: 1272.003D.01 002

Sample Delivery Group: 440-208369-1

Project Manager: K. Miller

Matrix: Water

QC Level: IV

No. of Samples: 1

No. of Reanalyses/Dilutions: 0

Laboratory: TestAmerica - Irvine

TABLE 1 - SAMPLE IDENTIFICATION

Sample Name	Lab Sample Name	Matrix	Collection	Method
ArroyoSimi_20180406	440-208369-1	Water	4/6/2018 9:10:00 AM	SM9221F

II. SAMPLE MANAGEMENT

According to the case narrative, sample condition upon receipt form and the chain-of-custody (COC) provided by the laboratory for sample delivery group (SDG) 440-208369-1:

- The laboratory received the sample in this sample delivery group (SDG) on ice and within the temperature limits of less than 6 degrees Celsius (°C) and greater than 0°C.
- The laboratory received the sample containers intact and properly preserved, as applicable.
- Field and laboratory personnel signed and dated the COC.
- According to the sample receipt form, custody seals were intact if present.

TABLE 2 - DATA QUALIFIER REFERENCE

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit.	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. For perchlorate, the associated value is the sample detection limit or the quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise.	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analyte has been "tentatively identified" or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.	Not applicable.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.	The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.

TABLE 3 - REASON CODE REFERENCE

Reason Code	Organic	Inorganic
H	Holding time was exceeded.	Holding time was exceeded.
S	Surrogate recovery was outside control limits.	Not applicable.
C	Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r^2) was <0.990.	Correlation coefficient (r) was <0.995.
R	Calibration relative response factor (RRF) was <0.05.	Percent recovery (%R) for calibration was outside control limits.
B	The analyte was detected in an associated blank as well as in the sample.	The analyte was detected in an associated blank as well as in the sample.
L	Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits.	LCS or LCSD %R was outside the control limits.
L1	LCS/LCSD relative percent difference (RPD) was outside the control limit.	LCS/LCSD RPD was outside the control limit.
Q	Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits.	MS or MSD %R was outside the control limit.
Q1	MS/MSD RPD was outside the control limit.	MS/MSD RPD was outside the control limit.
E	Result was reported as an estimated maximum possible concentration (EMPC).	Laboratory duplicate RPD was outside the control limit.
I	Internal standard recovery was outside control limits.	Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits.
I1	Not applicable.	ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits.
A	Not applicable.	Serial dilution %D was outside control limits.
M	Tuning (BFB or DFTPP) was not compliant.	ICPMS tune was not compliant.
T	The analyte was detected in an associated trip blank as well as in the sample.	Not applicable.
+	False positive – reported compound was not present.	False positive – reported compound was not present.
-	False negative – compound was present but not reported.	False negative – compound was present but not reported.

Reason Code	Organic	Inorganic
F	The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample.	The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample.
F1	Field duplicate RPD was outside the control limit.	Field duplicate RPD was outside the control limit.
$	The reviewer corrected the reported result and/or other information.	The reviewer corrected the reported result and/or other information.
D	The analysis was not used because another more technically sound analysis was available.	The analysis was not used because another more technically sound analysis was available.
P	Instrument performance not compliant.	Post digestion spike recovery was outside of control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. STANDARD METHOD 9221F — *E. COLI*

Marcia Hilchey of MEC^X reviewed the SDG on April 18, 2018.

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 1), Standard Methods for the Examination of Water and Wastewater 9221F,* and the *National Functional Guidelines for Inorganic Superfund Data Review* (2014).

III.1. HOLDING TIMES

The analytical holding time, 30 hours as stated in the QAPP for Method 9221F and 8 hours as requested on the CoC, was met.

III.2. CALIBRATION

Calibration criteria were met. Biological controls were acceptable.

III.3. QUALITY CONTROL SAMPLES

III.3.1. *METHOD BLANKS*

The method blank is not applicable to the biological method. The negative control sample was acceptable.

III.3.2. *LABORATORY CONTROL SAMPLES*

The presumptive test was analyzed with the positive detects for the target bacteria.

III.3.3. *LABORATORY DUPLICATES*

Laboratory duplicate analyses were not performed on the sample in this SDG

III.3.4. *MATRIX SPIKE/MATRIX SPIKE DUPLICATE*

MS/MSD analysis is not applicable to this method.

III.4. SAMPLE RESULT VERIFICATION

Calculations were verified and the sample result reported on the sample results summary was verified against the raw data. No transcription errors or calculation errors were noted.

III.5. FIELD QC SAMPLES

MEC^X evaluated field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the remaining detects to evaluate the associated site sample. Findings associated with field QC samples are summarized below.

III.5.1. *FIELD BLANKS AND EQUIPMENT BLANKS*

Field blank or equipment blank samples were not identified for this SDG.

III.5.2. *FIELD DUPLICATES*

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402083691

Analysis Method SM9221F

Sample Name ArroyoSimi_20180406 **Matrix Type:** WS **Result Type:** TRG

Sample Date: 4/6/2018 9:10:00 AM **Validation Level:** 8

Lab Sample Name: 440-208369-1

Analyte	Fraction:	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Escherichia coli	N	ECOLI	160	1.8	1.8	mpn/100			

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-208369-1
Client Project/Site: Annual Arroyo Simi-Frontier Park

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Katherine Miller

Authorized for release by:
4/16/2018 12:04:30 PM

Urvashi Patel, Manager of Project Management
(949)261-1022
urvashi.patel@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Urvashi Patel
Manager of Project Management
4/16/2018 12:04:30 PM

Table of Contents

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-208369-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-208369-1	ArroyoSimi_20180406	Water	04/06/18 09:10	04/06/18 13:44

Job ID: 440-208369-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-208369-1

Comments
No additional comments.

Receipt
The sample was received on 4/6/2018 1:44 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.3º C.

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

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-208369-1

Client Sample ID: ArroyoSimi_20180406
Date Collected: 04/06/18 09:10
Date Received: 04/06/18 13:44

Lab Sample ID: 440-208369-1
Matrix: Water

Method: SM 9221F - E.Coli (Multiple-Tube Fermentation; EC-MUG)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	160		1.8	1.8	MPN/100mL			04/06/18 15:27	1

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-208369-1

Method	Method Description	Protocol	Laboratory
SM 9221F	E.Coli (Multiple-Tube Fermentation; EC-MUG)	SM	TAL IRV

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-208369-1

Client Sample ID: ArroyoSimi_20180406
Date Collected: 04/06/18 09:10
Date Received: 04/06/18 13:44

Lab Sample ID: 440-208369-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 9221F		1	100 mL	100 mL	469616		ST	TAL IRV
								(Start) 04/06/18 15:27		
								(End) 04/09/18 12:24		

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-208369-1

Biology

Analysis Batch: 469616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-208369-1	ArroyoSimi_20180406	Total/NA	Water	SM 9221F	

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-208369-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-208369-1

Laboratory: TestAmerica Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-18

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

Client Name/Address:
Haley & Aldrich
5333 Mission Center Road, Suite 300
San Diego, CA 92108

Test America Contact: Urvashi Patel

Project:
Boeing-SSFL NPDES
Annual Arroyo Simi-Frontier Park

TestAmenca's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2015-18-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Project Manager: Katherine Miller

Sampler: Dan Smith

Phone Number:
520.289.8606, 520.904.6944 (cell)
Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

ANALYSIS REQUIRED

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	E. coli (SM9221)	Comments
Arroyo Simi	W	125mL Stenle Poly	3	ArroyoSimi-20180406	04/06/18 0910	Na2S2O3	10	X	Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

440-208369 Chain of Custody

Relinquished By	Date/Time:	Relinquished By	Date/Time:
Mark Dominick	4/6/18 1055		4-6-18 1055
	4-6-18 1344	TA-112V	4/6/18 1344
Relinquished By	Date/Time	Relinquished By	Date/Time:

Turn around Time. (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days X
72 Hours _____ Normal _____

Sample Integnty. (check)
Intact _____ On Ice _____

Store samples for 6 months.Data Requirements (check)
No Level IV ____ All Level IV X

IR-89 16/13

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-208369-1

Login Number: 208369
List Number: 1
Creator: Saraubon, Phakchaya

List Source: TestAmerica Irvine

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.	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 (excluding tests with immediate HTs)	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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

DATA VALIDATION REPORT

Boeing SSFL Arroyo Simi

SAMPLE DELIVERY GROUP: 440-208773-1

Prepared for

Haley & Aldrich

April 20, 2018

MEC^X, Inc.
8864 Interchange Drive
Houston, Texas 77054

TABLE OF CONTENTS

TABLES

I. INTRODUCTION

Task Order Title: Boeing SSFL Arroyo Simi

Contract: 40458-078 and 40458-083

MEC^X Project No.: 1272.003D.01 002

Sample Delivery Group: 440-208773-1

Project Manager: K. Miller

Matrix: Water

QC Level: IV

No. of Samples: 1

No. of Reanalyses/Dilutions: 0

Laboratory: TestAmerica - Irvine

TABLE 1 - SAMPLE IDENTIFICATION

Sample Name	Lab Sample Name	Matrix	Collection	Method
ArroyoSimi_20180413	440-208773-1	Water	4/13/2018 9:00:00 AM	SM9221F

II. SAMPLE MANAGEMENT

According to the case narrative, sample condition upon receipt form and the chain-of-custody (COC) provided by the laboratory for sample delivery group (SDG) 440-208773-1:

- The laboratory received the sample in this sample delivery group (SDG) on ice and within the temperature limits of less than 6 degrees Celsius (°C) and greater than 0°C.
- The laboratory received the sample containers intact and properly preserved, as applicable.
- Field and laboratory personnel signed and dated the COC.
- According to the sample receipt form, custody seals were absent; however, there was no evidence of tampering.

TABLE 2 - DATA QUALIFIER REFERENCE

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit.	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. For perchlorate, the associated value is the sample detection limit or the quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise.	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analyte has been "tentatively identified" or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.	Not applicable.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.	The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.

TABLE 3 - REASON CODE REFERENCE

Reason Code	Organic	Inorganic
H	Holding time was exceeded.	Holding time was exceeded.
S	Surrogate recovery was outside control limits.	Not applicable.
C	Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r^2) was <0.990.	Correlation coefficient (r) was <0.995.
R	Calibration relative response factor (RRF) was <0.05.	Percent recovery (%R) for calibration was outside control limits.
B	The analyte was detected in an associated blank as well as in the sample.	The analyte was detected in an associated blank as well as in the sample.
L	Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits.	LCS or LCSD %R was outside the control limits.
L1	LCS/LCSD relative percent difference (RPD) was outside the control limit.	LCS/LCSD RPD was outside the control limit.
Q	Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits.	MS or MSD %R was outside the control limit.
Q1	MS/MSD RPD was outside the control limit.	MS/MSD RPD was outside the control limit.
E	Result was reported as an estimated maximum possible concentration (EMPC).	Laboratory duplicate RPD was outside the control limit.
I	Internal standard recovery was outside control limits.	Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits.
I1	Not applicable.	ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits.
A	Not applicable.	Serial dilution %D was outside control limits.
M	Tuning (BFB or DFTPP) was not compliant.	ICPMS tune was not compliant.
T	The analyte was detected in an associated trip blank as well as in the sample.	Not applicable.
+	False positive – reported compound was not present.	False positive – reported compound was not present.
-	False negative – compound was present but not reported.	False negative – compound was present but not reported.

Reason Code	Organic	Inorganic
F	The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample.	The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample.
F1	Field duplicate RPD was outside the control limit.	Field duplicate RPD was outside the control limit.
$	The reviewer corrected the reported result and/or other information.	The reviewer corrected the reported result and/or other information.
D	The analysis was not used because another more technically sound analysis was available.	The analysis was not used because another more technically sound analysis was available.
P	Instrument performance not compliant.	Post digestion spike recovery was outside of control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. STANDARD METHOD 9221F — *E. COLI*

Marcia Hilchey of MEC^X reviewed the SDG on April 20, 2018.

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 1), Standard Methods for the Examination of Water and Wastewater 9221F,* and the *National Functional Guidelines for Inorganic Superfund Data Review* (2014).

III.1. HOLDING TIMES

The analytical holding time, 30 hours as stated in the QAPP for Method 9221F and 8 hours as requested on the CoC, was met.

III.2. CALIBRATION

Calibration criteria were met. Biological controls were acceptable.

III.3. QUALITY CONTROL SAMPLES

III.3.1. *METHOD BLANKS*

The method blank is not applicable to the biological method. The negative control sample was acceptable.

III.3.2. *LABORATORY CONTROL SAMPLES*

The presumptive test was analyzed with the positive detects for the target bacteria.

III.3.3. *LABORATORY DUPLICATES*

Laboratory duplicate analyses were not performed on the sample in this SDG

III.3.4. *MATRIX SPIKE/MATRIX SPIKE DUPLICATE*

MS/MSD analysis is not applicable to this method.

III.4. SAMPLE RESULT VERIFICATION

Calculations were verified and the sample result reported on the sample results summary was verified against the raw data. No transcription errors or calculation errors were noted.

III.5. FIELD QC SAMPLES

MEC^X evaluated field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the remaining detects to evaluate the associated site sample. Findings associated with field QC samples are summarized below.

III.5.1. *FIELD BLANKS AND EQUIPMENT BLANKS*

Field blank or equipment blank samples were not identified for this SDG.

III.5.2. *FIELD DUPLICATES*

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402087731

Analysis Method SM9221F

Sample Name ArroyoSimi_20180413 **Matrix Type:** WS **Result Type:** TRG

Sample Date: 4/13/2018 9:00:00 AM **Validation Level:** 8

Lab Sample Name: 440-208773-1

Analyte	Fraction:	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Escherichia coli	N	ECOLI	200	1.8	1.8	mpn/100			

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-208773-1
Client Project/Site: Annual Arroyo Simi-Frontier Park

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Katherine Miller

Authorized for release by:
4/19/2018 8:13:13 AM

Urvashi Patel, Manager of Project Management
(949)261-1022
urvashi.patel@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Urvashi Patel
Manager of Project Management
4/19/2018 8:13:13 AM

Table of Contents

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyro Simi-Frontier Park

TestAmerica Job ID: 440-208773-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-208773-1	ArroyoSimi_20180413	Water	04/13/18 09:00	04/13/18 14:00

Job ID: 440-208773-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-208773-1

Comments
No additional comments.

Receipt
The sample was received on 4/13/2018 2:00 PM; the sample arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 3.6º C.

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

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-208773-1

Client Sample ID: ArroyoSimi_20180413
Date Collected: 04/13/18 09:00
Date Received: 04/13/18 14:00

Lab Sample ID: 440-208773-1
Matrix: Water

Method: SM 9221F - E.Coli (Multiple-Tube Fermentation; EC-MUG)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	200		1.8	1.8	MPN/100mL			04/13/18 14:59	1

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-208773-1

Method	Method Description	Protocol	Laboratory
SM 9221F	E.Coli (Multiple-Tube Fermentation; EC-MUG)	SM	TAL IRV

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-208773-1

Client Sample ID: ArroyoSimi_20180413
Date Collected: 04/13/18 09:00
Date Received: 04/13/18 14:00

Lab Sample ID: 440-208773-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 9221F		1	100 mL	100 mL	470709		ST	TAL IRV
								(Start) 04/13/18 14:59		
								(End) 04/16/18 12:23		

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-208773-1

Biology

Analysis Batch: 470709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-208773-1	ArroyoSimi_20180413	Total/NA	Water	SM 9221F	

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-208773-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-208773-1

Laboratory: TestAmerica Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-18

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
Haley & Aldrich 5333 Mission Center Road, Suite 300 San Diego, CA 92108 Test America Contact: Urvashi Patel	Boeing-SSFL NPDES Annual Arroyo Simi-Frontier Park TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2015-18-TestAmerica by and between Haley & Aldrich, Inc , its subsidiaries and affiliates, and TestAmerica Laboratories Inc
Project Manager: Katherine Miller Sampler:	Phone Number: 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED: E. coli (SM9221)	Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi-20180413	04/13/18 0900	Na2S2O3	10	X	Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

440-208773 Chain of Custody

Relinquished By	Date/Time:	Received By	Date/Time:
	4-13-18/1000		4-13-18 1000
Relinquished By	Date/Time.	Received By	Date/Time:
	4-13-18 1400		4/13/18 1400
Relinquished By	Date/Time:	Received By	Date/Time:

Turn around Time. (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days X
72 Hours _____ Normal _____

Sample Integrity (check)
Intact _____ On Ice _____

Store samples for 6 months.Data Requirements: (check)
No Level IV ____ All Level IV X

R-SC6 36/36

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-208773-1

Login Number: 208773
List Number: 1
Creator: Soderblom, Tim

List Source: TestAmerica Irvine

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	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
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 (excluding tests with immediate HTs)	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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

DATA VALIDATION REPORT

Boeing SSFL Arroyo Simi

SAMPLE DELIVERY GROUP: 440-209475-1

Prepared for

Haley & Aldrich

April 25, 2018

MEC^X, Inc.
8864 Interchange Drive
Houston, Texas 77054

TABLE OF CONTENTS

TABLES

I. INTRODUCTION

Task Order Title: Boeing SSFL Arroyo Simi

Contract: 40458-078 and 40458-083

MEC^X Project No.: 1272.003D.01 002

Sample Delivery Group: 440-209475-1

Project Manager: K. Miller

Matrix: Water

QC Level: IV

No. of Samples: 1

No. of Reanalyses/Dilutions: 0

Laboratory: TestAmerica - Irvine

TABLE 1 - SAMPLE IDENTIFICATION

Sample Name	Lab Sample Name	Matrix	Collection	Method
ArroyoSimi_20180420	440-209475-1	Water	4/20/2018 9:05:00 AM	SM9221F

II. SAMPLE MANAGEMENT

According to the case narrative, sample condition upon receipt form and the chain-of-custody (COC) provided by the laboratory for sample delivery group (SDG) 440-209475-1:

- The laboratory received the sample in this sample delivery group (SDG) on ice and within the temperature limits of less than 6 degrees Celsius (°C) and greater than 0°C.
- The laboratory received the sample containers intact and properly preserved, as applicable.
- Field and laboratory personnel signed and dated the COC.
- According to the sample receipt form, custody seals were absent; however, there was no evidence of tampering.

TABLE 2 - DATA QUALIFIER REFERENCE

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. For dioxins or PCB congeners, the associated value is the quantitation limit or the estimated detection limit.	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. For perchlorate, the associated value is the sample detection limit or the quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise.	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may inaccurate or imprecise.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analyte has been "tentatively identified" or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.	Not applicable.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.	The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.

TABLE 3 - REASON CODE REFERENCE

Reason Code	Organic	Inorganic
H	Holding time was exceeded.	Holding time was exceeded.
S	Surrogate recovery was outside control limits.	Not applicable.
C	Calibration percent relative standard deviation (%RSD) or percent deviation (%D) were noncompliant, or coefficient of determination (r^2) was <0.990.	Correlation coefficient (r) was <0.995.
R	Calibration relative response factor (RRF) was <0.05.	Percent recovery (%R) for calibration was outside control limits.
B	The analyte was detected in an associated blank as well as in the sample.	The analyte was detected in an associated blank as well as in the sample.
L	Laboratory control sample (LCS) or /LCS duplicate (LCSD) %R was outside the control limits.	LCS or LCSD %R was outside the control limits.
L1	LCS/LCSD relative percent difference (RPD) was outside the control limit.	LCS/LCSD RPD was outside the control limit.
Q	Matrix spike/matrix spike duplicate (MS/MSD) %R was outside control limits.	MS or MSD %R was outside the control limit.
Q1	MS/MSD RPD was outside the control limit.	MS/MSD RPD was outside the control limit.
E	Result was reported as an estimated maximum possible concentration (EMPC).	Laboratory duplicate RPD was outside the control limit.
I	Internal standard recovery was outside control limits.	Inductively coupled plasma (ICP) interference check standard (ICSA/ICSAB) result was outside control limits.
I1	Not applicable.	ICP mass spectrometer (ICPMS) internal standard recovery was outside control limits.
A	Not applicable.	Serial dilution %D was outside control limits.
M	Tuning (BFB or DFTPP) was not compliant.	ICPMS tune was not compliant.
T	The analyte was detected in an associated trip blank as well as in the sample.	Not applicable.
+	False positive – reported compound was not present.	False positive – reported compound was not present.
-	False negative – compound was present but not reported.	False negative – compound was present but not reported.

Reason Code	Organic	Inorganic
F	The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample.	The analyte was detected in an associated field blank (FB) or equipment blank (EB) as well as in the sample.
F1	Field duplicate RPD was outside the control limit.	Field duplicate RPD was outside the control limit.
$	The reviewer corrected the reported result and/or other information.	The reviewer corrected the reported result and/or other information.
D	The analysis was not used because another more technically sound analysis was available.	The analysis was not used because another more technically sound analysis was available.
P	Instrument performance not compliant.	Post digestion spike recovery was outside of control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Other problems identified in the data are described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. STANDARD METHOD 9221F — *E. COLI*

Marcia Hilchey of MEC^X reviewed the SDG on April 25, 2018.

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 1), Standard Methods for the Examination of Water and Wastewater 9221F,* and the *National Functional Guidelines for Inorganic Superfund Data Review* (2014).

III.1. HOLDING TIMES

The analytical holding time, 30 hours as stated in the QAPP for Method 9221F and 8 hours as requested on the CoC, was met.

III.2. CALIBRATION

Calibration criteria were met. Biological controls were acceptable.

III.3. QUALITY CONTROL SAMPLES

III.3.1. *METHOD BLANKS*

The method blank is not applicable to the biological method. The negative control sample was acceptable.

III.3.2. *LABORATORY CONTROL SAMPLES*

The presumptive test was analyzed with the positive detects for the target bacteria.

III.3.3. *LABORATORY DUPLICATES*

Laboratory duplicate analyses were not performed on the sample in this SDG.

III.3.4. *MATRIX SPIKE/MATRIX SPIKE DUPLICATE*

MS/MSD analysis is not applicable to this method.

III.4. SAMPLE RESULT VERIFICATION

Calculations were verified and the sample result reported on the sample results summary was verified against the raw data. No transcription errors or calculation errors were noted.

III.5. FIELD QC SAMPLES

MEC^X evaluated field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the remaining detects to evaluate the associated site sample. Findings associated with field QC samples are summarized below.

III.5.1. *FIELD BLANKS AND EQUIPMENT BLANKS*

Field blank or equipment blank samples were not identified for this SDG.

III.5.2. *FIELD DUPLICATES*

There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 4402094751

Analysis Method SM9221F

Sample Name ArroyoSimi_20180420 **Matrix Type:** WS **Result Type:** TRG

Sample Date: 4/20/2018 9:05:00 AM **Validation Level:** 8

Lab Sample Name: 440-209475-1

Analyte	Fraction:	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Escherichia coli	N	ECOLI	170	1.8	1.8	mpn/100			

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-209475-1
Client Project/Site: Annual Arroyo Simi-Frontier Park

For:
Haley & Aldrich, Inc.
400 E Van Buren St.
Suite 545
Phoenix, Arizona 85004

Attn: Katherine Miller

Authorized for release by:
4/24/2018 4:02:09 PM

Urvashi Patel, Manager of Project Management
(949)261-1022
urvashi.patel@testamericainc.com

Links

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Urvashi Patel
Manager of Project Management
4/24/2018 4:02:09 PM

Table of Contents

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-209475-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-209475-1	ArroyoSimi_20180420	Water	04/20/18 09:05	04/20/18 14:50

Job ID: 440-209475-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-209475-1

Comments
No additional comments.

Receipt
The sample was received on 4/20/2018 2:50 PM; the sample arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 1.0º C.

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

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-209475-1

Client Sample ID: ArroyoSimi_20180420
Date Collected: 04/20/18 09:05
Date Received: 04/20/18 14:50

Lab Sample ID: 440-209475-1
Matrix: Water

Method: SM 9221F - E.Coli (Multiple-Tube Fermentation; EC-MUG)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	170		1.8	1.8	MPN/100mL			04/20/18 15:48	1

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-209475-1

Method	Method Description	Protocol	Laboratory
SM 9221F	E.Coli (Multiple-Tube Fermentation; EC-MUG)	SM	TAL IRV

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-209475-1

Client Sample ID: ArroyoSimi_20180420
Date Collected: 04/20/18 09:05
Date Received: 04/20/18 14:50

Lab Sample ID: 440-209475-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 9221F		1	100 mL	100 mL	472101		ST	TAL IRV
								(Start) 04/20/18 15:48		
								(End) 04/23/18 12:56		

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-209475-1

Biology

Analysis Batch: 472101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-209475-1	ArroyoSimi_20180420	Total/NA	Water	SM 9221F	

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-209475-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Annual Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-209475-1

Laboratory: TestAmerica Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-18

Test America Version 7/19/2010 CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
Haley & Aldrich 5333 Mission Center Road, Suite 300 San Diego, CA 92108 Test America Contact: Urvashi Patel	Boeing-SSFL NPDES Annual Arroyo Simi-Frontier Park TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2015-16-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.
Project Manager: Katherine Miller Sampler: Dan Smith	Phone Number: 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED: E. coli (SM9221)	Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi-20180420	04/20/18 0905	Na2S2O3	10	X	Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	4.20.18/1012	[signature]	4/20/18 1012
[signature]	4/20/18 1450		
		[signature]	04/20/18 1450

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days X
72 Hours _____ Normal _____

Sample Integrity (check)
Intact _____ On Ice: _____

Store samples for 6 months.Data Requirements: (check)
No Level IV ____ All Level IV X

440-209475 Chain of Custody

4.10 12-89

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-209475-1

Login Number: 209475
List Number: 1
Creator: Garcia, Veronica G

List Source: TestAmerica Irvine

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	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
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 (excluding tests with immediate HTs)	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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX F

First Quarter 2018 Reasonable Potential Analysis (RPA) Tables

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Notes:

1. The following Reasonable Potential Analysis (RPA) provides the analytical results as performed by the procedures outlined in *Reasonable Potential Analysis Methodology Technical Memo* (MWH and Flow Science, 2006).

2. The monitoring data set utilized to conduct the RPA consists of all applicable and relevant data from the present reporting quarter.

3. As directed by the CTR and the Regional Water Control Board 2,3,7,8-TCDD (Dioxin) values are to be expressed in NPDES permitting and this RPA as TCDD Total Equivalence units (TEQs). A TCDD TEQ is determined by multiplying each of the seventeen dioxin and furan congeners by their respective toxicity equivalency factor (TEF) and bioaccumulation equivalency factor (BEF) then summing the results of those products. For the purposes of this RPA, the resulting TCDD TEQ does not include those congener concentrations that are reported as DNQ, as specified on Page 26, of the NPDES Permit Effective April 1, 2015 (Water Board, 2015).

4. Data reported with qualifiers (e.g., J [DNQ] or R) are considered estimated or rejected and are not used in this RPA.

5. All of the following abbreviations and/or notes may not occur on every table.

6. Based on ORDER NO. R4-2015-0033, page E-2, Section I.C, only pollutants which do not have a final effluent limitation in the NPDES permit are included in this RPA analysis.

Definition of Acronyms, Abbreviations, and Terminology Used

>=	Greater than or equal to
*	Freshwater aquatic life criteria for metals are expressed as a function of total hardness (mg/L) in the water body. The equations are provided in the CTR, (US EPA, 2011). Values displayed correspond to a total hardness of 100 mg/l.
µg/L	Concentration units, micrograms per liter
All Data Qualified	All available monitoring data are qualified and no statistical analysis is performed.
Annual	The 2015 NPDES Permit requires annual monitoring.
Available Data < DL	All available monitoring data that are not qualified are below detection limits.
B	Background
C	Concentration
CCC	Criterion Continuous Concentration
CMC	Criterion Maximum Concentration
CTR	California Toxics Rule
CV	Coefficient of Variation
DL	Detection Limit
EPA TSD	EPA's Technical Support Document for Water Quality Based Toxics Control, (see references).
Fibers/L	Units for asbestos concentration, fibers per liter
HH O	Human Health criteria for consumption of Organisms only

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Definition of Acronyms, Abbreviations, and Terminology Used (Continued)

HH W&OMEC	Maximum Observed Effluent Concentration
mg/L	Concentration units, milligrams per liter
Min	Minimum
MPN/100ml	Most probable number per 100 milliliters
NA	Not Applicable
Narrative	Water quality criteria are expressed as a narrative objective rather than a numeric objective, and therefore are not part of the statistical RPA calculations.
None	No available CTR or Basin Plan criteria.
pH Dependent	CTR Criteria are based on pH.
Discharge	The 2015 NPDES Permit requires monitoring once per discharge event.
Qualified Data	Data qualifier definitions are: (a) J- The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL), (b) U/UJ- The analyte was not detected in the sample at the detection limit /estimated detection limit (EDL), (c) B - Analyte found in sample and associated blank, and (d) DNQ- Detected Not Quantified.
Reserved	EPA has reserved the CTR criteria.
RPA	Reasonable Potential Analysis
SIP	The State Water Resources Control Board "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," (see references).
Tot	Total

Priority Pollutant RPA Column Explanation

CTR	Provides CTR constituent reference number.
Constituent	Provides CTR constituent common name.
Units	Provides the data set's concentration units as referenced by 2015 NPDES Permit.
MEC	Provides the outfall monitoring group's maximum value from the applicable data set.
CV	Equal to the standard deviation divided by the average of the applicable data set. If the number of samples is less than 10, the CV is assumed to be 0.6.
Step 1 identifies all applicable water quality criteria.	
CTR Criteria	Concentration criteria as listed in the CTR.
CMC = Acute	The Freshwater CMC is listed as the acute concentration criterion.
CCC = Chronic	The Freshwater CCC is listed as the chronic concentration criterion.
HH W&O (Not App)	The HH W&O is deemed not applicable based on past Regional Board RPAs.
HH O = HH	The HH O is listed as the CTR human health concentration criterion.
Basin Plan Criteria	Applicable Basin Plan Criteria are listed for the Los Angeles River and/or Calleguas Creek watersheds.
C = Lowest Criteria	The comparison concentration (C) is equal to the lowest criterion for a constituent based on the CMC, CCC, HH O, and Basin Plan Criteria listed.
Step 2 defines the applicable data set.	
Is Effluent Data Available	If all data is qualified, then NO. If not, then YES.

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Priority Pollutant RPA Column Explanation (Continued)

Step 3 determines the maximum observed effluent concentration.	
Was Constituent Detected in Effluent Data	If the constituent was detected, then YES. If all monitoring data are non-detect or qualified then NO.
Are all Detection Limits >C	If constituent was detected in effluent data then not applicable (NA). If constituent was not detected and all analysis detection limits are greater than the comparison concentration, then YES, if not then NO.
If DL > C, MEC = Min (DL)	If the previous cell answer was yes, then the MEC is equal to the minimum detection limit. If not, then NA.
Step 4 compares the MEC to the lowest applicable water quality criteria.	
MEC >= C	If the MEC is greater than or equal to the comparison concentration then YES, if not then NO.

Note: Steps 5 and 6 of the Priority Pollutant RPA do not apply to the Santa Susana Site because the Regional Board gives no consideration for receiving water background constituent concentrations. Furthermore, Boeing defers the application of best professional judgment in Step 7 and final determination of reasonable potential in Step 8 to the Regional Board Staff.

Non-priority Pollutant RPA Column Explanation

Constituent	Provides the Non-Priority Pollutant constituent common name
Monitoring	Provides the 2015 NPDES Permit directed monitoring frequency
Units	Provides the data set's concentration units
Number of Samples	Provides the number of available samples that are not qualified
MEC	Provides the outfall monitoring group's maximum value from the applicable data set
CV	Equal to the standard deviation divided by the average of the applicable data set. If the number of samples is less than 10, the CV is assumed to be 0.6.
Multiplier	Utilizes the EPA's TSD calculation to determine multiplier for which the maximum effluent concentration is calculated. (MWH and Flow Science, 2006, or EPA TSD, 1991)
Projected Maximum Effluent Concentration	Utilizes the product of the multiplier and the MEC as an estimate for the projected maximum effluent concentration.
Dilution Ratio	The Regional Board allocates no dilution ratio to the Santa Susana Site (NA).
Background Concentration	The Regional Board allocates no background concentration to the Santa Susana Site (NA).
Projected Maximum Receiving Water Concentration	The Regional Board estimates the projected maximum receiving water concentration as equal to the projected maximum effluent concentration.
Step 1, Determine Water Quality Objectives	The water quality objective is based on appropriate Basin Plan criteria as noted in the Reasonable Potential Analysis Methodology Technical Memo.
BU – Beneficial Use Protection, NC – Human Non-carcinogen, AP- Aquatic Life Protection, TMDL – Total Maximum Daily Load	This is the Regional Board's Basis for determining if reasonable potential should be evaluated for a non-priority pollutant.

Note: Boeing has completed appropriate statistical calculations but defers the application of best professional judgment and the final determination of reasonable potential to the Regional Board Staff.

REASONABLE POTENTIAL ANALYSIS SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

References:

1. Los Angeles Regional Water Quality Control Board, "Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, (Basin Plan)." June 13, 1994.

2. MWH and Flow Science, "Reasonable Potential Analysis Methodology Technical Memo- Version 1, Final, Santa Susan Field Laboratory, Ventura County, California." April 28, 2006.

3. State Water Resources Control Board, "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, (SIP)" Resolution No. 2005-0019, February 24, 2005.

4. US EPA, *40CFR part 131, Water Quality Standards; Establishment of numeric Criteria for Priority Toxic Pollutants for the State of California*, (CTR) Federal Registry, 2011, pp. 496 - 507.

5. US EPA, "Technical Support Document for Water Quality-based Toxics Control." EPA/505/2-90-001, PB-91-127415, March 1991.

TABLE F-1
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 001, 002, 011, AND 018)

FIRST QUARTER 2018 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
1, 2, 11, 18	15	Asbestos	Fibers/L	Not Analyzed	0.6	NONE	NONE	7,000,000	NONE	7,000,000	7,000,000	No	NA	NA	NA	NA
1, 2, 11, 18	17	Acrolein	µg/L	Available Data <DL	0.6	NONE	NONE	320	780	NONE	780	Yes	No	No	NA	No
1, 2, 11, 18	18	Acrylonitrile	µg/L	Available Data <DL	0.6	NONE	NONE	0.059	0.66	NONE	0.66	Yes	No	Yes	0.66	No
1, 2, 11, 18	19	Benzene	µg/L	Available Data <DL	0.6	NONE	NONE	1.2	71	1	1	Yes	No	No	NA	No
1, 2, 11, 18	20	Bromoform	µg/L	Available Data <DL	0.6	NONE	NONE	4.3	360	NONE	360	Yes	No	No	NA	No
1, 2, 11, 18	21	Carbon Tetrachloride	µg/L	Available Data <DL	0.6	NONE	NONE	0.25	4.4	0.5	0.5	Yes	No	No	NA	No
1, 2, 11, 18	22	Chlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	680	21,000	70	70	Yes	No	No	NA	No
1, 2, 11, 18	23	Dibromochloromethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.401	34	NONE	34	Yes	No	No	NA	No
1, 2, 11, 18	24	Chloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	25	2-Chloroethyl vinyl ether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	26	Chloroform (Trichloromethane)	µg/L	Available Data <DL	0.6	NONE	NONE	Reserved	Reserved	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	27	Chlorodibromomethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.56	46	NONE	46	Yes	No	No	NA	No
1, 2, 11, 18	28	1,1-Dichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	5	5	Yes	No	No	NA	No
1, 2, 11, 18	31	1,2-Dichloropropane	µg/L	Available Data <DL	0.6	NONE	NONE	0.52	39	5	5	Yes	No	No	NA	No
1, 2, 11, 18	32	cis-1,3-Dichloropropene	µg/L	Available Data <DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	No	NA	No
1, 2, 11, 18	32a	trans-1,3-Dichloropropene	µg/L	Available Data <DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	No	NA	No
1, 2, 11, 18	33	Ethylbenzene	µg/L	Available Data <DL	0.6	NONE	NONE	3,100	29,000	700	700	Yes	No	No	NA	No
1, 2, 11, 18	34	Bromomethane	µg/L	Available Data <DL	0.6	NONE	NONE	48	4,000	NONE	4,000	Yes	No	No	NA	No
1, 2, 11, 18	35	Chloromethane (Methyl Chloride)	µg/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	36	Methylene chloride	µg/L	Available Data <DL	0.6	NONE	NONE	4.7	1,600	NONE	1,600	Yes	No	No	NA	No
1, 2, 11, 18	37	1,1,2,2-Tetrachloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.17	11	1	1	Yes	No	No	NA	No
1, 2, 11, 18	38	Tetrachloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	0.8	8.85	5	5	Yes	No	No	NA	No
1, 2, 11, 18	39	Toluene	µg/L	Available Data <DL	0.6	NONE	NONE	6,800	200,000	150	150	Yes	No	No	NA	No
1, 2, 11, 18	40	trans-1,2-Dichloroethene	µg/L	Available Data <DL	0.6	NONE	NONE	700	140,000	10	10	Yes	No	No	NA	No
1, 2, 11, 18	41	1,1,1-Trichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	200	200	Yes	No	No	NA	No
1, 2, 11, 18	42	1,1,2-Trichloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	0.60	42	5	5	Yes	No	No	NA	No
1, 2, 11, 18	44	Vinyl chloride	µg/L	Available Data <DL	0.6	NONE	NONE	2	525	0.5	0.5	Yes	No	No	NA	No
1, 2, 11, 18	45	2-Chlorophenol	µg/L	Available Data <DL	0.6	NONE	NONE	120	400	NONE	400	Yes	No	No	NA	No
1, 2, 11, 18	46	2,4-Dichlorophenol	µg/L	Available Data <DL	0.6	NONE	NONE	93	790	NONE	790	Yes	No	No	NA	No
1, 2, 11, 18	47	2,4-Dimethylphenol	µg/L	Available Data <DL	0.6	NONE	NONE	540	2,300	NONE	2,300	Yes	No	No	NA	No
1, 2, 11, 18	48	2-Methyl-4,6-dinitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	13.4	765	NONE	765	Yes	No	No	NA	No
1, 2, 11, 18	49	2,4-Dinitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	70	14,000	NONE	14,000	Yes	No	No	NA	No
1, 2, 11, 18	50	2-Nitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	51	4-Nitrophenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	52	4-Chloro-3-methylphenol	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	54	Phenol	µg/L	Available Data <DL	0.6	NONE	NONE	21,000	4,600,000	NONE	4,600,000	Yes	No	No	NA	No
1, 2, 11, 18	56	Acenaphthene	µg/L	Available Data <DL	0.6	NONE	NONE	1,200	2,700	NONE	2,700	Yes	No	No	NA	No
1, 2, 11, 18	57	Acenaphthylene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	58	Anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	9,600	110,000	NONE	110,000	Yes	No	No	NA	No
1, 2, 11, 18	59	Benzidine	µg/L	Available Data <DL	0.6	NONE	NONE	0.00012	0.00054	NONE	0.00054	Yes	No	Yes	0.00054	No
1, 2, 11, 18	60	Benzo(a)Anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	No
1, 2, 11, 18	61	Benzo(a)Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	0.2	0.049	Yes	No	Yes	0.049	No
1, 2, 11, 18	62	Benzo(b)Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	No
1, 2, 11, 18	63	Benzo(g,h,i)Perylene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	64	Benzo(k)Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	No
1, 2, 11, 18	65	Bis (2-Chloroethoxy) methane	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	66	Bis (2-Chloroethyl) ether	µg/L	Available Data <DL	0.6	NONE	NONE	0.0310	1.4	NONE	1.4	Yes	No	No	NA	No
1, 2, 11, 18	67	Bis (2-Chloroisopropyl) Ether	µg/L	Available Data <DL	0.6	NONE	NONE	1,400	170,000	NONE	170,000	Yes	No	No	NA	No

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-1
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 001, 002, 011, AND 018)

FIRST QUARTER 2018 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA										
						Freshwater		Human Health		Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
1, 2, 11, 18	69	4-Bromophenyl phenyl ether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	70	Butyl benzylphthalate	µg/L	Available Data <DL	0.6	NONE	NONE	3,000	5,200	NONE	5,200	Yes	No	No	NA	No
1, 2, 11, 18	71	2-Chloronaphthalene	µg/L	Available Data <DL	0.6	NONE	NONE	1,700	4,300	NONE	4,300	Yes	No	No	NA	No
1, 2, 11, 18	72	4-Chlorophenyl phenyl ether	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	73	Chrysene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	No
1, 2, 11, 18	74	Dibenz(a,h)anthracene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	No
1, 2, 11, 18	75	1,2-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	2,700	17,000	600	600	Yes	No	No	NA	No
1, 2, 11, 18	76	1,3-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	400	2,600	NONE	2,600	Yes	No	No	NA	No
1, 2, 11, 18	77	1,4-Dichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	400	2,600	5	5	Yes	No	No	NA	No
1, 2, 11, 18	78	3,3'-Dichlorobenzidine	µg/L	Available Data <DL	0.6	NONE	NONE	0.04	0.077	NONE	0.077	Yes	No	Yes	0.077	No
1, 2, 11, 18	79	Diethyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	23,000	120,000	NONE	120,000	Yes	No	No	NA	No
1, 2, 11, 18	80	Dimethyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	313,000	2,900,000	NONE	2,900,000	Yes	No	No	NA	No
1, 2, 11, 18	81	Di-n-butyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	2,700	12,000	NONE	12,000	Yes	No	No	NA	No
1, 2, 11, 18	83	2,6-Dinitrotoluene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	84	Di-n-octyl phthalate	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	85	1,2-Diphenylhydrazine/Azobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	0.040	0.54	NONE	0.54	Yes	No	No	NA	No
1, 2, 11, 18	86	Fluoranthene	µg/L	Available Data <DL	0.6	NONE	NONE	300	370	NONE	370	Yes	No	No	NA	No
1, 2, 11, 18	87	Fluorene	µg/L	Available Data <DL	0.6	NONE	NONE	1,300	14,000	NONE	14,000	Yes	No	No	NA	No
1, 2, 11, 18	88	Hexachlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	0.00075	0.00077	1	0.00077	Yes	No	Yes	0.00077	No
1, 2, 11, 18	89	Hexachlorobutadiene	µg/L	Available Data <DL	0.6	NONE	NONE	0.44	50	NONE	50	Yes	No	No	NA	No
1, 2, 11, 18	90	Hexachlorocyclopentadiene	µg/L	Available Data <DL	0.6	NONE	NONE	240	17,000	50	50	Yes	No	No	NA	No
1, 2, 11, 18	91	Hexachloroethane	µg/L	Available Data <DL	0.6	NONE	NONE	1.9	8.9	NONE	8.9	Yes	No	No	NA	No
1, 2, 11, 18	92	Indeno(1,2,3-cd)Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	No
1, 2, 11, 18	93	Isophorone	µg/L	Available Data <DL	0.6	NONE	NONE	8.4	600	NONE	600	Yes	No	No	NA	No
1, 2, 11, 18	94	Naphthalene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	95	Nitrobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	17	1,900	NONE	1,900	Yes	No	No	NA	No
1, 2, 11, 18	97	n-Nitroso-di-n-propylamine	µg/L	Available Data <DL	0.6	NONE	NONE	0.005	1.4	NONE	1.4	Yes	No	No	NA	No
1, 2, 11, 18	98	N-Nitrosodiphenylamine	µg/L	Available Data <DL	0.6	NONE	NONE	5.0	16	NONE	16	Yes	No	No	NA	No
1, 2, 11, 18	99	Phenanthrene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	100	Pyrene	µg/L	Available Data <DL	0.6	NONE	NONE	960	11,000	NONE	11,000	Yes	No	No	NA	No
1, 2, 11, 18	101	1,2,4-Trichlorobenzene	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	70	70	Yes	No	No	NA	No
1, 2, 11, 18	102	Aldrin	µg/L	Available Data <DL	0.6	3	NONE	0.00013	0.00014	NONE	0.00014	Yes	No	Yes	0.00014	No
1, 2, 11, 18	104	beta-BHC	µg/L	Available Data <DL	0.6	NONE	NONE	0.014	0.046	NONE	0.046	Yes	No	No	NA	No
1, 2, 11, 18	105	gamma-BHC (Lindane)	µg/L	Available Data <DL	0.6	0.95	NONE	0.019	0.063	0.2	0.063	Yes	No	No	NA	No
1, 2, 11, 18	106	delta-BHC	µg/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
1, 2, 11, 18	107	Chlordane	µg/L	Available Data <DL	0.6	2.4	0.0043	0.00057	0.00059	0.1	0.00059	Yes	No	Yes	0.00059	No
1, 2, 11, 18	108	4,4'-DDT	µg/L	Available Data <DL	0.6	1.1	0.001	0.00059	0.00059	NONE	0.00059	Yes	No	Yes	0.00059	No
1, 2, 11, 18	109	4,4'-DDE	µg/L	Available Data <DL	0.6	NONE	NONE	0.00059	0.00059	NONE	0.00059	Yes	No	Yes	0.00059	No
1, 2, 11, 18	110	4,4'-DDD	µg/L	Available Data <DL	0.6	NONE	NONE	0.00083	0.00084	NONE	0.00084	Yes	No	Yes	0.00084	No
1, 2, 11, 18	111	Dieldrin	µg/L	Available Data <DL	0.6	0.24	0.056	0.00014	0.00014	NONE	0.00014	Yes	No	Yes	0.00014	No
1, 2, 11, 18	112	alpha-Endosulfan	µg/L	Available Data <DL	0.6	0.22	0.056	110	240	NONE	0.056	Yes	No	No	NA	No
1, 2, 11, 18	113	beta-Endosulfan	µg/L	Available Data <DL	0.6	0.22	0.056	110	240	NONE	0.056	Yes	No	No	NA	No
1, 2, 11, 18	114	Endosulfan Sulfate	µg/L	Available Data <DL	0.6	NONE	NONE	110	240	NONE	240	Yes	No	No	NA	No
1, 2, 11, 18	115	Endrin	µg/L	Available Data <DL	0.6	0.086	0.036	0.76	0.81	2	0.036	Yes	No	No	NA	No
1, 2, 11, 18	116	Endrin Aldehyde	µg/L	Available Data <DL	0.6	NONE	NONE	0.76	0.81	NONE	0.81	Yes	No	No	NA	No
1, 2, 11, 18	117	Heptachlor	µg/L	Available Data <DL	0.6	0.52	0.0038	0.00021	0.00021	0.01	0.00021	Yes	No	Yes	0.00021	No
1, 2, 11, 18	118	Heptachlor Epoxide	µg/L	Available Data <DL	0.6	0.52	0.0038	0.00010	0.00011	0.01	0.00011	Yes	No	Yes	0.00011	No
1, 2, 11, 18	119	Aroclor 1016	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-1
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 001, 002, 011, AND 018)

FIRST QUARTER 2018 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

						Step 1: Water Quality Criteria, Determine C						Step 2	Step 3			Step 4
						CTR CRITERIA				Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
1, 2, 11, 18	120	Aroclor 1221	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No
1, 2, 11, 18	121	Aroclor 1232	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No
1, 2, 11, 18	122	Aroclor 1242	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No
1, 2, 11, 18	123	Aroclor 1248	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No
1, 2, 11, 18	124	Aroclor 1254	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No
1, 2, 11, 18	125	Aroclor 1260	µg/L	Available Data <DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No
1, 2, 11, 18	126	Toxaphene	µg/L	Available Data <DL	0.6	0.73	0.0002	0.00073	0.00075	3	0.0002	Yes	No	Yes	0.0002	No
1, 2, 11, 18	127	E. Coli	MPN/100ml	280	0.6	NA	NA	NA	NA	235	235	Yes	Yes	NA	NA	Yes

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-2
REASONABLE POTENTIAL ANALYSIS - PRIORITY POLLUTANTS (OUTFALLS 003-007, 009, AND 010)

FIRST QUARTER 2018 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

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						Freshwater		Human Health								
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
3-7, 9, 10	2	Arsenic	µg/L	Available Data < DL	0.6	340	150	NONE	NONE	50	50	Yes	No	No	NA	No
3-7, 9, 10	3	Beryllium	µg/L	Available Data < DL	0.6	NONE	NONE	Narrative	Narrative	4	4	Yes	No	No	NA	No
3-7, 9, 10	5a	Chromium	µg/L	Available Data < DL	0.6	550	180	Narrative	Narrative	50	50	Yes	No	No	NA	No
3-7, 9, 10	5b	Chromium VI (Hexavalent)	µg/L	Available Data < DL	0.6	16	11	Narrative	Narrative	NONE	11	Yes	No	No	NA	No
3-7, 9, 10	10	Selenium	µg/L	Available Data < DL	0.6	Reserved	5	Narrative	Narrative	50	5	Yes	No	No	NA	No
3-7, 9, 10	11	Silver	µg/L	Available Data < DL	0.6	3.4	NONE	NONE	NONE	NONE	3.4	Yes	No	No	NA	No
3-7, 9, 10	15	Asbestos	Fibers/L	Not Analyzed	0.6	NONE	NONE	7,000,000	NONE	7,000,000	7000000	No	NA	NA	NA	NA
3-7, 9, 10	17	Acrolein	µg/L	Available Data < DL	0.6	NONE	NONE	320	780	NONE	780	Yes	No	No	NA	No
3-7, 9, 10	18	Acrylonitrile	µg/L	Available Data < DL	0.6	NONE	NONE	0.059	0.66	NONE	0.66	Yes	No	Yes	0.66	No
3-7, 9, 10	19	Benzene	µg/L	Available Data < DL	0.6	NONE	NONE	1.2	71	1	1	Yes	No	No	NA	No
3-7, 9, 10	20	Bromoform	µg/L	Available Data < DL	0.6	NONE	NONE	4.3	360	NONE	360	Yes	No	No	NA	No
3-7, 9, 10	21	Carbon Tetrachloride	µg/L	Available Data < DL	0.6	NONE	NONE	0.25	4.4	0.5	0.5	Yes	No	No	NA	No
3-7, 9, 10	22	Chlorobenzene	µg/L	Available Data < DL	0.6	NONE	NONE	680	21,000	70	70	Yes	No	No	NA	No
3-7, 9, 10	23	Dibromochloromethane	µg/L	Available Data < DL	0.6	NONE	NONE	0.401	34	NONE	34	Yes	No	No	NA	No
3-7, 9, 10	24	Chloroethane	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	25	2-Chloroethyl vinyl ether	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	26	Chloroform	µg/L	Available Data < DL	0.6	NONE	NONE	Reserved	Reserved	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	27	Chlorodibromomethane	µg/L	Available Data < DL	0.6	NONE	NONE	0.56	46	NONE	46	Yes	No	No	NA	No
3-7, 9, 10	28	1,1-Dichloroethane	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	5	5	Yes	No	No	NA	No
3-7, 9, 10	29	1,2-Dichloroethane	µg/L	Available Data < DL	0.6	NONE	NONE	0.38	99	0.5	0.5	Yes	No	No	NA	No
3-7, 9, 10	30	1,1-Dichloroethene	µg/L	Available Data < DL	0.6	NONE	NONE	0.057	3.2	6	3.2	Yes	No	No	NA	No
3-7, 9, 10	31	1,2-Dichloropropane	µg/L	Available Data < DL	0.6	NONE	NONE	0.52	39	5	5	Yes	No	No	NA	No
3-7, 9, 10	32	cis-1,3-Dichloropropene	µg/L	Available Data < DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	No	NA	No
3-7, 9, 10	32a	trans-1,3-Dichloropropene	µg/L	Available Data < DL	0.6	NONE	NONE	10	1,700	0.5	0.5	Yes	No	No	NA	No
3-7, 9, 10	33	Ethylbenzene	µg/L	Available Data < DL	0.6	NONE	NONE	3,100	29,000	700	700	Yes	No	No	NA	No
3-7, 9, 10	34	Bromomethane	µg/L	Available Data < DL	0.6	NONE	NONE	48	4,000	NONE	4000	Yes	No	No	NA	No
3-7, 9, 10	35	Chloromethane (Methyl Chloride)	µg/L	Available Data < DL	0.6	NONE	NONE	Narrative	Narrative	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	36	Methylene chloride	µg/L	Available Data < DL	0.6	NONE	NONE	4.7	1,600	NONE	1600	Yes	No	No	NA	No
3-7, 9, 10	37	1,1,2,2-Tetrachloroethane	µg/L	Available Data < DL	0.6	NONE	NONE	0.17	11	1	1	Yes	No	No	NA	No
3-7, 9, 10	38	Tetrachloroethene	µg/L	Available Data < DL	0.6	NONE	NONE	0.8	8.85	5	5	Yes	No	No	NA	No
3-7, 9, 10	39	Toluene	µg/L	Available Data < DL	0.6	NONE	NONE	6,800	200,000	150	150	Yes	No	No	NA	No
3-7, 9, 10	40	trans-1,2-Dichloroethene	µg/L	Available Data < DL	0.6	NONE	NONE	700	140,000	10	10	Yes	No	No	NA	No
3-7, 9, 10	41	1,1,1-Trichloroethane	µg/L	Available Data < DL	0.6	NONE	NONE	Narrative	Narrative	200	200	Yes	No	No	NA	No
3-7, 9, 10	42	1,1,2-Trichloroethane	µg/L	Available Data < DL	0.6	NONE	NONE	0.6	42	5	5	Yes	No	No	NA	No
3-7, 9, 10	43	Trichloroethene	µg/L	Available Data < DL	0.6	NONE	NONE	2.7	81	5	5	Yes	No	No	NA	No
3-7, 9, 10	44	Vinyl chloride	µg/L	Available Data < DL	0.6	NONE	NONE	2	525	0.5	0.5	Yes	No	No	NA	No
3-7, 9, 10	45	2-Chlorophenol	µg/L	Available Data < DL	0.6	NONE	NONE	120	400	NONE	400	Yes	No	No	NA	No
3-7, 9, 10	46	2,4-Dichlorophenol	µg/L	Available Data < DL	0.6	NONE	NONE	93	790	NONE	790	Yes	No	No	NA	No
3-7, 9, 10	47	2,4-Dimethylphenol	µg/L	Available Data < DL	0.6	NONE	NONE	540	2,300	NONE	2300	Yes	No	No	NA	No
3-7, 9, 10	48	2-Methyl-4,6-dinitrophenol	µg/L	Available Data < DL	0.6	NONE	NONE	13.4	765	NONE	765	Yes	No	No	NA	No
3-7, 9, 10	49	2,4-Dinitrophenol	µg/L	Available Data < DL	0.6	NONE	NONE	70	14,000	NONE	14000	Yes	No	No	NA	No
3-7, 9, 10	50	2-Nitrophenol	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	51	4-Nitrophenol	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	52	4-Chloro-3-methylphenol	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	53	Pentachlorophenol	µg/L	Available Data < DL	0.6	pH dependent	pH dependent	0.28	8.2	1	1	Yes	No	No	NA	No

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THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

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						CTR CRITERIA										
						Freshwater		Human Health		Basin Plan	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
Outfall	CTR	Constituent	Units	MEC	CV	CMC = Acute	CCC = Chronic	HH W&O (Not App)	HH O = HH							
3-7, 9, 10	54	Phenol	µg/L	Available Data < DL	0.6	NONE	NONE	21,000	4,600,000	NONE	4600000	Yes	No	No	NA	No
3-7, 9, 10	55	2,4,6-Trichlorophenol	µg/L	Available Data < DL	0.6	NONE	NONE	2.1	6.5	NONE	6.5	Yes	No	No	NA	No
3-7, 9, 10	56	Acenaphthene	µg/L	Available Data < DL	0.6	NONE	NONE	1,200	2,700	NONE	2700	Yes	No	No	NA	No
3-7, 9, 10	57	Acenaphthylene	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	58	Anthracene	µg/L	Available Data < DL	0.6	NONE	NONE	9,600	110,000	NONE	110000	Yes	No	No	NA	No
3-7, 9, 10	59	Benzidine	µg/L	Available Data < DL	0.6	NONE	NONE	0.00012	0.00054	NONE	0.00054	Yes	No	Yes	0.00054	No
3-7, 9, 10	60	Benzo(a)Anthracene	µg/L	Available Data < DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	No
3-7, 9, 10	61	Benzo(a)Pyrene	µg/L	Available Data < DL	0.6	NONE	NONE	0.0044	0.049	0.2	0.049	Yes	No	Yes	0.049	No
3-7, 9, 10	62	Benzo(b)Fluoranthene	µg/L	Available Data < DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	No
3-7, 9, 10	63	Benzo(g,h,i)Perylene	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	64	Benzo(k)Fluoranthene	µg/L	Available Data < DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	No
3-7, 9, 10	65	Bis (2-Chloroethoxy) methane	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	66	Bis (2-Chloroethyl) ether	µg/L	Available Data < DL	0.6	NONE	NONE	0.031	1.4	NONE	1.4	Yes	No	No	NA	No
3-7, 9, 10	67	Bis (2-Chloroisopropyl) Ether	µg/L	Available Data < DL	0.6	NONE	NONE	1,400	170,000	NONE	170000	Yes	No	No	NA	No
3-7, 9, 10	68	Bis (2-ethylhexyl) Phthalate	µg/L	Available Data < DL	0.6	NONE	NONE	1.8	5.9	4	4	Yes	No	No	NA	No
3-7, 9, 10	69	4-Bromophenyl phenyl ether	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	70	Butyl benzylphthalate	µg/L	Available Data < DL	0.6	NONE	NONE	3,000	5,200	NONE	5200	Yes	No	No	NA	No
3-7, 9, 10	71	2-Chloronaphthalene	µg/L	Available Data < DL	0.6	NONE	NONE	1,700	4,300	NONE	4300	Yes	No	No	NA	No
3-7, 9, 10	72	4-Chlorophenyl phenyl ether	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	73	Chrysene	µg/L	Available Data < DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	No
3-7, 9, 10	74	Dibenz(a,h)anthracene	µg/L	Available Data < DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	No
3-7, 9, 10	75	1,2-Dichlorobenzene	µg/L	Available Data < DL	0.6	NONE	NONE	2,700	17,000	600	600	Yes	No	No	NA	No
3-7, 9, 10	76	1,3-Dichlorobenzene	µg/L	Available Data < DL	0.6	NONE	NONE	400	2,600	NONE	2600	Yes	No	No	NA	No
3-7, 9, 10	77	1,4-Dichlorobenzene	µg/L	Available Data < DL	0.6	NONE	NONE	400	2,600	5	5	Yes	No	No	NA	No
3-7, 9, 10	78	3,3'-Dichlorobenzidine	µg/L	Available Data < DL	0.6	NONE	NONE	0.04	0.077	NONE	0.077	Yes	No	Yes	0.077	No
3-7, 9, 10	79	Diethyl phthalate	µg/L	Available Data < DL	0.6	NONE	NONE	23,000	120,000	NONE	120000	Yes	No	No	NA	No
3-7, 9, 10	80	Dimethyl phthalate	µg/L	Available Data < DL	0.6	NONE	NONE	313,000	2,900,000	NONE	2900000	Yes	No	No	NA	No
3-7, 9, 10	81	Di-n-butyl phthalate	µg/L	Available Data < DL	0.6	NONE	NONE	2,700	12,000	NONE	12000	Yes	No	No	NA	No
3-7, 9, 10	82	2,4-Dinitrotoluene	µg/L	Available Data < DL	0.6	NONE	NONE	0.11	9.1	NONE	9.1	Yes	No	No	NA	No
3-7, 9, 10	83	2,6-Dinitrotoluene	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	84	Di-n-octyl phthalate	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	85	1,2-Diphenylhydrazine/Azobenzene	µg/L	Available Data < DL	0.6	NONE	NONE	0.04	0.54	NONE	0.54	Yes	No	No	NA	No
3-7, 9, 10	86	Fluoranthene	µg/L	Available Data < DL	0.6	NONE	NONE	300	370	NONE	370	Yes	No	No	NA	No
3-7, 9, 10	87	Fluorene	µg/L	Available Data < DL	0.6	NONE	NONE	1,300	14,000	NONE	14000	Yes	No	No	NA	No
3-7, 9, 10	88	Hexachlorobenzene	µg/L	Available Data < DL	0.6	NONE	NONE	0.00075	0.00077	1	0.00077	Yes	No	Yes	0.00077	No
3-7, 9, 10	89	Hexachlorobutadiene	µg/L	Available Data < DL	0.6	NONE	NONE	0.44	50	NONE	50	Yes	No	No	NA	No
3-7, 9, 10	90	Hexachlorocyclopentadiene	µg/L	Available Data < DL	0.6	NONE	NONE	240	17,000	50	50	Yes	No	No	NA	No
3-7, 9, 10	91	Hexachloroethane	µg/L	Available Data < DL	0.6	NONE	NONE	1.9	8.9	NONE	8.9	Yes	No	No	NA	No
3-7, 9, 10	92	Indeno(1,2,3-cd)Pyrene	µg/L	Available Data < DL	0.6	NONE	NONE	0.0044	0.049	NONE	0.049	Yes	No	Yes	0.049	No
3-7, 9, 10	93	Isophorone	µg/L	Available Data < DL	0.6	NONE	NONE	8.4	600	NONE	600	Yes	No	No	NA	No

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3-7, 9, 10	94	Naphthalene	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	95	Nitrobenzene	µg/L	Available Data < DL	0.6	NONE	NONE	17	1,900	NONE	1900	Yes	No	No	NA	No
3-7, 9, 10	96	N-Nitrosodimethylamine	µg/L	Available Data < DL	0.6	NONE	NONE	0.00069	8.1	NONE	8.1	Yes	No	No	NA	No
3-7, 9, 10	97	n-Nitroso-di-n-propylamine	µg/L	Available Data < DL	0.6	NONE	NONE	0.005	1.4	NONE	1.4	Yes	No	No	NA	No
3-7, 9, 10	98	N-Nitrosodiphenylamine	µg/L	Available Data < DL	0.6	NONE	NONE	5	16	NONE	16	Yes	No	No	NA	No
3-7, 9, 10	99	Phenanthrene	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	100	Pyrene	µg/L	Available Data < DL	0.6	NONE	NONE	960	11,000	NONE	11000	Yes	No	No	NA	No
3-7, 9, 10	101	1,2,4-Trichlorobenzene	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	70	70	Yes	No	No	NA	No
3-7, 9, 10	102	Aldrin	µg/L	Available Data < DL	0.6	3	NONE	0.00013	0.00014	NONE	0.00014	Yes	No	Yes	0.00014	No
3-7, 9, 10	103	alpha-BHC	µg/L	Available Data < DL	0.6	NONE	NONE	0.0039	0.013	NONE	0.013	Yes	No	No	NA	No
3-7, 9, 10	104	beta-BHC	µg/L	Available Data < DL	0.6	NONE	NONE	0.014	0.046	NONE	0.046	Yes	No	No	NA	No
3-7, 9, 10	105	gamma-BHC (Lindane)	µg/L	Available Data < DL	0.6	0.95	NONE	0.019	0.063	0.2	0.063	Yes	No	No	NA	No
3-7, 9, 10	106	delta-BHC	µg/L	Available Data < DL	0.6	NONE	NONE	NONE	NONE	NONE	NONE	Yes	No	No	NA	No
3-7, 9, 10	107	Chlordane	µg/L	Available Data < DL	0.6	2.4	0.0043	0.00057	0.00059	0.1	0.00059	Yes	No	Yes	0.00059	No
3-7, 9, 10	108	4,4'-DDT	µg/L	Available Data < DL	0.6	1.1	0.001	0.00059	0.00059	NONE	0.00059	Yes	No	Yes	0.00059	No
3-7, 9, 10	109	4,4'-DDE	µg/L	Available Data < DL	0.6	NONE	NONE	0.00059	0.00059	NONE	0.00059	Yes	No	Yes	0.00059	No
3-7, 9, 10	110	4,4'-DDD	µg/L	Available Data < DL	0.6	NONE	NONE	0.00083	0.00084	NONE	0.00084	Yes	No	Yes	0.00084	No
3-7, 9, 10	111	Dieldrin	µg/L	Available Data < DL	0.6	0.24	0.056	0.00014	0.00014	NONE	0.00014	Yes	No	Yes	0.00014	No
3-7, 9, 10	112	alpha-Endosulfan	µg/L	Available Data < DL	0.6	0.22	0.056	110	240	NONE	0.056	Yes	No	No	NA	No
3-7, 9, 10	113	beta-Endosulfan	µg/L	Available Data < DL	0.6	0.22	0.056	110	240	NONE	0.056	Yes	No	No	NA	No
3-7, 9, 10	114	Endosulfan Sulfate	µg/L	Available Data < DL	0.6	NONE	NONE	110	240	NONE	240	Yes	No	No	NA	No
3-7, 9, 10	115	Endrin	µg/L	Available Data < DL	0.6	0.086	0.036	0.76	0.81	2	0.036	Yes	No	No	NA	No
3-7, 9, 10	116	Endrin Aldehyde	µg/L	Available Data < DL	0.6	NONE	NONE	0.76	0.81	NONE	0.81	Yes	No	No	NA	No
3-7, 9, 10	117	Heptachlor	µg/L	Available Data < DL	0.6	0.52	0.0038	0.00021	0.00021	0.01	0.00021	Yes	No	Yes	0.00021	No
3-7, 9, 10	118	Heptachlor Epoxide	µg/L	Available Data < DL	0.6	0.52	0.0038	0.0001	0.00011	0.01	0.00011	Yes	No	Yes	0.00011	No
3-7, 9, 10	119	Aroclor 1016	µg/L	Available Data < DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No
3-7, 9, 10	120	Aroclor 1221	µg/L	Available Data < DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No
3-7, 9, 10	121	Aroclor 1232	µg/L	Available Data < DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No
3-7, 9, 10	122	Aroclor 1242	µg/L	Available Data < DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No
3-7, 9, 10	123	Aroclor 1248	µg/L	Available Data < DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No
3-7, 9, 10	124	Aroclor 1254	µg/L	Available Data < DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No
3-7, 9, 10	125	Aroclor 1260	µg/L	Available Data < DL	0.6	NONE	0.014	0.00017	0.00017	0.5	0.00017	Yes	No	Yes	0.00017	No
3-7, 9, 10	126	Toxaphene	µg/L	Available Data < DL	0.6	0.73	0.0002	0.00073	0.00075	3	0.0002	Yes	No	Yes	0.0002	No
3-7, 9, 10	127	E. Coli	MPN/100ml	390	0.6	NA	NA	NA	NA	235	235	Yes	Yes	NA	NA	Yes

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

TABLE F-3
REASONABLE POTENTIAL ANALYSIS - NONPRIORITY POLLUTANTS (OUTFALLS 003-007,009, AND 010)

FIRST QUARTER 2018 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Outfall	Constituent	Monitoring	Units	Number of Samples	MEC	CV	Multiplier	Projected Maximum Effluent Concentration (99/99)	Dilution Ratio	Background Concentration	Projected Maximum Receiving Water Concentration	Step 1, Determine Water Quality Objectives	BU - Beneficial use protection NC-Human noncarcinogen AP-Aquatic life protection TMDL-Total Maximum Daily Load
3-7, 9, 10	Total Suspended Solids	Annual	mg/L	1	9.0	0.6	13.20	118.77	NA	NA	118.77	45	BU

See attached RPA Summary for abbreviations, definitions and other explanations for the data presented.

Solids	EPA 8330A	6415	Methyl-2,4,6-trinitrophenylnitramine (tetryl)		
		5015	Nitrobenzene		
		6485	Nitroglycerin		
		9522	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		
		9558	Pentaerythritoltetranitrate (PETN)		
		9432	RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)		
	EPA 8330B			10308006	Nitroaromatics, Nitramines and Nitrate Esters by High Performance Liquid Chromatography (HPLC)
		6887	1,3,5-Trinitroso-1,3,5-hexahydrotriazine (TNX)		
		6885	1,3,5-Trinitrobenzene (1,3,5-TNB)		
		6160	1,3-Dinitrobenzene (1,3-DNB)		
		9651	2,4,6-Trinitrotoluene (2,4,6-TNT)		
		6185	2,4-Dinitrotoluene (2,4-DNT)		
		6190	2,6-Dinitrotoluene (2,6-DNT)		
		9303	2-Amino-4,6-dinitrotoluene (2-am-dnt)		
		9507	2-Nitrotoluene		
		6150	3,5-Dinitroaniline		
		9510	3-Nitrotoluene		
		9306	4-Amino-2,6-dinitrotoluene (4-am-dnt)		
		9513	4-Nitrotoluene		
		9416	Hexahydro-1,3-dinitroso-5-nitro-1,3,5-triazine (DNX)		
		9418	Hexahydro-1-nitroso-3,5-dinitro-1,3,5-triazine (MNX)		
		6415	Methyl-2,4,6-trinitrophenylnitramine (tetryl)		
		5015	Nitrobenzene		
		6485	Nitroglycerin		
		9522	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		
		9558	Pentaerythritoltetranitrate (PETN)		
		1899	Picric Acid (2,4,6-Trinitrophenol)		
		9432	RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)		
	EPA 9045C			10198400	Soil and Waste pH
		1900	pH		
	EPA 9045D			10244607	Soil and Waste pH
		1900	pH		
	EPA 9056			10199005	Determination of Inorganic Anions by Ion Chromatography
		1540	Bromide		

OREGON

Environmental Laboratory Accreditation Program

ORELAP Fields of Accreditation

ORELAP ID: 4040

TestAmerica Sacramento

EPA CODE: CA00044

880 Riverside Parkway

Certificate: 4040 - 008

West Sacramento, CA 95605 Issue Date: 1/30/2017 Expiration Date: 1/29/2018

As of 1/30/2017 this list supercedes all previous lists for this certificate number.

Solids

	EPA 9056	1575	Chloride		
		1730	Fluoride		
		1805	Nitrate		
		1835	Nitrite		
		2000	Sulfate		
	WS-LC-0004 2.4			60055132	TestAmerica West Sacramento - Chemical Warfare Degradates in Water and Soil by HPLC/ESI/MS/MS
		6102	Diisopropylmethyl phosphonate		
		6104	Dimethyl methyl phosphonate		
		7508	Ethylmethylphosphonic acid		
		9481	Isopropylmethylphosphonic acid		
		7516	Methylphosphonic acid		
		9577	Thiodiglycol		
	WS-LC-0010 3.4			60055154	TestAmerica West Sacramento - Nitroguanidine (EPA 8330)
		6462	2-Nitroguanidine		
	WS-LC-0025 1.2			60055427	TestAmerica West Sacramento - Perfluorinated Compounds (PFCs) in Water, Soil, Sediments, and Tissue by LC/MS/MS
		6904	Perfluoroundecanoic acid (PFUDA)		
	WS-MS-0010			60055483	Alkylphenol Compounds by GC/MS-SIM Internal Standard Technique
		6514	4-Octylphenol		
		9301	Bisphenol A		
		9529	Nonyl phenol		
		9589	Nonyl phenol diethoxylate		
		9592	Nonyl phenol monoethoxylate		
	WS-MS-0012 2014			60055530	TestAmerica West Sacramento - Nitrosamines by GC/MS/MS with LVI
		6525	n-Nitrosodiethylamine		
		6530	n-Nitrosodimethylamine		
		5025	n-Nitroso-di-n-butylamine		
		6545	n-Nitrosodi-n-propylamine		
		6535	n-Nitrosodiphenylamine		
		6550	n-Nitrosomethylethalamine		
		6555	n-Nitrosomorpholine		
		6520	n-Nitroso-n-methylurea		
		6560	n-Nitrosopiperidine		
		6565	n-Nitrosopyrrolidine		
	WS-WC-0050 3.8			60055472	TestAmerica West Sacramento - Nitrocellulose in Aqueous and Soil/Sediment Samples by Colorimetric Autoanalyzer
		6484	Nitrocellulose		


NELAP RECOGNIZED
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ACCREDITATION BODY

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

Interim

CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL ACCREDITATION

Is hereby granted to

Weck Laboratories, Inc.

14859 East Clark Avenue

City of Industry, CA 91745

Scope of the certificate is limited to the
"Fields of Testing"
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site inspection, proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **1132**

Expiration Date: **3/31/2019**

Effective Date: **4/1/2018**

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing

Weck Laboratories, Inc.

14859 East Clark Avenue
City of Industry, CA 91745
Phone: (626) 336-2139

Certificate No. 1132
Expiration Date 3/31/2019
INTERIM

Field of Testing: 101 - Microbiology of Drinking Water

101.010	001	Heterotrophic Bacteria	SM9215B
101.020	004	Total Coliform (Enumeration)	SM9221B,C
101.020	005	Fecal Coliform (Enumeration)	SM 9221 B,E
101.020	006	E. coli (Enumeration)	SM 9221 B,F
101.050	001	Total Coliform P/A	SM9223B (Colilert)
101.050	002	E. coli P/A	SM9223B (Colilert)
101.050	003	Total Coliform (Enumeration)	SM9223B (Colilert)
101.050	004	E. coli (Enumeration)	SM9223B (Colilert)
101.170	001	Enterococci	Enterolert

Field of Testing: 102 - Inorganic Chemistry of Drinking Water

102.020	001	Turbidity	EPA 180.1
102.026	001	Calcium	EPA 200.7
102.026	002	Magnesium	EPA 200.7
102.026	003	Potassium	EPA 200.7
102.026	004	Silica	EPA 200.7
102.026	005	Sodium	EPA 200.7
102.026	006	Hardness (calculation)	EPA 200.7
102.030	003	Chloride	EPA 300.0
102.030	005	Fluoride	EPA 300.0
102.030	006	Nitrate (as N)	EPA 300.0
102.030	007	Nitrite (as N)	EPA 300.0
102.030	009	Sulfate	EPA 300.0
102.040	001	Bromide	EPA 300.1
102.040	002	Chlorite	EPA 300.1
102.040	003	Chlorate	EPA 300.1
102.040	004	Bromate	EPA 300.1
102.045	001	Perchlorate	EPA 314.0
102.047	001	Perchlorate	EPA 331.0
102.050	001	Cyanide	EPA 335.4
102.060	001	Nitrate (as N) (Calculation)	EPA 353.2
102.061	001	Nitrite	EPA 353.2
102.070	001	Phosphate, Ortho	EPA 365.1
102.085	003	Organic Carbon-Total (TOC)	EPA 415.3
102.100	001	Alkalinity	SM2320B-1997
102.120	001	Hardness (calculation)	SM2340B-1997
102.130	001	Conductivity	SM2510B-1997
102.140	001	Residue, Filterable TDS	SM2540C-1997
102.175	001	Chlorine, Free	SM4500-Cl G-2000

As of 3/30/2018 , this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

102.175	002	Chlorine, Total Residual	SM4500-Cl G-2000
102.203	001	Hydrogen Ion (pH)	SM4500-H+ B-2000
102.260	001	Total Organic Carbon TOC	SM5310B-2000
102.270	001	Surfactants	SM5540C-2000
102.280	001	UV254	SM5910B-2011
102.570	001	Cyanide, Free	OIA-1677, DW

Field of Testing: 103 - Toxic Chemical Elements of Drinking Water

103.130	001	Aluminum	EPA 200.7
103.130	003	Barium	EPA 200.7
103.130	007	Chromium	EPA 200.7
103.130	008	Copper	EPA 200.7
103.130	009	Iron	EPA 200.7
103.130	011	Manganese	EPA 200.7
103.130	012	Nickel	EPA 200.7
103.130	015	Silver	EPA 200.7
103.130	017	Zinc	EPA 200.7
103.130	018	Boron	EPA 200.7
103.140	001	Aluminum	EPA 200.8
103.140	002	Antimony	EPA 200.8
103.140	003	Arsenic	EPA 200.8
103.140	004	Barium	EPA 200.8
103.140	005	Beryllium	EPA 200.8
103.140	006	Cadmium	EPA 200.8
103.140	007	Chromium	EPA 200.8
103.140	008	Copper	EPA 200.8
103.140	009	Lead	EPA 200.8
103.140	010	Manganese	EPA 200.8
103.140	011	Mercury	EPA 200.8
103.140	012	Nickel	EPA 200.8
103.140	013	Selenium	EPA 200.8
103.140	014	Silver	EPA 200.8
103.140	015	Thallium	EPA 200.8
103.140	016	Zinc	EPA 200.8
103.140	017	Boron	EPA 200.8
103.140	018	Vanadium	EPA 200.8
103.160	001	Mercury	EPA 245.1
103.310	001	Chromium (VI)	EPA 218.6
103.311	001	Chromium (VI)	EPA 218.7

Field of Testing: 104 - Volatile Organic Chemistry of Drinking Water

104.030	001	1,2-Dibromoethane	EPA 504.1
104.030	002	1,2-Dibromo-3-chloropropane	EPA 504.1
104.035	001	1,2,3-Trichloropropane	SRL 524M-TCP
104.040	000	Volatile Organic Compounds	EPA 524.2
104.040	057	Xylenes, Total	EPA 524.2
104.045	000	Trihalomethanes, Total	EPA 524.2
104.050	000	Gasoline Additives	EPA 524.2

104.050	002	Methyl tert-butyl Ether (MTBE)	EPA 524.2
104.050	003	tert-Amyl Methyl Ether (TAME)	EPA 524.2
104.050	004	Ethyl tert-butyl Ether (ETBE)	EPA 524.2
104.050	005	Trichlorotrifluoroethane	EPA 524.2
104.050	006	tert-Butyl Alcohol (TBA)	EPA 524.2
Field of Testing: 105 - Semi-volatile Organic Chemistry of Drinking Water			
105.035	000	Organochlorine Pesticides	EPA 508
105.083	000	Chlorinated Acids	EPA 515.4
105.090	000	Semi-volatile Organic Compounds	EPA 525.2
105.120	001	Glyphosate	EPA 547
105.140	001	Endothall	EPA 548.1
105.150	001	Diquat	EPA 549.2
105.201	001	Haloacetic Acids (HAA5)	EPA 552.3
105.210	002	2,4-D	EPA 555
105.210	006	Picloram	EPA 555
105.210	007	2,4,5-TP	EPA 555
105.210	008	Bentazon	EPA 555
105.230	002	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) Sc	EPA 1613B
Field of Testing: 106 - Radiochemistry of Drinking Water			
106.010	001	Gross Alpha and Beta Radiation	EPA 900.0
106.092	001	Uranium	EPA 200.8
106.270	001	Gross Alpha by Coprecipitation	SM7110C
106.610	001	Radon-222	SM7500-Rn
Field of Testing: 107 - Microbiology of Wastewater			
107.010	001	Heterotrophic Bacteria	SM9215B
107.020	002	Total Coliform (Enumeration)	SM9221B-2006
107.030	002	Total Coliform with Chlorine Present	SM9221B,C-2006
107.040	002	Fecal Coliform (Enumeration)	SM9221C,E-2006
107.050	002	Fecal Coliform with Chlorine Present	SM9221C,E-2006
107.100	002	Fecal Streptococci	SM9230B-2007
107.242	001	Enterococci	Enterolert
107.245	002	E. coli (Enumeration)	SM9223B (Colilert)
Field of Testing: 108 - Inorganic Chemistry of Wastewater			
108.090	001	Residue, Volatile	EPA 160.4
108.110	001	Turbidity	EPA 180.1
108.112	001	Boron	EPA 200.7
108.112	002	Calcium	EPA 200.7
108.112	003	Hardness (calculation)	EPA 200.7
108.112	004	Magnesium	EPA 200.7
108.112	005	Potassium	EPA 200.7
108.112	006	Silica, Dissolved	EPA 200.7
108.112	007	Sodium	EPA 200.7
108.112	008	Phosphorus, Total	EPA 200.7
108.113	001	Boron	EPA 200.8
108.113	002	Calcium	EPA 200.8
108.113	003	Magnesium	EPA 200.8

108.113	004	Potassium	EPA 200.8
108.113	006	Sodium	EPA 200.8
108.120	001	Bromide	EPA 300.0
108.120	002	Chloride	EPA 300.0
108.120	003	Fluoride	EPA 300.0
108.120	008	Sulfate	EPA 300.0
108.120	012	Nitrate (as N)	EPA 300.0
108.120	013	Nitrate-Nitrite (as N)	EPA 300.0
108.120	014	Nitrite (as N)	EPA 300.0
108.183	001	Cyanide, Total	EPA 335.4
108.209	001	Ammonia (as N)	EPA 350.1
108.211	002	Kjeldahl Nitrogen, Total (as N)	EPA 351.2
108.232	003	Nitrate-Nitrite (as N)	EPA 353.2
108.232	004	Nitrite (as N)	EPA 353.2
108.260	001	Phosphate, Ortho	EPA 365.1
108.261	001	Phosphorus, Total	EPA 365.1
108.264	001	Phosphate, Ortho	EPA 365.3
108.265	001	Phosphorus, Total	EPA 365.3
108.267	001	Phosphorus, Total	EPA 200.7
108.323	001	Chemical Oxygen Demand	EPA 410.4
108.362	001	Phenols, Total	EPA 420.4
108.381	002	Oil & Grease Total	EPA 1664 Rev. B
108.385	001	Color	SM2120B-2001
108.410	001	Alkalinity	SM2320B-1997
108.420	001	Hardness (calculation)	SM2340B-1997
108.430	001	Conductivity	SM2510B-1997
108.439	001	Residue, Volatile	SM2540E-1997
108.440	001	Residue, Total	SM2540B-1997
108.441	001	Residue, Filterable TDS	SM2540C-1997
108.442	001	Residue, Non-filterable TSS	SM2540D-1997
108.443	001	Residue, Settleable	SM2540F-1997
108.444	001	Temperature	SM2550B-2000
108.465	001	Chlorine, Total Residual	SM4500-Cl G-2000
108.490	001	Hydrogen Ion (pH)	SM4500-H+ B-2000
108.536	001	Oxygen, dissolved	SM4500-O G-2001
108.584	001	Sulfide (as S)	SM4500-S= D-2000
108.592	001	Biochemical Oxygen Demand	SM5210B-2001
108.592	002	Carbonaceous BOD	SM5210B-2001
108.596	001	Organic Carbon-Total (TOC)	SM5310B-2000
108.605	001	Surfactants	SM5540C-2000
108.927	001	Cyanide, available	OIA-1677-09

Field of Testing: 109 - Toxic Chemical Elements of Wastewater

109.010	001	Aluminum	EPA 200.7
109.010	002	Antimony	EPA 200.7
109.010	003	Arsenic	EPA 200.7
109.010	004	Barium	EPA 200.7
109.010	005	Beryllium	EPA 200.7

109.010	006	Boron	EPA 200.7
109.010	007	Cadmium	EPA 200.7
109.010	009	Chromium	EPA 200.7
109.010	010	Cobalt	EPA 200.7
109.010	011	Copper	EPA 200.7
109.010	012	Iron	EPA 200.7
109.010	013	Lead	EPA 200.7
109.010	015	Manganese	EPA 200.7
109.010	016	Molybdenum	EPA 200.7
109.010	017	Nickel	EPA 200.7
109.010	019	Selenium	EPA 200.7
109.010	021	Silver	EPA 200.7
109.010	023	Thallium	EPA 200.7
109.010	024	Tin	EPA 200.7
109.010	025	Titanium	EPA 200.7
109.010	026	Vanadium	EPA 200.7
109.010	027	Zinc	EPA 200.7
109.020	001	Aluminum	EPA 200.8
109.020	002	Antimony	EPA 200.8
109.020	003	Arsenic	EPA 200.8
109.020	004	Barium	EPA 200.8
109.020	005	Beryllium	EPA 200.8
109.020	006	Cadmium	EPA 200.8
109.020	007	Chromium	EPA 200.8
109.020	008	Cobalt	EPA 200.8
109.020	009	Copper	EPA 200.8
109.020	010	Lead	EPA 200.8
109.020	011	Manganese	EPA 200.8
109.020	012	Molybdenum	EPA 200.8
109.020	013	Nickel	EPA 200.8
109.020	014	Selenium	EPA 200.8
109.020	015	Silver	EPA 200.8
109.020	016	Thallium	EPA 200.8
109.020	017	Vanadium	EPA 200.8
109.020	018	Zinc	EPA 200.8
109.020	021	Iron	EPA 200.8
109.020	022	Tin	EPA 200.8
109.020	023	Titanium	EPA 200.8
109.104	001	Chromium (VI)	EPA 218.6
109.190	001	Mercury	EPA 245.1
109.361	001	Mercury	EPA 1631E

Field of Testing: 110 - Volatile Organic Chemistry of Wastewater

110.040	000	Purgeable Organic Compounds	EPA 624

Field of Testing: 111 - Semi-volatile Organic Chemistry of Wastewater

111.100	000	Base/Neutral & Acid Organics	EPA 625
111.101	000	Organochlorine Pesticides and PCBs	EPA 625

111.103	000	Nitrosamines	EPA 625
111.170	000	Organochlorine Pesticides and PCBs	EPA 608
Field of Testing: 114 - Inorganic Chemistry of Hazardous Waste			
114.020	001	Antimony	EPA 6020
114.020	002	Arsenic	EPA 6020
114.020	003	Barium	EPA 6020
114.020	004	Beryllium	EPA 6020
114.020	005	Cadmium	EPA 6020
114.020	006	Chromium	EPA 6020
114.020	007	Cobalt	EPA 6020
114.020	008	Copper	EPA 6020
114.020	009	Lead	EPA 6020
114.020	010	Molybdenum	EPA 6020
114.020	011	Nickel	EPA 6020
114.020	012	Selenium	EPA 6020
114.020	013	Silver	EPA 6020
114.020	015	Vanadium	EPA 6020
114.020	016	Zinc	EPA 6020
114.106	001	Chromium (VI)	EPA 7199
114.140	001	Mercury	EPA 7470A
114.141	001	Mercury	EPA 7471A
114.222	001	Cyanide	EPA 9014
Field of Testing: 115 - Extraction Test of Hazardous Waste			
115.020	001	Toxicity Characteristic Leaching Procedure (TC	EPA 1311
115.030	001	Waste Extraction Test (WET)	CCR Chapter11, Article 5, Appendix II
115.040	001	Synthetic Precipitation Leaching Procedure (S	EPA 1312
Field of Testing: 116 - Volatile Organic Chemistry of Hazardous Waste			
116.080	000	Volatile Organic Compounds	EPA 8260B
Field of Testing: 117 - Semi-volatile Organic Chemistry of Hazardous Waste			
117.110	000	Extractable Organics	EPA 8270C
117.111	071	Pesticides	EPA 8270C
117.210	000	Organochlorine Pesticides	EPA 8081A
117.250	000	Chlorinated Herbicides	EPA 8151A
Field of Testing: 120 - Physical Properties of Hazardous Waste			
120.010	001	Ignitability	EPA 1010
120.080	001	Corrosivity - pH Determination	EPA 9045C
Field of Testing: 126 - Microbiology of Recreational Water			
126.010	001	Total Coliform (Enumeration)	SM9221B,C-2006
126.030	001	Fecal Coliform (Enumeration)	SM9221B,E-2006
126.050	001	Total Coliform (Enumeration)	SM9223B (Colilert/Quanti-Tray)
126.050	002	E. coli (Enumeration)	SM9223B (Colilert/Quanti-Tray)
126.080	001	Enterococci	Enterolert

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing

Aquatic Bioassay & Consulting Laboratories, Inc.

29 North Olive Street
Ventura, CA 93001
Phone: (805) 643-5621

Certificate No. 1907
Expiration Date 7/31/2019

Field of Testing: 113 - Whole Effluent Toxicity of Wastewater

113.010	001A	Fathead Minnow (P. promelas)	EPA 600/4-90/027F, Static	Interim
113.010	001B	Fathead Minnow (P. promelas)	EPA 600/4-90/027F, Static Renewal	Interim
113.010	003A	Rainbow trout (O. mykiss)	EPA 600/4-90/027F, Static	Interim
113.010	003B	Rainbow trout (O. mykiss)	EPA 600/4-90/027F, Static Renewal	Interim
113.010	005A	Daphnid (C. dubia)	EPA 600/4-90/027F, Static	Interim
113.010	005B	Daphnid (C. dubia)	EPA 600/4-90/027F, Static Renewal	Interim
113.010	006A	Daphnia spp.	EPA 600/4-90/027F, Static	Interim
113.010	006B	Daphnia spp.	EPA 600/4-90/027F, Static Renewal	Interim
113.010	008A	Topsmelt (A. affinis)	EPA 600/4-90/027F, Static	Interim
113.010	008B	Topsmelt (A. affinis)	EPA 600/4-90/027F, Static Renewal	Interim
113.010	009A	Silverside (Menidia spp.)	EPA 600/4-90/027F, Static	Interim
113.010	009B	Silverside (Menidia spp.)	EPA 600/4-90/027F, Static Renewal	Interim
113.010	012A	Mysid (M. bahia)	EPA 600/4-90/027F, Static	Interim
113.010	012B	Mysid (M. bahia)	EPA 600/4-90/027F, Static Renewal	Interim
113.021	001A	Fathead Minnow (P. promelas)	EPA 2000 (EPA-821-R-02-012), Static	Interim
113.021	001B	Fathead Minnow (P. promelas)	EPA 2000 (EPA-821-R-02-012), Static Renewal	Interim
113.022	003A	Rainbow trout (O. mykiss)	EPA 2019 (EPA-821-R-02-012), Static	Interim
113.022	003B	Rainbow trout (O. mykiss)	EPA 2019 (EPA-821-R-02-012), Static Renewal	Interim
113.025	009A	Silverside (Menidia spp.)	EPA 2006 (EPA-821-R-02-012), Static	Interim
113.025	009B	Silverside (Menidia spp.)	EPA 2006 (EPA-821-R-02-012), Static Renewal	Interim
113.027	012A	Mysid (M. bahia)	EPA 2007 (EPA-821-R-02-012), Static	Interim
113.027	012B	Mysid (M. bahia)	EPA 2007 (EPA-821-R-02-012), Static Renewal	Interim
113.028	008A	Topsmelt (A. affinis)	EPA-821-R-02-012, Static	Interim
113.028	008B	Topsmelt (A. affinis)	EPA-821-R-02-012, Static Renewal	Interim
113.029	001A	Hyalella spp.	EPA-821-R-02-012, Static	Interim
113.029	001B	Hyalella spp.	EPA-821-R-02-012, Static Renewal	Interim
113.040	001	Fathead Minnow (P. promelas)	EPA 1000 (EPA/600/4-91/002)	Interim
113.041	001	Fathead Minnow (P. promelas)	EPA 1000 (EPA-821-R-02-013)	Interim
113.050	005	Daphnid (C. dubia)	EPA 1002 (EPA/600/4-91/002)	Interim
113.051	005	Daphnid (C. dubia)	EPA 1000 (EPA-821-R-02-013)	Interim
113.060	020	Green algae (S. capricornutum)	EPA 1003 (EPA/600/4-91/002)	Interim
113.061	020	Green algae (S. capricornutum)	EPA 1003 (EPA-821-R-02-013)	Interim
113.080	009	Silverside (Menidia spp.)	EPA 1006 (EPA/600/4-91/003)	Interim
113.081	009	Silverside (Menidia spp.)	EPA 1006 (EPA-821-R-02-014)	Interim
113.090	012	Mysid (M. bahia)	EPA 1007 (EPA/600/4-91/003)	Interim
113.091	012	Mysid (M. bahia)	EPA 1007 (EPA-821-R-02-014)	Interim
113.120	008	Topsmelt (A. affinis)	EPA 600/R-95/136	Interim
113.120	014	Pacific oyster (C. gigas)	EPA 600/R-95/136	Interim

As of 7/31/2017 , this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

113.120	015D	Sand dollar (D. excentricus)	EPA 600/R-95/136, Fertilization Test	Interim
113.120	017D	Purple sea urchin (S. purpuratus)	EPA 600/R-95/136, Fertilization Test	Interim
113.120	017E	Purple sea urchin (S. purpuratus)	EPA 600/R-95/136, Development Test	Interim
113.120	019	Mussels (Mytilus spp.)	EPA 600/R-95/136	Interim
113.120	022	Giant kelp (M. pyrifera)	EPA 600/R-95/136	Interim
113.120	023	Red abalone (H. rufescens)	EPA 600/R-95/136	Interim
113.170	027	Midge (C. tentans)	EPA 600/R-99/064, EPA 100.2	Interim
113.210	030	Amphipod (E. estuarius)	EPA 600/R-94/025, EPA 100.4	Interim

Field of Testing: 119 - Toxicity Bioassay of Hazardous Waste

119.010	001	Fathead Minnow (P. promelas)	Polisini & Miller (CDFG 1988)	Interim
119.010	003	Rainbow trout (O. mykiss)	Polisini & Miller (CDFG 1988)	Interim
119.050	030	Amphipod (E. estuarius)	EPA 100.4	Interim

Field of Testing: 126 - Microbiology of Recreational Water

126.010	001	Total Coliform (Enumeration)	SM9221B,C-2006
126.030	001	Fecal Coliform (Enumeration)	SM9221B,E-2006
126.050	001	Total Coliform (Enumeration)	SM9223B (Colilert/Quanti-Tray)
126.050	002	E. coli (Enumeration)	SM9223B (Colilert/Quanti-Tray)
126.080	001	Enterococci	Enterolert