

November 17, 2010

TestAmerica Project Number: G0K120465

Cathy Knudsen Planteco Environmental Consult 337 S Milledge Avenue Suite 202 Athens, GA 30605

Dear Ms. Knudsen,

This report contains the analytical results for the samples received under chain of custody by TestAmerica on October 29, 2010.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4402.

Sincerely,

Jill Kellmann **Project Manager** 

Qui Kelmann

G0K120465

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Chain of Custody Documentation

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# **Case Narrative**

# **TestAmerica West Sacramento Project Number G0K120465**

There were no anomalies associated with this project.





#### TestAmerica Laboratories West Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
Alaska	UST-055	New York*	11666
Arizona	AZ0708	Oregon*	CA 200005
Arkansas	88-0691	Pennsylvania	68-1272
California*	01119CA	South Carolina	87014
Colorado	NA	Texas	T104704399-08-TX
Connecticut	PH-0691	Utah*	QUAN1
Florida*	E87570	Virginia	00178
Georgia	960	Washington	C1281
Hawaii	NA	West Virginia	9930C, 334
Illinois	200060	Wisconsin	998204680
Kansas*	E-10375	NFESC	NA
Louisiana*	30612	USACE	NA
Michigan	9947	USDA Foreign Plant	37-82605
Nevada	CA44	USDA Foreign Soil	P330-09-00055
New Jersey*	CA005	US Fish & Wildlife	LE148388-0
New Mexico	NA	Guam	09-014r

<sup>\*</sup>NELAP accredited. A more detailed parameter list is available upon request. Updated 3/25/2009

#### **QC Parameter Definitions**

**QC Batch**: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

**Method Blank**: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

**Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD):** An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also be used to evaluate the precision of the process.

**Duplicate Sample (DU):** Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

**Surrogates:** Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

**Isotope Dilution**: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

**Control Limits:** The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

# **Sample Summary**

# **TestAmerica West Sacramento Project Number G0K120465**

<u>WO#</u>	Sample #	Client Sample ID	Sampling Date	Received Date
L90GW	1	M1PEC1	10/27/2010 02:10 PM	10/29/2010 09:05 AM
L90G2	2	M1PEC2	10/27/2010 02:00 PM	10/29/2010 09:05 AM
L90G3	3	M1PEC3	10/27/2010 02:33 PM	10/29/2010 09:05 AM
L90G5	4	DBPEC1	10/28/2010 08:00 AM	10/29/2010 09:05 AM
L90G7	5	DBPEC2	10/28/2010 08:10 AM	10/29/2010 09:05 AM

# Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

**TestAmerica** E Chain of Temperature on Receipt **Custody Record** Drinking Water? Yes □ No THE LEADER IN ENVIRONMENTAL TESTING TAL-4124 (1007) INTECO Environmental Chain of Custody Number 2010 24832 Analysis (Attach list if more space is needed) Carrier/Waybill Number Project Name and Location (State) Special Instructions/ Contract/Purchase Order/Quote No. Conditions of Receipt Containers & Matrix Preservatives Sample I.D. No. and Description Date Time (Containers for each sample may be combined on one line) No Sand 10 2:01M Sample Disposal Possible Hazard Identification (A fee may be assessed if samples are retained ☐ Poison B ☐ Unknown Disposal By Lab Archive For . Return To Client Months Flammable Skin Irritant longer than 1 month) ☐ Non-Hazard QC Requirements (Specify) Turn Around Time Required 48 Hours 🗌 14 Days 🔲 21 Days ☐ Other 24 Hours ☐ 7 Days 1. Received By 1. Relinquished By Cheng the 2. Received By 2. Relinquished B Time Date Time 3. Received By 3. Relinquished By Comments



# LOT RECEIPT CHECKLIST TestAmerica West Sacramento

CLIENT	Plantelo	ENU.	PM_	KS	LOG #	67893
CLIENTLOT# (QUANTIMS ID)	40K12	0465	QUOTE#	77664	LOCA	ATION WIGH
DATE RECEIVED						Checked (✓)
DELIVERED BY	FEDEX	ON TRAC		CLIE	NT	·
☐ TAL COURIER	☐ TAL SF	☐ VALLEY L	OGISTICS			$\mathbb{Z}$
CUSTODY SEAL STA						$\square$
CUSTODY SEAL #(S)	592391				<del></del>	•
SHIPPPING CONTAIN	NER(S)	rr 🗆 CI	LIENT   1	N/A		
COC #(S)		12483	32			$\square$
TEMPERATURE BLA	NK Observed	NA	Corrected:_			
SAMPLE TEMPERAT	•		•			
Observed: 0,/	Average	/ Corr	rected Average			
LABORATORY THER	#5 <u></u>	OTHER_		·		
					e	10/29/10
					Initia	ls Date
pH MEASURED	☐ YE	S 🗆 Al	VOMALY			<u> </u>
LABELED BY						
LABELS CHECKED B PEER REVIEW		<b>Z</b> NA				<b>¥</b>
SHORT HOLD TEST	NOTIFICATION		SAMPLE RE	EEIVING		
			WETCHEM VOA-ENCO			$\Xi$
			VOA-ENCO	KESK INA		ΙΣΊ
☐ METALS NOT	IFIED OF FILTER/PI	RESERVE VIA \	/ERBAL & EM/	AIL N/A		$\square$
	SHIPMENT RECEIVE EMPERATURES, CO					Ø
CLOUSEAU	☐ TEMPERA	TURE EXCEED	DED (2 °C – 6 °C	C)*1		
☐ WET ICE	☐ BLUE ICE	☐ GEL PACI	к 🗆 ио соо	LING AGEN	TS USED	PM NOTIFIED
					ev	10/29/1004
				•	Initials	Date
Notes						
*1 Acceptable termograture	range for State of Wiscon	cio camplac le c/190	•			



# **Bottle Lot Inventory**

Lot ID: GOK 120465

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA*																				
VOAh*																				
AGB										<u> </u>										
AGBs																				
250AGB																				
250AGBs																				
250AGBn																				
500AGB																				<u> </u>
AGJ									<b>†</b>			<b> </b>								
500AGJ																				
250AGJ								<b></b>	<u> </u>	<del> </del>			<u> </u>					ļ		
125AGJ												İ				ļ <u>-</u>				
CGJ					<del> </del> -		<del> </del>													
500CGJ																				
250CGJ					l															
125CGJ										<del>                                     </del>										
PJ							ļ													
PJn																				
500PJ	/	1	1	1	1			<b> </b>												
500PJn	<u> </u>	Ť			<u> </u>															
500PJna																				
500PJzn/na									l											
250PJ									<b></b>	-	<del>-</del>									
250PJn																				
250PJna							-													
250PJzn/na																				
Acetate Tube																				
rCT		-																		
Encore																				
Folder/filter																				
PUF																				
Petri/Filter																				
XAD Trap																				·
Ziploc							-													·
<del></del>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid s = sulfuric acid na = sodium hydroxide n = nitric acid na = sodium hydroxide na = sodium hydroxide na = sodium hydroxide

Number of VOAs with air bubbles present / total number of VOA's

QA-185 5/05 EM

Page 3

#### Client Sample ID: M1PEC1

#### General Chemistry

Lot-Sample #...: G0K120465-001

Work Order #...: L90GW

Matrix....: WATER

Date Sampled...: 10/27/10

**Date Received..:** 10/29/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Nitrate as N	36.3 B,		mg/L	MCAWW 300.0A	11/15/10	0319430
		Dilution Fact	or: 1000	MDL 22.0		
Nitrite as N	254 Q	50.0	mg/L	MCAWW 300.0A	11/15/10	0319429
		Dilution Fact	or: 1000	MDL 16.0		
Nitrocellulose	ND G	2000	mg/L	TAL-SOP WS-WC-005	11/13-11/15/10	0317041
		Dilution Fact	or: 1000	MDL 475		
Sulfate	1090 Q	1000	mg/L	MCAWW 300.0A	11/15/10	0319431
		Dilution Fact	or: 1000	MDL 49.0		
Total Sulfide	12.5 B,	G 50.0	mg/L	MCAWW 376.2	11/17/10	0321215
		Dilution Fact	or: 1000	MDL 8.8		

RL Reporting Limit

B Estimated result. Result is less than RL.

 $<sup>\</sup>boldsymbol{Q}$   $\;$  Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

#### Client Sample ID: M1PEC2

#### General Chemistry

Lot-Sample #...: G0K120465-002 Work Order #...: L90G2 Matrix.....: WATER

Date Sampled...: 10/27/10 Date Received..: 10/29/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Nitrate as N	123 Q	<b>50.0</b> ution Fact	<b>mg/L</b> or: 1000	MCAWW 300.0A MDL 22.0	11/15/10	0319430
Nitrite as N	314 Q	<b>50.0</b> ution Fact	<b>mg/L</b> or: 1000	MCAWW 300.0A MDL16.0	11/15/10	0319429
Nitrocellulose	ND G	2000 ution Fact	mg/L or: 1000	TAL-SOP WS-WC-005	11/13-11/15/10	0317041
Sulfate	ND G	1000 ution Fact	mg/L or: 1000	MCAWW 300.0A MDL 49.0	11/15/10	0319431
Total Sulfide	•	<b>50.0</b> ution Fact	<b>mg/L</b> or: 1000	MCAWW 376.2 MDL 8.8	11/17/10	0321215

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

B Estimated result. Result is less than RL.

# Client Sample ID: M1PEC3

#### General Chemistry

 Lot-Sample #...: G0K120465-003
 Work Order #...: L90G3
 Matrix.....: WATER

 Date Sampled...: 10/27/10
 Date Received..: 10/29/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Nitrate as N	66.3 Q	<b>50.0</b> lution Facto	<b>mg/L</b> or: 1000	MCAWW 300.0A MDL 22.0	11/15/10	0319430
Nitrite as N	120 Q	<b>50.0</b> lution Facto	<b>mg/L</b> or: 1000	MCAWW 300.0A MDL16.0	11/15/10	0319429
Nitrocellulose	ND G	2000 lution Facto	mg/L or: 1000	TAL-SOP WS-WC-005	11/13-11/15/10	0317041
Sulfate	ND G	1000 lution Facto	mg/L or: 1000	MCAWW 300.0A MDL 49.0	11/15/10	0319431
Total Sulfide	42.8 B,G	<b>50.0</b> lution Facto	<b>mg/L</b> or: 1000	MCAWW 376.2 MDL8.8	11/17/10	0321215

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

 $<sup>\</sup>ensuremath{G}$   $\ensuremath{}$  Elevated reporting limit. The reporting limit is elevated due to matrix interference.

B Estimated result. Result is less than RL.

#### Client Sample ID: DBPEC1

# General Chemistry

Lot-Sample #...: G0K120465-004 Work Order #...: L90G5 Matrix....: WATER

Date Sampled...: 10/28/10 Date Received..: 10/29/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Nitrate as N	<b>309 Q</b>	50.0	<b>mg/L</b> or: 1000	MCAWW 300.0A MDL 22.0	11/15/10	0319430
Nitrite as N	<b>1000 Q</b>	<b>50.0</b> Llution Factor	<b>mg/L</b> or: 1000	MCAWW 300.0A MDL16.0	11/15/10	0319429
Nitrocellulose	ND G	2000 Llution Facto	mg/L or: 1000	TAL-SOP WS-WC-005	11/13-11/15/10	0317041
Sulfate	ND G	1000 Llution Facto	mg/L or: 1000	MCAWW 300.0A MDL 49.0	11/15/10	0319431
Total Sulfide	18.6 B,G	50.0	<b>mg/L</b> or: 1000	MCAWW 376.2 MDL8.8	11/17/10	0321215

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

B Estimated result. Result is less than RL.

# Client Sample ID: DBPEC2

#### General Chemistry

Lot-Sample #...: G0K120465-005 Work Order #...: L90G7 Matrix....: WATER

Date Sampled...: 10/28/10 Date Received..: 10/29/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Nitrate as N	169 Q	<b>50.0</b> ution Fact	<b>mg/L</b> or: 1000	MCAWW 300.0A MDL 22.0	11/15/10	0319430
Nitrite as N	862 Q	<b>50.0</b> ution Fact	<b>mg/L</b> or: 1000	MCAWW 300.0A MDL16.0	11/15/10	0319429
Nitrocellulose	ND G	2000 ution Fact	mg/L or: 1000	TAL-SOP WS-WC-005	11/13-11/15/10	0317041
Sulfate	1450 Q	1000 ution Fact	<b>mg/L</b> or: 1000	MCAWW 300.0A MDL49.0	11/15/10	0319431
Total Sulfide	•	<b>50.0</b> ution Fact	<b>mg/L</b> or: 1000	MCAWW 376.2 MDL8.8	11/17/10	0321215

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

 $B\quad \hbox{Estimated result. Result is less than RL}.$ 

# **QC DATA ASSOCIATION SUMMARY**

# G0K120465

Sample Preparation and Analysis Control Numbers

		ANALYTICAL	LEACH	PREP	
SAMPLE#	MATRIX	METHOD	BATCH #	BATCH #	MS RUN#
001	WATER	MCAWW 300.0A		0319431	
	WATER	MCAWW 300.0A		0319430	
	WATER	MCAWW 300.0A		0319429	
	WATER	MCAWW 376.2		0321215	
	WATER	TAL-SOP WS-WC-005		0317041	•
002	WATER	MCAWW 300.0A		0319431	
	WATER	MCAWW 300.0A		0319430	
	WATER	MCAWW 300.0A		0319429	
	WATER	MCAWW 376.2		0321215	
	WATER	TAL-SOP WS-WC-005		0317041	
003	WATER	MCAWW 300.0A		0319431	
	WATER	MCAWW 300.0A		0319430	
	WATER	MCAWW 300.0A		0319429	
	WATER	MCAWW 376.2		0321215	
	WATER	TAL-SOP WS-WC-005		0317041	
004	WATER	MCAWW 300.0A		0319431	
	WATER	MCAWW 300.0A		0319430	
	WATER	MCAWW 300.0A		0319429	
	WATER	MCAWW 376.2		0321215	
	WATER	TAL-SOP WS-WC-005	-	0317041	
005	WATER	MCAWW 300.0A		0319431	
	WATER	MCAWW 300.0A		0319430	
	WATER	MCAWW 300.0A		0319429	
	WATER	MCAWW 376.2		0321215	
	WATER	TAL-SOP WS-WC-005		0317041	

# METHOD BLANK REPORT

# General Chemistry

**Client Lot #...:** G0K120465

Matrix..... WATER

		REPORTING		PREPARATION-	PREP
PARAMETER	RESULT	LIMIT UNITS	METHOD	ANALYSIS DATE	BATCH #
Nitrate as N		Work Order #: L932C1A	A MB Lot-Sample #:	G0K150000-430	
	ND	0.050 mg/L	MCAWW 300.0A	11/15/10	0319430
		Dilution Factor: 1			
Nitrite as N		Work Order #: L932A1A	A MB Lot-Sample #:	G0K150000-429	
	ND	0.050 mg/L	MCAWW 300.0A	11/15/10	0319429
		Dilution Factor: 1			
Nitrocellulose		Work Order #: L91XX1A	A MB Lot-Sample #:	G0K130000-041	
	ND	2.0 mg/L	TAL-SOP WS-WC-005	11/13-11/15/10	0317041
		Dilution Factor: 1			
Sulfate		Work Order #: L932D1A	A MB Lot-Sample #:	G0K150000-431	
	ND	1.0 mg/L	MCAWW 300.0A	11/15/10	0319431
		Dilution Factor: 1			
Total Sulfide		Work Order #: L96R61A	A MB Lot-Sample #:	G0K170000-215	
	ND	0.050 mg/L	MCAWW 376.2	11/17/10	0321215
		Dilution Factor: 1			
NOTE(S):					

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

# General Chemistry

Client Lot #: G0K120465	Matrix WATER
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PARAMETER Nitrate as N	PERCENT RECOVERY	RECOVERY LIMITS METHOD Work Order #: L932C1AC LCS LC (90 - 110) MCAWW 300.0A Dilution Factor: 1	<del>-</del>
Nitrite as N	99	Work Order #: L932A1AC LCS Lo (90 - 110) MCAWW 300.0A Dilution Factor: 1	<del>-</del>
Nitrocellulose	82	Work Order #: L91XX1AC LCS Lo (26 - 144) TAL-SOP WS-WC-005 Dilution Factor: 1	=
Sulfate	100	Work Order #: L932D1AC LCS Lo (90 - 110) MCAWW 300.0A Dilution Factor: 1	•
Total Sulfide	103	Work Order #: L96R61AC LCS Lo (85 - 115) MCAWW 376.2 Dilution Factor: 1	_

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE DATA REPORT

# General Chemistry

Client Lot #: G0K120465 Matrix								WATER
PARAMETER	SPIKE AMOUNT				ETHOD			
Nitrate as N	3.75	3.81	Work Order # mg/L Dilution Factor	102 M	C LCS Lot-Samp CAWW 300.0A			
Nitrite as N				99 M	C LCS Lot-Samp CAWW 300.0A			
Nitrocellulo				82 T	C LCS Lot-Samp AL-SOP WS-WC-00			
Sulfate	37.5	37.4		100 M	C LCS Lot-Samp CAWW 300.0A			
Total Sulfid	le 0.250			103 M	C LCS Lot-Samp CAWW 376.2			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.