PIMA COUNTY

ANNUAL BIOSOLIDS REPORT

Sustainable Resource BIOSOLIDS

Volume 1 of 2

CALENDAR YEAR 2017

REGIONAL WATER RECLAMATION DEPARTMENT

TREATMENT DIVISION

PIMA COUNTY
TUCSON, ARIZONA

PIMA COUNTY
WASTEWATER RECLAMATION

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ANNUAL BIOSOLIDS REPORT 2017

REGIONAL WATER
RECLAMATION DEPARTMENT

TREATMENT DIVISION

PIMA COUNTY
TUCSON, ARIZONA

PIMA COUNTY
WASTEWATER RECLAMATION

PIMA COUNTY
WASTEWATER RECLAMATION

Jackson Jenkins
Director

201 North Stone Avenue
Tucson, Arizona 85701-1207

Phone (520)724-6500
Fax (520) 724-9635

February 16, 2018

Mr. Andy Koester
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION, PERMITS: BIOSOLIDS (MO5415B-3)
1110 West Washington Street, 5415-B-3
Phoenix, Arizona 85007

Dear Mr. Koester,

RE: BIOSOLIDS ANNUAL REPORT 2017

As required by AAC R18-9-1014(F), and/or in accordance with the Arizona Pollutant Discharge Elimination System (AZPDES) Permits issued to the following facilities, we are transmitting herewith the Pima County Regional Wastewater Reclamation Department's Biosolids Annual Report for Calendar Year 2017.

- Tres Rios Wastewater Reclamation Facility, AZPDES Permit No. AZ0020001
- Green Valley Biological Nutrient Removal Oxidation Ditch, AZPDES Permit No. AZ0024937
- Avra Valley WRF, AZPDES Permit No. AZ0024121

The Tres Rios WRF had 11,805 metric dry tons of Class B Biosolids hauled in trucks for land application on agricultural land in Pima County, during 2017.

The Agua Nueva Wastewater Reclamation Facility (WRF), AZPDES Permit No. AZ0026107, pumped 5,181 metric dry tons of its Waste Activated Sludge (WAS) sludge via the sludge pipeline to the Tres Rios WRF WAS Tank for thickening and digestion after mixing with the WAS sludge from Tres Rios WRF. The sludge mix was digested in the mesophilic anaerobic digesters and met the Class B pathogen reduction and the vector attraction reduction requirements as set in A.A.C. R18-9-10. Agua Nueva WRF directed 4,939 metric dry tons of its primary sludge from the Dissolved Air Flotation unit process into the sewer interconnect between Agua Nueva WRF and Tres Rios WRF, where they became part of the influent to Tres Rios WRF.

The Avra Valley WRF, AZPDES Permit No. AZ0024121, the Corona de Tucson WRF, APP Permit No. P-100644 and the Mt. Lemmon WRF, AZPDES Permit No. AZ0022250 trucked their solids to the Pima County Wastewater Collection System.

The Green Valley WRF, AZPDES NO. AZ0024937 trucked its liquid WAS, 437 dry tons at annual average of 3. 5% total solids, to Pima County Wastewater Collection System of Tres Rios WRF during 2017, where it became part of the influent to Tres Rios WRF.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

As you review this report, if you have any questions, please contact Jeff Prevatt, Program Manager, Compliance and Regulatory Affairs Office at (520)724-6200.

Sincerely,

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT

John W. Sherlock, Deputy Director
Treatment Division

JWS: hbe
Attachment – Annual Biosolids Report 2017
Electronic copy:

John Sherlock, Deputy Director, Treatment Division
Charles Wesselhoft, Deputy County Attorney, Civil Division
Arturo Norzagaray, Wastewater Treatment Plant Manager, Tres Rios WRF
Ken Weber, Wastewater Treatment Plant Manager, Sub-Regional Facilities
David Garrett, Operations Supervisor, Agua Nueva WRF

SECTION 1

PREPARER FORMS

TRES RIOS WRF AZPDES NO. AZ0020001

CORONA DE TUCSON WRF, APP NO. P - 100644

MT. LEMMON WRF, AZPDES NO. AZ0022250

SUMMARY LAND APPLICATION

BIOSOLIDS ANNUAL REPORT 2017

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ANNUAL BIOSOLIDS REPORT 2017

REGIONAL WATER
RECLAMATION DEPARTMENT

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PIMA COUNTY
TUCSON, ARIZONA

PIMA COUNTY
WASTEWATER RECLAMATION

ARIZONA
DEPARTMENT OF ENVIRONMENTAL QUALITY
AZPDES Individual Permits Unit
1110 W Washington Street
Phoenix, Arizona 85007
(602) 771-4689 (voicemail) (602) 771-4505 (fax)
Email to: biosolids@azdeq.gov

BIOSOLIDS OR SEWAGE SLUDGE ANNUAL REPORT FORM

1. Program Information: All preparers (Generators) and Land Applicators Must complete the following.

Reporting Start Date:1/1/2017	**Reporting End Date: 12/31/2017**
Date:2/16/2018	**AZPDES Permit # (if applicable):AZ00020001** **Pima County Tres Rios WRF** **7101 N. Casa Grande Hwy., Tucson AZ 85743**
Company name (Preparer / Applicator): Preparer - Pima Regional Water Reclamation Department; Pima County, Arizona	
Contact Name: Houssam Eljerdi	**Title: Technical Services Manager**
Address: 7101 N. Casa Grande Highway **Phone:** (520) 724 - 6100	Tucson, AZ 85743 - 8618 **E-mail: Houssam.eljerdi@pima.gov**

Please select one of the following options pertaining to your obligation to submit a Biosolids Annual Report. My facility is a:

☒ POTW with a design flow equal to or greater than 1 MGD Per Day

☐ POTW that serves 10,000 people or more

☒ Class I Sludge Management Facility as defined by 40 CFR 503.9

☐ Biosolids Applicator (Complete Section 5 only)

☐Other Click here to enter text.

What is the estimated total of volume of biosolids or sewage sludge generated at your facility (in dry metric tons)?

11,805 metric dry tons

Were all biosolids removed from your facility sent to a landfill for disposal? No

If yes, provide the name and address of the landfill(s). Not Applicable

If all biosolids or sewage sludge was sent to a landfill for disposal, you do not need to complete the remainder of this form, as it is only applicable to facilities preparing Biosolids or sewage sludge for land application.

Certification: I certify, under penalty of law, that the information and descriptions, have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

Signature: Title: John W. Sherlock; Deputy Director - Treatment	Date: February 16, 2018

2. Generator/Preparers - Biosolids Storage and Treatment Processes

2.1 Please check the box next to the following biosolids or sewage sludge storage practices and treatment processes used on the sewage sludge or biosolids generated or produced at your facility during the reporting period.

Storage Practices

☐ Biosolids are stored in lined lagoons or impoundments

☐ Biosolids stored directly on the ground

Physical Treatment Processes

☒ Preliminary Operations (e.g. sludge grinding, degritting, blending

☒ Thickening (e.g. gravity floatation, centrifugation, belt filter press, vacuum filter)

☐ Sludge lagoon

Pathogen Reduction Operations (PSRP)

☐ Aerobic Digestion

☐ Air Drying (or "sludge drying beds")

☒ Anaerobic Digestion Volatile Solids Reduction R18-9-1010-A.1; Pathogen reduction R18-9-1006-E Alternative 5.

☐ Lower Temperature Composting

☐ Lime Stabilization

Process to Further Reduce Pathogens (PFRP)

☐ Higher Temperature Composting

☐ Heat Drying (e.g. flash dryer, spray dryer, rotary dryer)

☐ Heat Treatment (Liquid sewage sludge is heated to temp of 356 °F (180 °C) or higher for 30 minutes

☐ Thermophilic Aerobic Digestion

☐ Beta Ray Irradiation

☐ Gamma Ray Irradiation

☐ Pasteurization

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

3. Generators/Preparers: Disposition of Biosolids or Sewage Treatment Sludge:

3.1 At the beginning of the year, did you have any biosolids or sewage sludge stored on site or remaining from previous years? Include any amount that is being stored anywhere. No

If yes provide the following information:

	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not Applicable	Not Applicable
Pathogen Reduction Method	Not Applicable	Not Applicable
Vector Attraction Reduction Method	Not Applicable	Not Applicable
Storage Locations	Not Applicable	Not Applicable

3.2 At the end of the year, are any biosolids or sewage sludge stored on site? No

If yes, provide the following information:

	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not Applicable	Not Applicable
Pathogen Reduction Method	Not Applicable	Not Applicable
Vector Attraction Reduction Method	Not Applicable	Not Applicable
Storage Locations	Not Applicable	Not Applicable

3.3 Were biosolids or sewage sludge received from another facility during the year, such as another wastewater treatment plant or another APP permitted facility for further processing? Yes

If yes provide the following information for each facility. Click the plus sign to create as many tables as needed.

Name of Facility	**Pima County Agua Nueva WRF**			
Location:	**2947 W. Calle Agua Nueva, Tucson, AZ 85745** **AZPDES: AZ0026107; APP: P-100655**			
	Untreated Sludge		CLASS A Biosolids	Class B Biosolids
Dry Ton Weight Metric Dry Tons	**Primary Sludge** **4,939**	**Waste Activated Sludge** **5,181**	Not applicable	Not applicable
Pathogen Testing	**Not Applicable**		Not applicable	Not applicable
Pathogen Reduction Method	**Not Applicable**		Not Applicable	Not Applicable
Vector Attraction Reduction Method	**Not Applicable**		Not Applicable	Not Applicable
Storage Locations	**No Storage** **Pima County Agua Nueva WRF Pumps the Primary Sludge into Pima County**		Not Applicable	Not Applicable

Name of Facility	**Pima County Agua Nueva WRF**		
Storage Locations (Continued)	**Wastewater Collection System where it becomes part of the Influent to Pima County Tres Rios WRF.** **Pima County Agua Nueva WRF Pumps the WAS via Dedicated Pipeline into Pima County Tres Rios WRF WAS Tank where it becomes part of the Process.**		

Name of Facility	**Pima County Green Valley WRF**		
Location:	**19600 S. Old Nogales Hwy., Tucson AZ 85614** **AZPDES: AZ0024937; APP P-100629**		
	Untreated Waste Activated Sludge	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight Metric Dry Tons	**437** **Four Hundred and Thirty Seven**	Not applicable	Not applicable
Pathogen Testing	**Not Applicable**	Not Applicable	Not applicable
Pathogen Reduction Method	**Not Applicable**	Not applicable	Not applicable
Vector Attraction Reduction Method	**Not Applicable**	Not Applicable	Not Applicable
Storage Locations	**No Storage;** **Pima County Transports Green Valley WRF Waste Activated Sludge by Truck to Tres Rios WRF Wastewater Collection System, where it Becomes Part of the Influent.**	Not Applicable	Not Applicable

Name of Facility	**Pima County Mt. Lemmon WRF**		
Location:	**12633 N Sabino Canyon Park, Tucson, AZ 85619** **AZPDES: AZ0022250, Type I - General Permit**		
	Untreated Waste Activated Sludge	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight Metric Dry Tons	**1.3** **One and Three Tenth**	Not applicable	Not applicable
Pathogen Testing	**Not Applicable**	Not Applicable	Not applicable
Pathogen Reduction Method	**Not Applicable**	Not applicable	Not applicable
Vector Attraction Reduction Method	**Not Applicable**	Not Applicable	Not Applicable
Storage Locations	**No Storage;** **Pima County Transports Mt. Lemmon WRF Waste Activated Sludge by Truck to Tres Rios WRF Wastewater Collection System, where it Becomes Part of the Influent.**	Not Applicable	Not Applicable

3.4. Were biosolids removed from your facility for land application? Include all recipients, including haulers, name, phone number, land applicators, composters, drying facilities, EQB bagging facilities, bulk composting, etc.

Name of Facility	Avra Gro Systems, Inc. PO Box 91708; Tucson, AZ 85752 Tel (520)271-7736	
Management Practice Type:	Land Application	
Handler or Preparer Type:	Land Applier	
Management Practice Detail:	Transport, Land Apply, Manage Field and Records	
Bag or Bulk Container:	Bulk Container	
	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	Not applicable	11,805 metric dry tons
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Alternate 5 - anaerobic digestion
Vector Attraction Reduction Method	Not applicable	Option 1 - mass reduction
Storage Locations	No Storage	No Storage Thickened Biosolids, 7% Solids Content are immediately injected using sub-surface injectors. Cake Biosolids, 15% solids content, are staged in the field and subsequently incorporated.

4. Generators/Preparers : Biosolids or Sewage Sludge Analytical Methods

Arizona regulations specify that representative samples of sewage sludge that is land applied, placed on a surface disposal site, or fired in s sewage sludge incinerator, must be collected and analyzed. These regulations specify the analytical methods that must be used to analyzed samples of sewage sludge.

Parameter	*Method Number or Author*	*Results (if tested)*	*Comments (required if other)*
Pathogens			
Ascaris ova.	Not applicable	Not applicable	Not applicable
Fecal Coliform	Not Applicable	Not Applicable	Not Applicable
Helminth ova.	Not Applicable	Not Applicable	Not Applicable
Salmonella sp. Bacteria	Not Applicable	Not Applicable	Not Applicable
Total Cultural Viruses	Not Applicable	Not Applicable	Not Applicable

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

Parameter	*Method Number or Author*	*Results (if tested)*	*Comments (required if other)*
Metals			
Arsenic	EPA Method 6010 - Arsenic (ICP-OES)	< 12.5 / < 17.8 / < 9.6	Mean / Maximum / Minimum
Beryllium	Choose an item.		Mean / Maximum / Minimum
Cadmium	EPA Method 6010 - Cadmium (ICP-OES)	< 5.0 / < 6.9 / < 3.9	Mean / Maximum / Minimum
Chromium	EPA Method 6010 - Chromium (ICP-OES)	28.3 / 34.8 / 19.9	Mean / Maximum / Minimum
Copper	EPA Method 6010 - Copper (ICP-OES)	391 / 472 / 303	Mean / Maximum / Minimum
Lead	EPA Method 6010 - Lead (ICP-OES)	< 15.9 /1 9.9 / 11.1	Mean / Maximum / Minimum
Mercury	EPA Method 7471 - Mercury (CVAA)	0.82 / 1.63 / 0.58	Mean / Maximum / Minimum
Molybdenum	EPA Method 6010 - Molybdenum (ICP-OES)	11.9 / 13.7 / 8.54	Mean / Maximum / Minimum
Nickel	EPA Method 6010 - Nickel (ICP-OES)	20.2 / 23.3 / 16.2	Mean / Maximum / Minimum
Selenium	EPA Method 6010 - Selenium (ICP-OES)	< 25.0 / < 34.7 / < 19.3	Mean / Maximum / Minimum
Zinc	EPA Method 6010 - Zinc (ICP-OES)	700 / 812 / 556	Mean / Maximum / Minimum
Nitrogen Compounds			
Ammonia Nitrogen	EPA Method 350.1 - Ammonia Nitrogen	10103 / 15800 / 7390	Mean / Maximum / Minimum
Nitrate Nitrogen	EPA353.2; SM4500-NO2	1.5 / 4.8 / 0.4	Mean / Maximum / Minimum
Nitrogen	Calculated	67503 / 80297 / 57091	Mean / Maximum / Minimum
Organic Nitrogen	Calculated EPA Method 350.1, 350.2	57397 / 68495 / 49090	Mean / Maximum / Minimum
Total Kjeldahl Nitrogen	Calculated EPA Method 350.2	67500 / 80295 / 57090	Mean / Maximum / Minimum
Other Analytes			
Fixed Solids	Not applicable	Not applicable	Not applicable
Paint Filter Test	Not Applicable	Not applicable	Not applicable
pH	Not Applicable	Not applicable	Not applicable
Specific Oxygen Uptake Rate	Not applicable	Not applicable	Not applicable

Parameter	*Method Number or Author*	*Results (if tested)*	*Comments (required if other)*
TCLP	Other TCLP Analytical Method	Sample Analysis Results Included in this Report	Total Amount Does Not Exceed the 20X TCLP Screening Value, Part III – I.5
Temperature	Not applicable	Not applicable	Not applicable
Total Solids	Standard Method 2540 - Total Solids	Cake Biosolids, % Solids Content **14.9 / 18.5 / 10.9** Thickened Biosolids, % Solids Content **6.3 / 8.3 / 5.1**	Mean / Maximum / Minimum
Volatile Solids	Not applicable	Not applicable	Not applicable
No Analytical Methods Used	Sample Analysis Results Included in this Report	Sample Analysis Results Included in this Report	Sample Analysis Results Included in this Report

Active Production of Biosolids and Hauling of Sludge, Pima County Wastewater Reclamation Facilities
Class B Biosolids
R18-9-1006-E
ALTERNATIVE 5
Mt. Lemmon WRF
Hauled Sludge to Collection System of Tres Rios WRF
TRES RIOS WRF
Agua Nueva WRF
Randolph Park WRF
Hauled Sludge to Collection System of Agua Nueva WRF
Avra Valley WRF
DAF and WAS Sludge to Tres Rios WRF
Corona de Tucson WRF
Biosolids to Land Application
Green Valley WRF
Oro Valley
Tucson
Three Points
Sahuarita
Arivaca Junction
1 Agua Nueva WRF
2 Tres Rios WRF
3 Green Valley WRF
4 Fairgrounds WRF
9 Mt. Lemmon WRF
5 Avra Valley WRF
6 Corona de Tucson WRF
7 Arivaca WRF
8 Randolph Park WRF
Temporary Cease-Operation, December 2014

BIOSOLIDS OR SEWAGE SLUDGE ANNUAL REPORT FORM

1. Program Information: All preparers (Generators) and Land Applicators Must complete the following.

Reporting Start Date:1/1/2017	**Reporting End Date: 12/31/2017**
Date:2/16/2018	**AZPDES Permit # (if applicable) Not Applicable** **Pima County Corona de Tucson WRF, APP # P - 100644** **1100 S. Sahuarita Road, Corona de Tucson AZ 85711**
Company name (Preparer / Applicator): Preparer, Pima County Regional Water Reclamation Department	
Contact Name: Houssam Eljerdi	**Title: Technical Services Manager**
Address: 7101 N. Casa Grande Highway **Phone:** (520) 724 - 6100	Tucson, AZ 85743 - 8618 **E-mail: Houssam.eljerdi@pima.gov**

Please select one of the following options pertaining to your obligation to submit a Biosolids Annual Report. My facility is a:

☒ POTW with a design flow equal to or greater than 1 MGD Per Day

☐ POTW that serves 10,000 people or more

☐ Class I Sludge Management Facility as defined by 40 CFR 503.9

☐ Biosolids Applicator (Complete Section 5 only)

☒Other APP Permit # 100644

What is the estimated total of volume of biosolids or sewage sludge generated at your facility (in dry metric tons)?

113 (One Hundred and Thirteen) metric dry tons

No Storage

Pima County Transports the Corona de Tucson WRF sludge by tanker truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Agua Nueva WRF

Were all biosolids removed from your facility sent to a landfill for disposal? No

If yes, provide the name and address of the landfill(s). Not Applicable

If all biosolids or sewage sludge was sent to a landfill for disposal, you do not need to complete the remainder of this form, as it is only applicable to facilities preparing Biosolids or sewage sludge for land application.

Certification: I certify, under penalty of law, that the information and descriptions, have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

Signature: Title: John W. Sherlock; Deputy Director - Treatment	Date: February 19, 2018

2. Generator/Preparers - Biosolids Storage and Treatment Processes

2.1 Please check the box next to the following biosolids or sewage sludge storage practices and treatment processes used on the sewage sludge or biosolids generated or produced at your facility during the reporting period.

Storage Practices

☐ Biosolids are stored in lined lagoons or impoundments

☐ Biosolids stored directly on the ground

Physical Treatment Processes

☒ Preliminary Operations (e.g. sludge grinding, degritting, blending

☒ Thickening (e.g. gravity floatation, centrifugation, belt filter press, vacuum filter)

☐ Sludge lagoon

Pathogen Reduction Operations (PSRP)

☐ Aerobic Digestion

☐ Air Drying (or "sludge drying beds")

☐ Anaerobic Digestion

☐ Lower Temperature Composting

☐ Lime Stabilization

Process to Further Reduce Pathogens (PFRP)

☐ Higher Temperature Composting

☐ Heat Drying (e.g. flash dryer, spray dryer, rotary dryer)

☐ Heat Treatment (Liquid sewage sludge is heated to temp of 356 °F (180 °C) or higher for 30 minutes

☐ Thermophilic Aerobic Digestion

☐ Beta Ray Irradiation

☐ Gamma Ray Irradiation

☐ Pasteurization

3. Generators/Preparers: Disposition of Biosolids or Sewage Treatment Sludge:

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

3.1 At the beginning of the year, did you have any biosolids or sewage sludge stored on site or remaining from previous years? Include any amount that is being stored anywhere. No

If yes provide the following information:

	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	**No Storage** **Pima County Transports the Sludge from Corona de Tucson WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Agua Nueva WRF**	Not applicable

3.2 At the end of the year, are any biosolids or sewage sludge stored on site? No

If yes, provide the following information:

	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	**No Storage** **Pima County Transports the Sludge from Corona de Tucson WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Agua Nueva WRF**	Not applicable

3.3 Were biosolids or sewage sludge received from another facility during the year, such as another wastewater treatment plant or another APP permitted facility for further processing? No

If yes provide the following information for each facility. Click the plus sign to create as many tables as needed.

Name of Facility	Not Applicable	
Location:	Not Applicable	
	CLASS A Biosolids	Class B Biosolids

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

Name of Facility	Not Applicable	
Location:	Not Applicable	
Dry Ton Weight	Not Applicable	Not applicable
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	Not applicable	Not applicable

Enter any content that you want to repeat, including other content controls. You can also insert this control around table rows in order to repeat parts of a table.

3.4. Were biosolids removed from your facility for land application? Include all recipients, including haulers, name, phone number, land applicators, composters, drying facilities, EQB bagging facilities, bulk composting, etc.

Name of Facility	**None; Biosolids are not prepared at Corona de Tucson WRF. Pima County Transports the Sludge from Corona de Tucson WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Agua Nueva WRF**	
Management Practice Type:	Not Applicable	
Handler or Preparer Type:	Not Applicable	
Management Practice Detail:	Not Applicable	
Bag or Bulk Container:	Not Applicable	
	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not Applicable	Not applicable
Pathogen Reduction Method	Not Applicable	Not Applicable
Vector Attraction Reduction Method	Not Applicable	Not Applicable
Storage Locations	Not Applicable	Not Applicable

4. Generators/Preparers : Biosolids or Sewage Sludge Analytical Methods

Arizona regulations specify that representative samples of sewage sludge that is land applied, placed on a surface disposal site, or fired in s sewage sludge incinerator, must be collected and analyzed. These regulations specify the analytical methods that must be used to analyzed samples of sewage sludge.

Parameter	*Method Number or Author*	*Results (if tested)*	*Comments (required if other)*
Pathogens			
Ascaris ova.	Not applicable	Not applicable	Not applicable
Fecal Coliform	Not Applicable	Not Applicable	Not Applicable
Helminth ova.	Not Applicable	Not Applicable	Not Applicable
Salmonella sp. Bacteria	Not Applicable	Not Applicable	Not Applicable
Total Cultural Viruses	Not Applicable	Not Applicable	Not Applicable
Metals			
Arsenic	Not applicable	Not applicable	Not applicable
Beryllium	Not applicable	Not applicable	Not applicable
Cadmium	Not applicable	Not applicable	Not applicable
Chromium	Not applicable	Not applicable	Not applicable
Copper	Not applicable	Not applicable	Not applicable
Lead	Not applicable	Not applicable	Not applicable
Mercury	Not applicable	Not applicable	Not applicable
Molybdenum	Not applicable	Not applicable	Not applicable
Nickel	Not applicable	Not applicable	Not applicable
Selenium	Not applicable	Not applicable	Not applicable
Zinc	Not applicable	Not applicable	Not applicable
Nitrogen Compounds			
Ammonia Nitrogen	Not applicable	Not applicable	Not applicable
Nitrate Nitrogen	Not applicable	Not applicable	Not applicable
Nitrogen	Not applicable	Not applicable	Not applicable
Organic Nitrogen	Not applicable	Not applicable	Not applicable
Total Kjeldahl Nitrogen	Not applicable	Not applicable	Not applicable
Other Analytes			
Fixed Solids	Not applicable	Not applicable	Not applicable
Paint Filter Test	Not applicable	Not applicable	Not applicable
pH	Not applicable	Not applicable	Not applicable
Specific Oxygen Uptake Rate	Not applicable	Not applicable	Not applicable
TCLP	Not applicable	Not applicable	Not applicable
Temperature	Not applicable	Not applicable	Not applicable
Total Solids	Not applicable	Not applicable	Not applicable
Volatile Solids	Not applicable	Not applicable	Not applicable
No Analytical Methods Used	Not applicable	Not applicable	Not applicable

BIOSOLIDS OR SEWAGE SLUDGE ANNUAL REPORT FORM

1. Program Information: All preparers (Generators) and Land Applicators Must complete the following.

Reporting Start Date:1/1/2017	**Reporting End Date: 12/31/2017**
Date:1/31/2018	**AZPDES Permit # (if applicable):AZ00022250** **Pima County Mt. Lemmon WRF** **19600 S. Old Nogales Hwy., Tucson AZ 85614**
Company name (Preparer / Applicator): Preparer, Pima County Regional Water Reclamation Department	
Contact Name: Houssam Eljerdi	**Title: Technical Services Manager**
Address: 7101 N. Casa Grande Highway **Phone:** (520) 724 - 6100	Tucson, AZ 85743 - 8618 **E-mail: Houssam.eljerdi@pima.gov**

Please select one of the following options pertaining to your obligation to submit a Biosolids Annual Report. My facility is a:

☒ POTW with a design flow equal to or greater than 1 MGD Per Day

☐ POTW that serves 10,000 people or more

☐ Class I Sludge Management Facility as defined by 40 CFR 503.9

☐ Biosolids Applicator (Complete Section 5 only)

☒Other AZPDES Permit # 22250; APP Permit # 100345

What is the estimated total of volume of biosolids or sewage sludge generated at your facility (in dry metric tons)?

1.3 (One and Three Tenth) metric dry tons

No Storage

Pima County Transports the Mt. Lemmon WRF sludge by tanker truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Agua Nueva WRF

Were all biosolids removed from your facility sent to a landfill for disposal? No

If yes, provide the name and address of the landfill(s). Not Applicable

If all biosolids or sewage sludge was sent to a landfill for disposal, you do not need to complete the remainder of this form, as it is only applicable to facilities preparing Biosolids or sewage sludge for land application.

Certification: I certify, under penalty of law, that the information and descriptions, have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

Signature: Title: John W. Sherlock; Deputy Director - Treatment	Date: February 19, 2018

2. Generator/Preparers - Biosolids Storage and Treatment Processes

2.1 Please check the box next to the following biosolids or sewage sludge storage practices and treatment processes used on the sewage sludge or biosolids generated or produced at your facility during the reporting period.

Storage Practices

☐ Biosolids are stored in lined lagoons or impoundments

☐ Biosolids stored directly on the ground

Physical Treatment Processes

☒ Preliminary Operations (e.g. sludge grinding, degritting, blending

☒ Thickening (e.g. gravity floatation, centrifugation, belt filter press, vacuum filter)

☐ Sludge lagoon

Pathogen Reduction Operations (PSRP)

☐ Aerobic Digestion

☐ Air Drying (or "sludge drying beds")

☐ Anaerobic Digestion

☐ Lower Temperature Composting

☐ Lime Stabilization

Process to Further Reduce Pathogens (PFRP)

☐ Higher Temperature Composting

☐ Heat Drying (e.g. flash dryer, spray dryer, rotary dryer)

☐ Heat Treatment (Liquid sewage sludge is heated to temp of 356 °F (180 °C) or higher for 30 minutes

☐ Thermophilic Aerobic Digestion

☐ Beta Ray Irradiation

☐ Gamma Ray Irradiation

☐ Pasteurization

3. Generators/Preparers: Disposition of Biosolids or Sewage Treatment Sludge:

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

3.1 At the beginning of the year, did you have any biosolids or sewage sludge stored on site or remaining from previous years? Include any amount that is being stored anywhere. No

If yes provide the following information:

	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	**No Storage** **Pima County Transports the Sludge from Mt. Lemmon WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Tres Rios WRF**	Not applicable

3.2 At the end of the year, are any biosolids or sewage sludge stored on site? No

If yes, provide the following information:

	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	**No Storage** **Pima County Transports the Sludge from Mt. Lemmon WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Tres Rios WRF**	Not applicable

3.3 Were biosolids or sewage sludge received from another facility during the year, such as another wastewater treatment plant or another APP permitted facility for further processing? No

If yes provide the following information for each facility. Click the plus sign to create as many tables as needed.

Name of Facility	Not Applicable	
Location:	Not Applicable	
	CLASS A Biosolids	Class B Biosolids

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

Name of Facility	Not Applicable	
Location:	Not Applicable	
Dry Ton Weight	Not Applicable	Not applicable
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	Not applicable	Not applicable

Enter any content that you want to repeat, including other content controls. You can also insert this control around table rows in order to repeat parts of a table.

3.4. Were biosolids removed from your facility for land application? Include all recipients, including haulers, name, phone number, land applicators, composters, drying facilities, EQB bagging facilities, bulk composting, etc.

Name of Facility	**None; Biosolids are not prepared at Mt. Lemmon WRF. Pima County Transports the Sludge from Mt. Lemmon WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Agua Nueva WRF**	
Management Practice Type:	Not Applicable	
Handler or Preparer Type:	Not Applicable	
Management Practice Detail:	Not Applicable	
Bag or Bulk Container:	Not Applicable	
	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not Applicable	Not applicable
Pathogen Reduction Method	Not Applicable	Not Applicable
Vector Attraction Reduction Method	Not Applicable	Not Applicable
Storage Locations	Not Applicable	Not Applicable

4. Generators/Preparers : Biosolids or Sewage Sludge Analytical Methods

Arizona regulations specify that representative samples of sewage sludge that is land applied, placed on a surface disposal site, or fired in s sewage sludge incinerator, must be collected and analyzed. These regulations specify the analytical methods that must be used to analyzed samples of sewage sludge.

Parameter	*Method Number or Author*	*Results (if tested)*	*Comments (required if other)*
Pathogens			
Ascaris ova.	Not applicable	Not applicable	Not applicable
Fecal Coliform	Not Applicable	Not Applicable	Not Applicable
Helminth ova.	Not Applicable	Not Applicable	Not Applicable
Salmonella sp. Bacteria	Not Applicable	Not Applicable	Not Applicable
Total Cultural Viruses	Not Applicable	Not Applicable	Not Applicable
Metals			
Arsenic	Not Applicable	Not Applicable	Not Applicable
Beryllium	Not Applicable	Not Applicable	Not Applicable
Cadmium	Not Applicable	Not Applicable	Not Applicable
Chromium	Not Applicable	Not Applicable	Not Applicable
Copper	Not Applicable	Not Applicable	Not Applicable
Lead	Not Applicable	Not Applicable	Not Applicable
Mercury	Not Applicable	Not Applicable	Not Applicable
Molybdenum	Not Applicable	Not Applicable	Not Applicable
Nickel	Not Applicable	Not Applicable	Not Applicable
Selenium	Not Applicable	Not Applicable	Not Applicable
Zinc	Not Applicable	Not Applicable	Not Applicable
Nitrogen Compounds			
Ammonia Nitrogen	Not Applicable	Not Applicable	Not Applicable
Nitrate Nitrogen	Not Applicable	Not Applicable	Not Applicable
Nitrogen	Not Applicable	Not Applicable	Not Applicable
Organic Nitrogen	Not Applicable	Not Applicable	Not Applicable
Total Kjeldahl Nitrogen	Not Applicable	Not Applicable	Not Applicable
Other Analytes			
Fixed Solids	Not Applicable	Not Applicable	Not Applicable
Paint Filter Test	Not Applicable	Not Applicable	Not Applicable
pH	Not Applicable	Not Applicable	Not Applicable
Specific Oxygen Uptake Rate	Not Applicable	Not Applicable	Not Applicable
TCLP	Not Applicable	Not Applicable	Not Applicable
Temperature	Not Applicable	Not Applicable	Not Applicable
Total Solids	Not Applicable	Not Applicable	Not Applicable
Volatile Solids	Not applicable	Not applicable	Not applicable
No Analytical Methods Used	Not applicable	Not applicable	Not applicable

2017 Land Application Sites – Land Applier Avra Gro Systems, Inc.; Preparer Pima County Tres Rios WRF														
Application Site / Location	Field ID	Amount of Biosolids Applied (in dry tons)	Preparer	Pathogen Treatment Method	Vector Attraction Reduction Method	Loading Rate	Nitrogen Conc. (Organic + ammonium)	Type of Crop Grown After Application	Agronomic Rate of Crop Grown	The Cumulative Concentration of Pollutants (kilograms per hectare) in Soil				
1. Kai Farms Marana, AZ	JK-7	67.2	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	.35	12.1	Barley	250	As=.6699	Cd=.2977	Cr=4.1319	Cu=54.6258	Pb=4.0726
										Hg=.1605	Mo=1.3616	Ni=2.4576	Se=.5408	Zn=109.417
2. Kai Farms Marana, AZ	JK-9	441.75	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	2.59	100.5	Pasture Grass	1000	As=.4569	Cd=.1706	Cr=2.7544	Cu=31.0335	Pb=2.3393
										Hg=.1028	Mo=.7841	Ni=.1.4355	Se=.3633	Zn=61.592
3. Kai Farms Marana, AZ	JK-13	359.5	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	2.33	101.3	Cotton	360	As=1.1837	Cd=.4354	Cr=6.3409	Cu=70.8576	Pb=4.5938
										Hg=.2435	Mo=2.5768	Ni=3.6368	Se=.8489	Zn=127.9928
4. Kai Farms Marana, AZ	JK-14	147.16	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	1.04	22.7	Cotton	360	As=.9726	Cd=.4064	Cr=5.8809	Cu=69.3182	Pb=4.9681
										Hg=.2325	Mo=2.5449	Ni=3.2327	Se=.6095	Zn=138.2322
5. Kai Farms Marana, AZ	JK-15	**218.31**	**Pima County TRES RIOS WRF**	Class B, Alt 5	Option 1	.99	42.16	Wheat	360	As=.8728	Cd=.3364	Cr=4.3412	Cu=52.0307	Pb=3.384
										Hg=.1953	Mo=1.8968	Ni=2.7726	Se=.7533	Zn=95.1975
6.Kai Farms Marana, AZ	JK-16	**304.5**	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	5.88	262.2	Wheat	360	As=.9248	Cd=.3532	Cr=4.635	Cu=58.6469	Pb=3.8567
										Hg=.1491	Mo=1.6204	Ni=2.7974	Se=.6514	Zn=98.1276

2017 Land Application Sites – Land Applier Avra Gro Systems, Inc.; Preparer Pima County Tres Rios WRF														
Application Site / Location	Field ID	Amount of Biosolids Applied (in dry tons)	Preparer	Pathogen Treatment Method	Vector Attraction Reduction Method	Loading Rate	Nitrogen Conc. (Organic + ammonium)	Type of Crop Grown After Application	Agronomic Rate of Crop Grown	The Cumulative Concentration of Pollutants (kilograms per hectare) in Soil				
7. Kai Farms Marana, AZ	JK-26	1564.27	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	6.74	276.7	Cottton	360	As=.7139	Cd=.3002	Cr=4.9223	Cu=52.4306	Pb=3.3124
										Hg=.1469	Mo=1.7036	Ni=3.0137	Se=.6543	Zn=98.369
8. Kai Farms Marana, AZ	JK-27	729.16	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	3.94	154.23	Cotton	360	As=.8439	Cd=.3361	Cr=4.3431	Cu=55.5154	Pb=3.761
										Hg=.1456	Mo=1.5153	Ni=2.6112	Se=.6025	Zn=92.4753
9. Kai Farms Marana, AZ	JK-28	688.38	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	3.28	121.5	Cotton	360	As=.4403	Cd=.22	Cr=3.3423	Cu=37.0259	Pb=3.1905
										Hg=.1122	Mo=.9069	Ni=1.7896	Se=.3571	Zn=60.7655
10. Kai Farms Marana, AZ	JK-29	197.76	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	1.28	42.3	Cotton	360	As=1.245	Cd=.444	Cr=6.5586	Cu=73.3013	Pb=4.674
										Hg=.2501	Mo=2.6623	Ni=3.7622	Se=.9042	Zn=132.1364
11. Kai Farms Marana, AZ	JK-30	262.09	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	1.77	58.3	Cotton	360	As=.8616	Cd=.3684	Cr=5.3075	Cu=65.0183	Pb=4.4955
										Hg=.1926	Mo=2.1506	Ni=3.0226	Se=.6788	Zn=121.64
	JK-41	1664.31	Pima County	Class B, Alt 5	Option 1	6.4	251.0	Wheat	360	As=.3649	Cd=.1524	Cr=1.2313	Cu=15.2442	Pb=.8135

2017 Land Application Sites – Land Applier Avra Gro Systems, Inc.; Preparer Pima County Tres Rios WRF

Application Site / Location	Field ID	Amount of Biosolids Applied (in dry tons)	Preparer	Pathogen Treatment Method	Vector Attraction Reduction Method	Loading Rate	Nitrogen Conc. (Organic + ammonium)	Type of Crop Grown After Application	Agronomic Rate of Crop Grown	The Cumulative Concentration of Pollutants (kilograms per hectare) in Soil				
12. Kai Farms Marana, AZ			TRES RIOS WRF							Hg=.1057	Mo=.9266	Ni=.8076	Se=.3633	Zn=28.5462
13. Kai Farms Marana, AZ	JK-42	516.09	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	1.58	62.42	Wheat	360	As=.5647	Cd=.1752	Cr=3.0231	Cu=31.5039	Pb=2.0733
										Hg=.1002	Mo=1.0666	Ni=1.4685	Se=.4494	Zn=57.6777
14. T&T Farms Marana, AZ	GL-1	386.11	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	1.89	69.9	Cotton	360	As=.6026	Cd=.2866	Cr=4.4477	Cu=47.1852	Pb=4.4477
										Hg=.1606	Mo=1.3396	Ni=2.3351	Se=.4541	Zn=81.6474
15. Lim Farms Marana, AZ	LIM-1	316.43	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	1.86	74.12	Cotton	360	As=.6925	Cd=.2539	Cr=5.3041	Cu=48.4947	Pb=2.9971
										Hg=.154	Mo=1.4278	Ni=2.4402	Se=.6206	Zn=99.9769
16. Lim Farms Marana, AZ	LIM-2	524.16	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	7.71	167.9	Cotton	360	As=1.208	Cd=.5312	Cr=7.4681	Cu=89.5763	Pb=6.5916
										Hg=.2731	Mo=2.9655	Ni=4.7597	Se=1.0855	Zn=184.9055
17. Pima County Farms Marana, AZ	Pima-1	213.4	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	.66	23.6	Pasture	1000	As=1.1491	Cd=.4038	Cr=5.9328	Cu=79.9091	Pb=4.8419
										Hg=.2644	Mo=2.898	Ni=3.798	Se=.9669	Zn=152.2514

2017 Land Application Sites – Land Applier Avra Gro Systems, Inc.; Preparer Pima County Tres Rios WRF														
Application Site / Location	Field ID	Amount of Biosolids Applied (in dry tons)	Preparer	Pathogen Treatment Method	Vector Attraction Reduction Method	Loading Rate	Nitrogen Conc. (Organic + ammonium)	Type of Crop Grown After Application	Agronomic Rate of Crop Grown	The Cumulative Concentration of Pollutants (kilograms per hectare) in Soil				
18. LDS-Postville Farms Marana, AZ	LIM-1	839.84	Pima County TRES RIOS WRF	Class B, Alt 5	Option 1	6.73	243.8	Wheat	360	As=.1183	Cd=.0269	Cr=.4371	Cu=4.664	Pb=.1536
										Hg=.0054	Mo=.1459	Ni=.256	Se=.0976	Zn=8.6031

SECTION 2

PREPARATION OF BIOSOLIDS

TRES RIOS WRF AZPDES NO. AZ0020001

VECTOR ATTRACTION REDUCTION

A.A.C. RULE 18.9.1010.A.1

PATHOGEN REDUCTION

A.A.C. RULE 18.9.1006.E ALTERNATIVE 5

POLLUTANT CONCENTRATION

A.A.C. RULE 18.9.1005 METALS

ANNUAL BIOSOLIDS REPORT 2017

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ANNUAL BIOSOLIDS REPORT 2017

REGIONAL WATER
RECLAMATION DEPARTMENT

TREATMENT DIVISION

PIMA COUNTY
TUCSON, ARIZONA

PIMA COUNTY
WASTEWATER RECLAMATION

VECTOR ATTRACTION REDUCTION - LAND APPLICATION
ALTERNATIVE 1 IN 40 CFR 503.33(b)(1)
R18-9-1010-A.1

Facility Name: Pima County Regional Biosolids Management Facility
Address: 7101 North Casa Grande Highway
Tucson, Arizona 85743

Facility Owner's Name: Pima County Regional Wastewater Reclamation Department
Address: 201 North Stone Avenue
Tucson, Arizona 85701

Monitoring Period: From 01/01/17 Through 12/31/17

Reporting Period: From 01/01/17 Through 12/31/17

AZPDES Permit Number: AZ0020001 Sludge Permit Number: N/A

Facility Latitude: 32° 20' 06" N Facility Longitude: 111°04' 16" W

Site Map Attached? ☐ Yes ☒ No

Tres Rios WRF receives and treats the sludge from both Agua Nueva WRF and Tres Rios WRF. The floated sludge from the DAF clarifier and the waste activated sludge (WAS) at Agua Nueva WRF, and the WAS from Tres Rios WRF are mixed in a WAS tank at Tres Rios WRF. The mixed sludge from the WAS tank at Tres Rios WRF is thickened in the Gravity Belt Thickeners (GBT) complex. The primary sludge from Tres Rios WRF is thickened in the Gravity Thickeners (GT) complex at Tres Rios WRF. The thickened sludge is pumped from both the GBT complex and the GT complex into heated mesophilic digesters, part of the Regional Biosolids Management Facility (RBMF) located at Tres Rios WRF. The vector attraction reduction is achieved in the digesters at the RBMF located at Tres Rios WRF. The WAS from Avra Valley WRF, Green Valley WRF, Corona de Tucson WRF and Mt. Lemmon WRF are sometimes combined into the WAS mixing tank at Tres Rios WRF. The digested sludge is pumped to the Centrifuge Building at the RBMF for either thickening or dewatering. After moisture reduction, the biosolids are pumped into the temporary Biosolids Transfer Bladder. From the Biosolids Transfer Bladder, the land application contractor removes the biosolids for application as soil amendment and fertilizer on local area farms.

The vector attraction reduction is achieved in the digesters at the RBMF located at Tres Rios RBMF using Alternative 1 [40 CFR 503.33(b)(1)] Method, equivalently R18-9-1010-A.1; the latter states: "Reducing the mass of volatile solids by a minimum of 38% using the calculation procedures established in "Environmental Regulations and Technology—Control of Pathogens and Vector Attraction in Sewage Sludge," EPA/625/R-92-013, published by the U.S. Environmental Protection Agency, Cincinnati, Ohio 45268, 1999 Edition." To demonstrate the achievement of this requirement, biosolids data from Tres Rios WRF is provided. Table 1 reports Volatile Solids Reduction (%) at the Tres Rios WRF.

TABLE 1 - MONTHLY AVERAGE VOLATILE SOLIDS REDUCTION (%) AT TRES RIOS WRF

TRES RIOS WRF YEAR 2017	VOLATILE SOLIDS REDUCTION (%) Alternative 1 [40 CFR 503.33(b)(1)] Method 1 R18-9-1010-A.1											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Digester #1	46	42	41	41	O/S	O/S	O/S	45	56	50	55	48
Digester #2	51	51	44	47	44	47	38	45	56	52	57	O/S
Digester #3	48	46	41	44	47	47	38	47	56	50	57	48
Digester #4	O/S	O/S	O/S	47	44	44	38	47	56	50	55	48
Digester #5	46	46	41	44	44	44	34	45	56	50	55	48
Digester #6	48	48	47	44	44	47	34	45	56	50	55	48

O/S - Digesters #1, #2 and #4 were taken out of service during parts of 2017 for cleaning and maintenance

The mass of volatile solids of the Tres Rios WRF biosolids was reduced by at least 38 percent.

The volatile solids reduction in digesters #5 and #6 dropped to 34% in July 2017; Pima County ceased discharge from the two digesters, notified ADEQ and coordinated with the land applier Avra Gro Systems Inc.. The land applier implemented procedures 9 and 10 of R18-9-1010 to attain the volatile solids reduction until the percent solids recovered to greater or equal to 38%. The decrease in the volatile solids reduction in July was due to higher volume of primary solids at lower solids content pumped into the digesters. Pima County conducted daily sampling and analysis to monitor the progress of the volatile solids reduction recovery. The improvement in the primary solids pumped into the digesters brought the percent volatile reduction above 38%.in August. The volatile solids reduction during the rest of the year was greater than 38% for the plant.

The thickening to 7% and the dewatering to 15% is provided at the Regional Biosolids Management Facility, part of Tres Rios WRF. The thickened and the dewatered Cake are hauled daily. Pima County practices no storage of Biosolids. The Biosolids are routinely applied to the land within 48 hours of discharge from the digesters. The volatile solids reduction is measured at least two times per week at each digester.

CERTIFICATION [503.17 (a)(4)(i)(B)], equivalently R18-9-1013

I certify, under penalty of law, that the information that will be used to determine compliance with the vector attraction reduction requirement in § 503.33(b)(1), equivalently R18-9-1010-A.1, was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

Name and Official Title (type or print)	Area Code and Phone
John W. Sherlock, Deputy Director Treatment Division Regional Wastewater Reclamation Department	(520) 724-6100
Signature	Date Signed 2-16-18

PATHOGEN REDUCTION - CLASS B
ALTERNATIVE 2 IN 40 CFR 503.32(b)(3)
R18-9-1006-E ALTERNATIVE 5

Facility Name: Pima County Regional Biosolids Management Facility
Address: 7101 North Casa Grande Highway
Tucson, Arizona 85743

Facility Owner's Name: Pima County Regional Wastewater Reclamation Department
Address: 201 North Stone Avenue
Tucson, Arizona 85701

Monitoring Period: From 01/01/17 Through 12/31/17

Reporting Period: From 01/01/17 Through 12/31/17

AZDES Permit Number: AZ0020001 Sludge Permit Number: N/A

Facility Latitude: 32° 20' 06" N Facility Longitude: 111° 04' 16" W

Site Map Attached? ☐ Yes ☒ No

Tres Rios WRF receives and treats the sludge from both Agua Nueva WRF and Tres Rios WRF. The floated sludge from the DAF clarifier and the waste activated sludge (WAS) at Agua Nueva WRF, and the WAS from Tres Rios WRF are mixed in a WAS tank at Tres Rios WRF. The mixed sludge from the WAS tank at Tres Rios WRF is thickened in the Gravity Belt Thickeners (GBT) complex. The primary sludge from Tres Rios WRF is thickened in the Gravity Thickeners (GT) complex at Tres Rios WRF. The thickened sludge is pumped from both the GBT complex and the GT complex into heated mesophilic digesters, part of the Regional Biosolids Management Facility (RBMF) located at Tres Rios WRF. The pathogen reduction is achieved in the digesters at the RBMF located at Tres Rios WRF. The WAS from Avra Valley WRF, Green Valley WRF, Corona de Tucson WRF and Mt. Lemmon WRF are sometimes combined into the WAS mixing tank at Tres Rios WRF. The digested sludge is pumped to the Centrifuge Building at the RBMF for either thickening or dewatering. After moisture reduction, the biosolids are pumped into the temporary Biosolids Transfer Bladder. From the Biosolids Transfer Bladder, the land application contractor removes the biosolids for application as soil amendment and fertilizer on local area farms.

Pathogen reduction is achieved at the Tres Rios treatment plant prior to transfer to the Regional Biosolids Management Facility through the use of Class B, Alternative 2 [40 CFR 503.32(b)(3) Appendix B, No. 3] Methods, equivalently R18-9-1006-E Alternative 5. Pathogen reduction is accomplished by the anaerobic digestion process to achieve a residence time of greater than 15 days at a minimum temperature of 35°C. To demonstrate the achievement of the requirements under this alternative, biosolids data from Tres Rios WRF is provided in Tables 2 and 3.

The temperature in each digester was greater than or equal to 35°C and the detention time always exceeded 15 days, at Tres Rios WRF. The biosolids are treated in the absence of air for a specific mean cell residence time at a specific temperature between 15 days at 35°C to 55°C and 60 days at 20°C. The operating temperature of the digester is measured at a frequency of at least two (2) times per day. For this reporting period, the average detention time and digester operating temperature are as follows:

TABLE 2 - AVERAGE DIGESTER DETENTION TIME AT TRES RIOS WRF

TRES RIOS WRF YEAR 2017	AVERAGE DETENTION TIME (Days) 40 CFR 503.32(b)(3); R18-9-1006-E ALTERNATIVE 5											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Digester #1	21.3	20.0	18.7	33.7	O/S	O/S	O/S	26.3	30.1	30.6	24.4	19.9
Digester #2	40.3	36.2	36.5	28.3	22.6	23.5	24.1	20.3	24.5	24.6	21.7	O/S
Digester #3	21.4	19.1	19.4	20.5	22.3	23.5	25.5	25.5	30.5	30.2	20.9	17.9
Digester #4	O/S	O/S	O/S	40.2	22.2	23.1	26.0	24.8	28.6	29.1	23.9	21.0
Digester #5	30.1	30.8	25.0	25.8	26.6	26.5	28.7	46.6	40.8	40.3	32.1	28.1
Digester #6	30.8	31.3	29.5	28.7	30.5	32.1	31.0	40.8	40.9	38.1	33.6	26.9

O/S - Digesters #1, #2 and #4 were taken out of service during parts of 2017 for cleaning and maintenance

TABLE 3 - AVERAGE DIGESTER OPERATING TEMPERATURE AT TRES RIOS WRF

TRES RIOS WRF YEAR 2017	AVERAGE TEMPERATURE (°C) 40 CFR 503.32(b)(3); R18-9-1006-E ALTERNATIVE 5											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Digester #1	35.50	35.33	35.44	36.28	O/S	O/S	O/S	36.67	36.72	36.44	36.33	36.06
Digester #2	36.22	35.78	36.44	36.39	35.94	36.50	36.89	36.17	36.72	36.28	36.61	O/S
Digester #3	35.39	35.61	36.28	36.11	35.61	36.28	36.44	36.67	36.83	36.72	36.33	36.61
Digester #4	O/S	O/S	O/S	36.33	36.44	36.72	36.50	36.61	36.78	36.89	36.61	36.89
Digester #5	36.56	36.56	36.89	36.17	36.33	36.61	36.89	37.00	36.83	37.00	36.61	36.17
Digester #6	36.33	36.61	36.67	36.33	36.17	36.56	37.00	36.72	36.89	37.06	37.11	36.78

O/S - Digesters #1, #2 and #4 were taken out of service during parts of 2017 for cleaning and maintenance

CERTIFICATION [503.17 (a)(4)(i)(B)] , equivalently R18-9-1013

I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in § 503.32(b)(3), equivalently R18-9-1006-E Alternative 5, was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

Name and Official Title (type or print)	Area Code and Phone
John W. Sherlock, Deputy Director Treatment Division Regional Wastewater Reclamation Department	(520) 724-6100
Signature	Date Signed 2-16-18

NITROGEN IN BIOSOLIDS

Combined biosolids generated from the Tres Rios is analyzed for Total Nitrogen. Table 4 displays the analyses results of samples collected from the combined biosolids generated from both reclamation facilities.

TABLE 4 - 2017 Summary Nitrogen Concentration, Units mg/Kg

Rule 18 Chapter 9 Article 10 Section 1007

	Ammonia Nitrogen	Nitrate/Nitrite	Nitrite	Total Kjeldahl Nitrogen	Total Nitrogen
Analysis Method	EPA 350.1	EPA 353.2	SM4500-NO2	EPA 351.2	Calculated
Mean	10,103	3.16	2.82	67,500	67,503
Max	15,800	18.79	14.00	80,295	80,297
Min	7,390	0.29	0.88	57,090	57,091

TABLE 5 – MONTHLY NITROGEN CONCENTRATION IN THE BIOSOLIDS, mg/Kg; 2017

YEAR 2017	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec
Ammonia Nitrogen	8,510	11,300	9,710	13,900	9,360	8,420	11,800	15,800	8,320	8,000	8,720	7,390
Nitrate/ Nitrite	1.61	1.24	0.64	18.79	0.77	3.57	2.29	2.55	0.29	1.37	2.08	2.70
Nitrite	1.00	0.88	0.92	14.00	0.88	4.12	1.54	3.08	1.09	1.57	1.19	3.57
Total Kjeldahl Nitrogen	71,660	63,504	66,123	63,303	71,933	74,982	80,295	65,976	61,560	57,090	65,910	67,658
Nitrogen, Total	71,661	63,506	66,124	63,322	71,934	74,986	80,297	65,978	61,561	57,091	65,912	67,661

TABLE 6 - 2017 BIOSOLIDS METALS CONCENTRATION, UNITS mg/Kg

METALS IN BIOSOLIDS PRODUCED AT PIMA COUNTY RBMF, 2017

	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn
Regulatory Requirement, [mg/kg]										
40 CFR, 503.13 Table 1	75	85	3000	4300	840	57	75	420	100	7500
40 CFR, 503.13 Table 3	41	39	N/A *(a)*	1500	300	17	N/A	420	100	2800
R18-9-1005, Table 1	75	85	3000	4300	840	57	75	420	100	7500
R18-9-1005, Table 2	41	39	N/A	1500	300	17	N/A	420	100	2800
Compilation Code *(b)*	12 / 0 / 0	12 / 0 / 0	12 / 0 / 0	12 / 0 / 0	12 / 0 / 0	12 / 0 / 0	12 / 0 / 0	12 / 0 / 0	12 / 0 / 0	12 / 0 / 0
Measured Concentration, [mg/kg]										
	As	**Cd**	**Cr**	**Cu**	**Pb**	**Hg**	**Mo**	**Ni**	**Se**	**Zn**
January-2017	< 15.1	< 6.1	24.0	364	<15.12	0.9	12.5	19.5	30.2	676
February-2017	< 11.8	< 4.7	19.9	303	<11.80	0.8	9.68	16.2	23.6	556
March-2017	< 10.9	< 4.4	22.4	323	11.1	0.58	8.54	19.9	21.8	586
April-2017	< 12.6	< 5.1	29.1	347	16.6	1.63	11.9	21	25.3	680
May-2017	< 12.7	< 5.1	27.3	378	19.9	0.73	10.3	19.2	25.4	676
June-2017	< 17.8	< 6.9	29.5	437	<17.32	0.65	12.2	21.5	34.7	705
July-2017	< 12.9	< 5.2	34.8	472	15.5	0.81	13.1	22.8	25.8	812
August-2017	< 9.6	< 3.9	29.5	423	18.9	0.8	13.3	20.6	19.3	741
September-2017	< 9.7	< 3.9	28.2	430	15.4	0.65	13.7	23.3	19.3	767
October-2017	< 11.7	< 4.7	28.1	428	14.9	0.85	12.5	19.8	23.4	766
November-2017	< 13.5	< 5.4	33	411	<13.52	0.71	13.5	20.6	27.1	758
December-2017	< 12.1	< 4.9	33.8	370	14.7	0.69	12.1	18.5	24.3	679
ANNUAL AVERAGE	**< 12.5**	**< 5.0**	**28.3**	**391**	**< 15.9**	**0.82**	**11.9**	**20.2**	**< 25.0**	**700**
ANNUAL MAXIMUM	**< 17.8**	**< 6.9**	**34.8**	**472**	**19.9**	**1.63**	**13.7**	**23.3**	**< 34.7**	**812**
	As	**Cd**	**Cr**	**Cu**	**Pb**	**Hg**	**Mo**	**Ni**	**Se**	**Zn**

TABLE 7 - DIGESTER OPERATING PARAMETERS, 2017

OPERATING PARAMETERS (c) OF DIGESTERS AT TRES RIOS WRF, 2017

	VOLATILE SOLIDS REDUCTION (%)			DETENTION TIME (Days)			TEMPERATURE (°C)		
Regulatory Requirements	**38%, (d)**			**15 Days, (e)**			**35 - 55 (°C), (e)**		
Measured Parameters	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min
Digester #1	56	47	41	34	25	19	37.1	36.7	35.8
Digester #2	57	48	38	40	28	20	37.4	36.9	36.3
Digester #3	57	47	38	31	23	18	37	36.7	35.7
Digester #4	56	48	38	40	27	21	37	36.7	35.7
Digester #5	56	46	34	47	32	25	37.3	36.8	36.2
Digester #6	56	47	34	41	33	27	37.1	36.8	36.3

(a) N/A means Not Applicable

(b) The data compilation code represents: Number of samples / number of samples above R18-9-1005, Table 1 / number of samples above R18-9-1005, Table 2
The data compilation code represents: Number of samples / number of samples above 40 CFR, 503.13 Table 1 / number of samples above 40 CFR, 503.13 Table 3

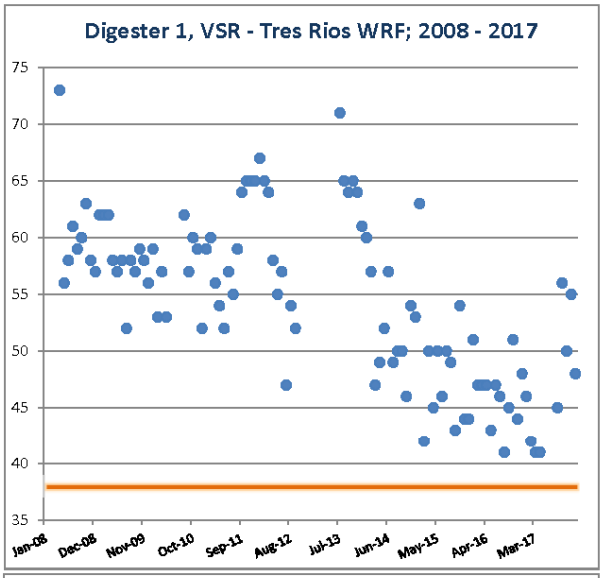
(c) Summary statistics derived from the monthly average results presented in this report

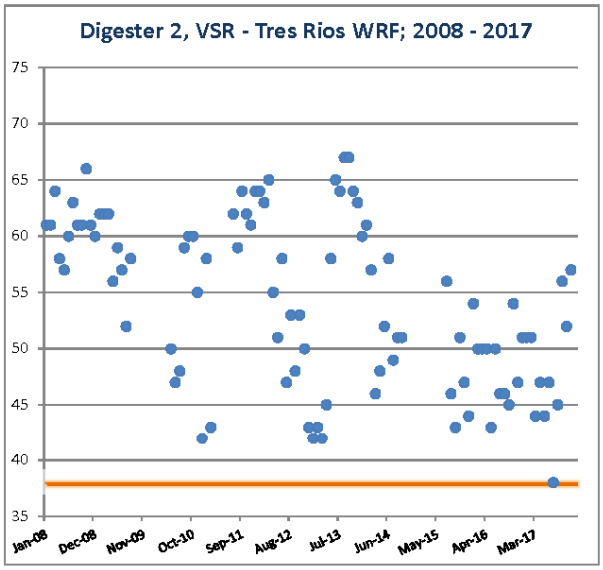
(d) R18-9-1010-A.1; 40 CFR 503.33(b)(1)

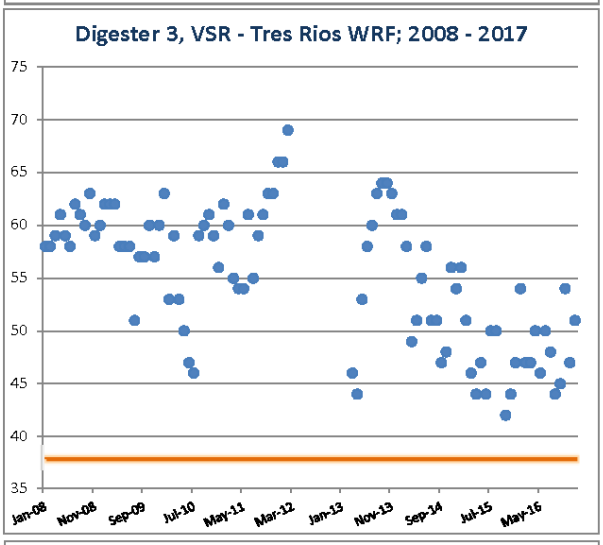
(e) R18-9-1006-E Alternative 5; 40 CFR 503.32(b)(3) Appendix B, No. 3

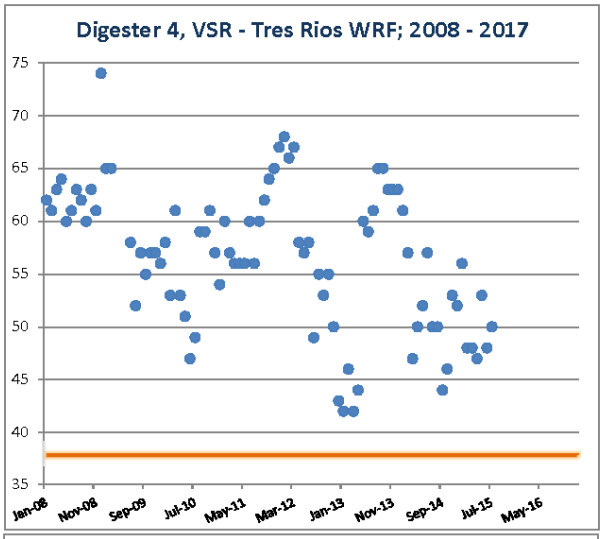
(f) O/S – Out of Service, Cleaning and Repair

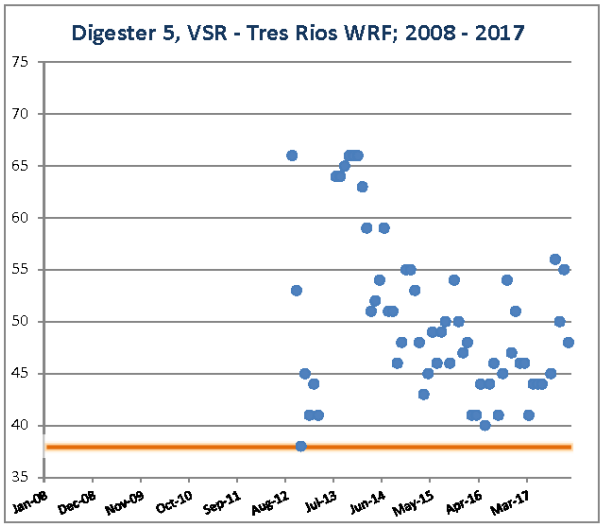
VOLATILE SOLIDS REDUCTION, DIGESTERS
TRES RIOS WRF; 2008 - 2017

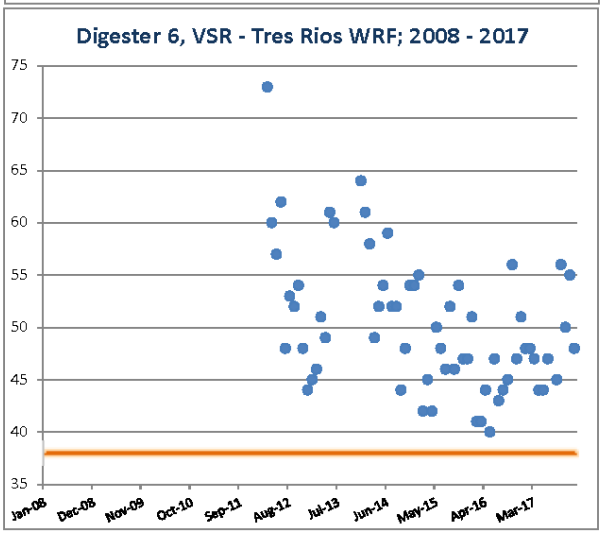




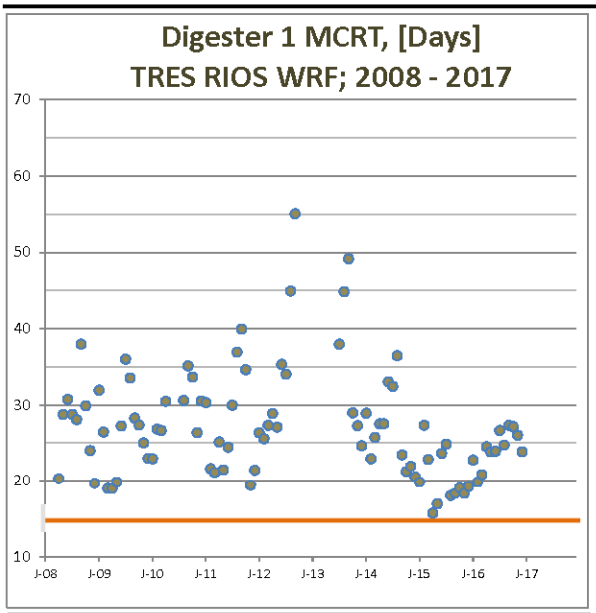


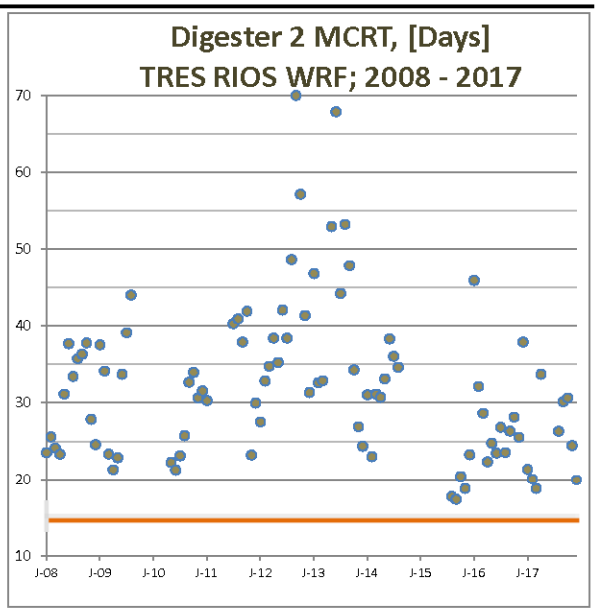


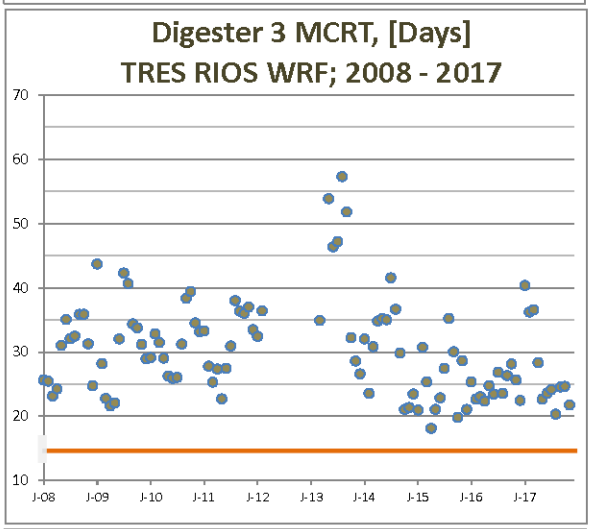


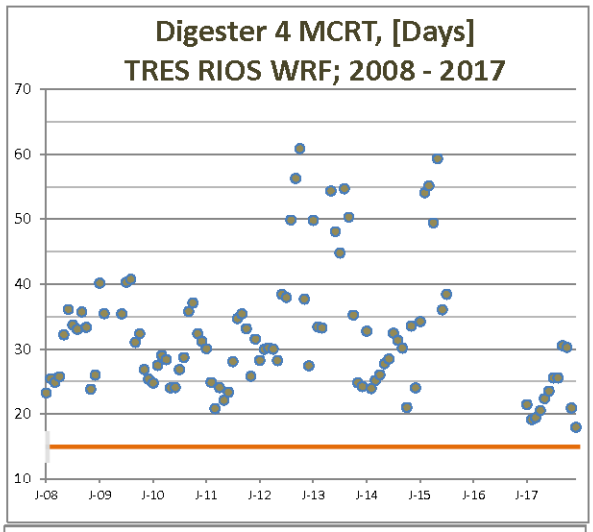


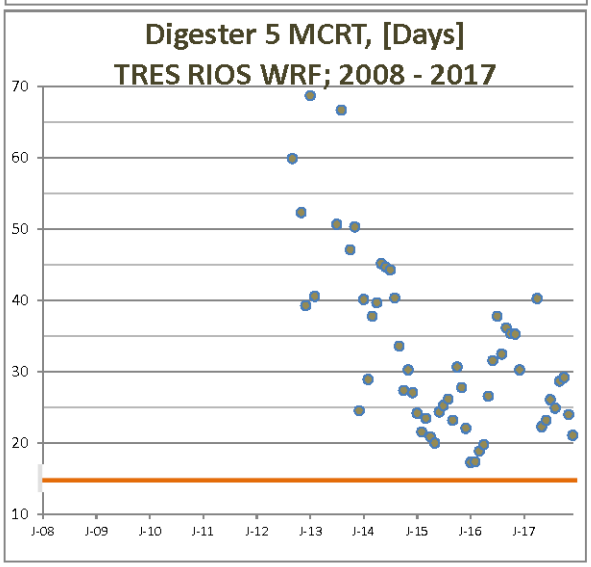
MCRT [DAYS], DIGESTERS
TRES RIOS WRF; 2008 - 2017

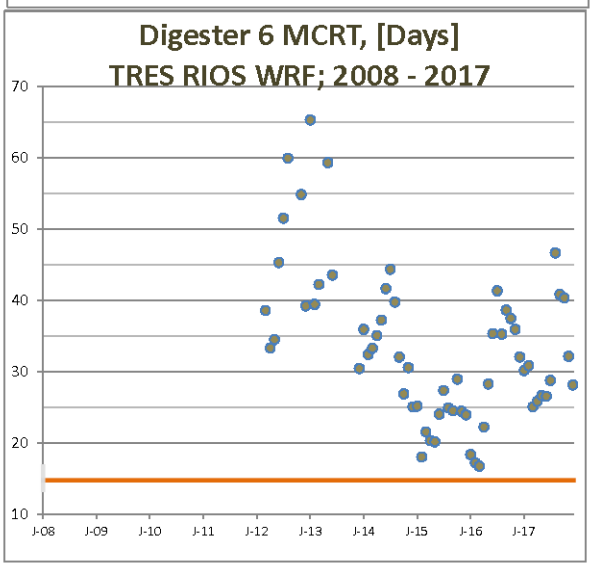




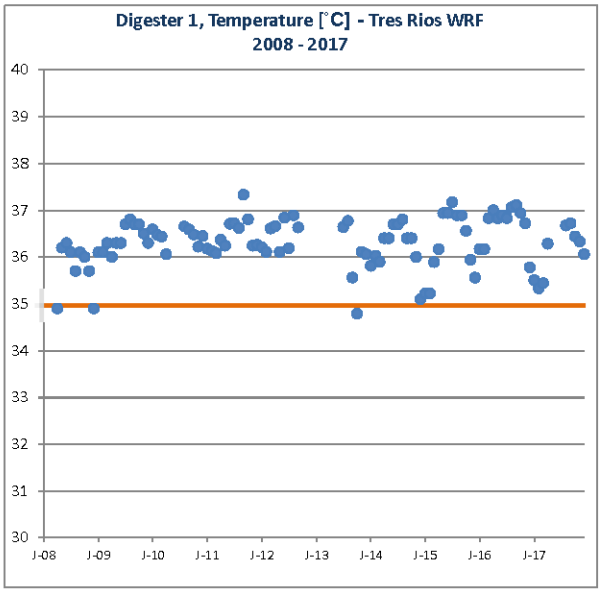


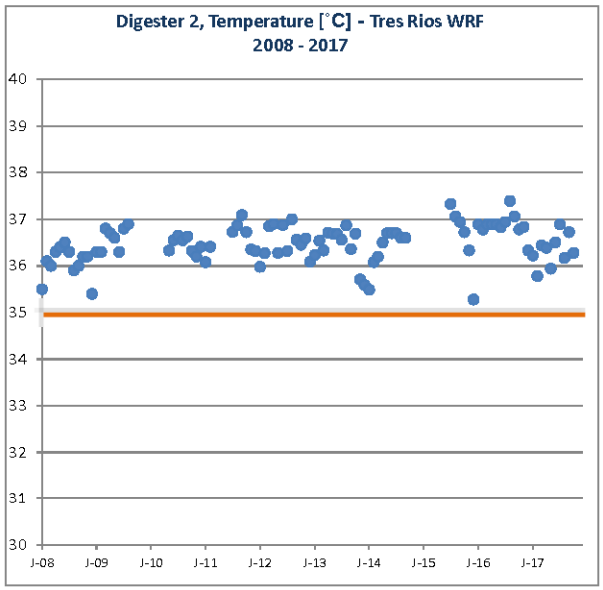


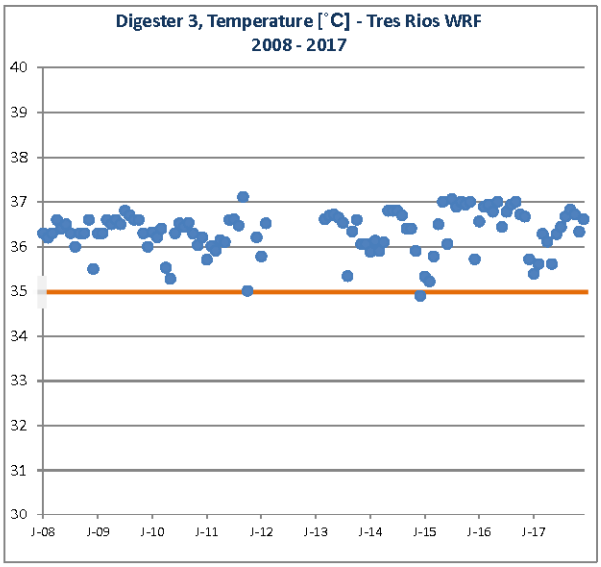


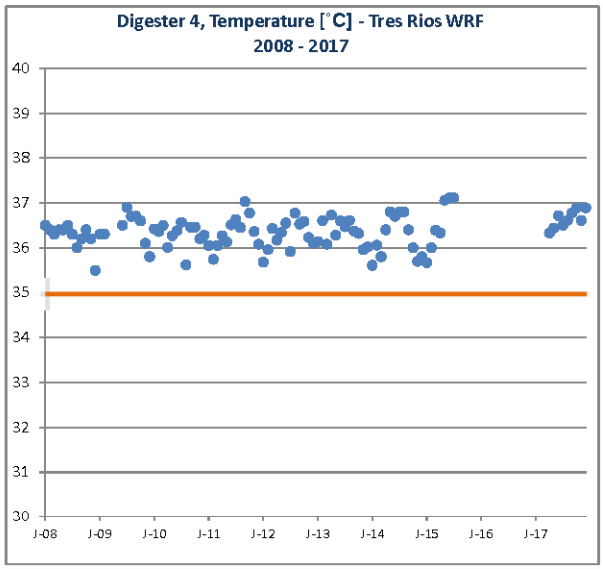


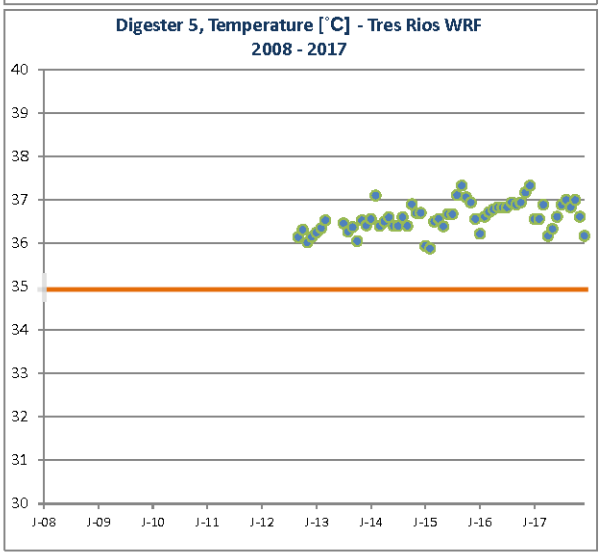
TEMPERATURE [°C], DIGESTERS; 2008 - 2017
TRES RIOS WRF; PIMA COUNTY RWRD - PIMA COUNTY, ARIZONA

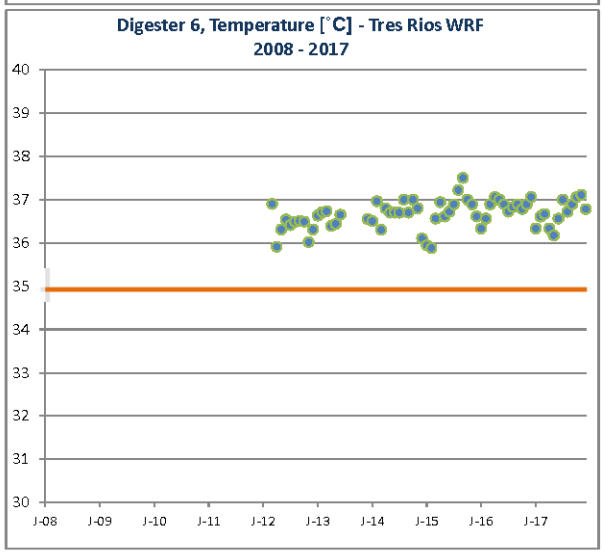


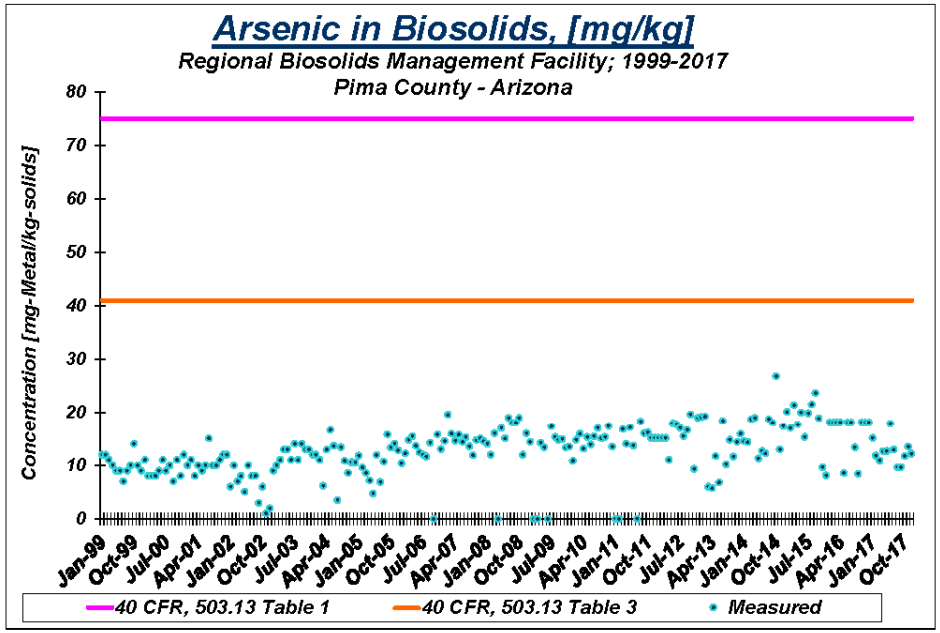


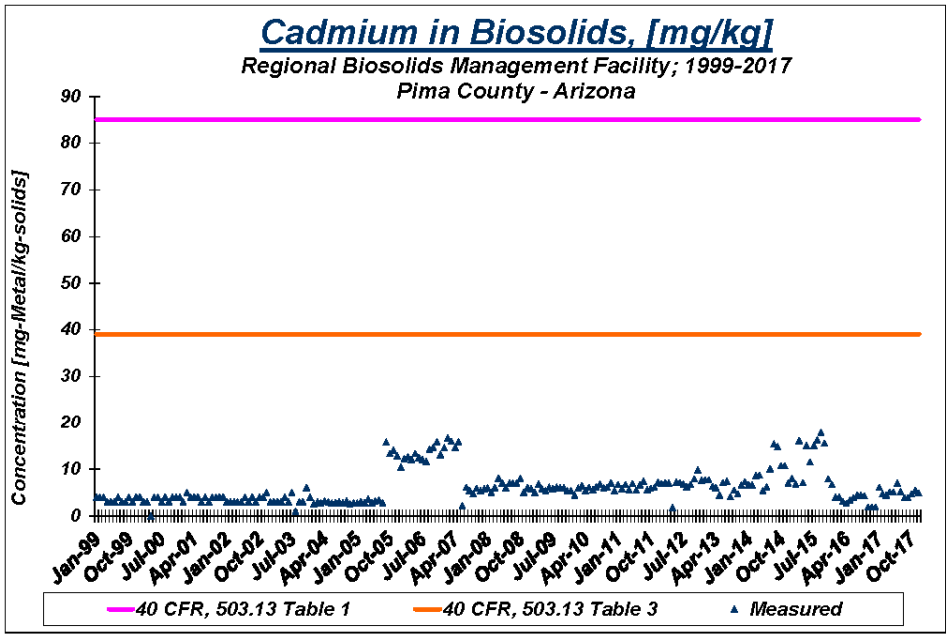


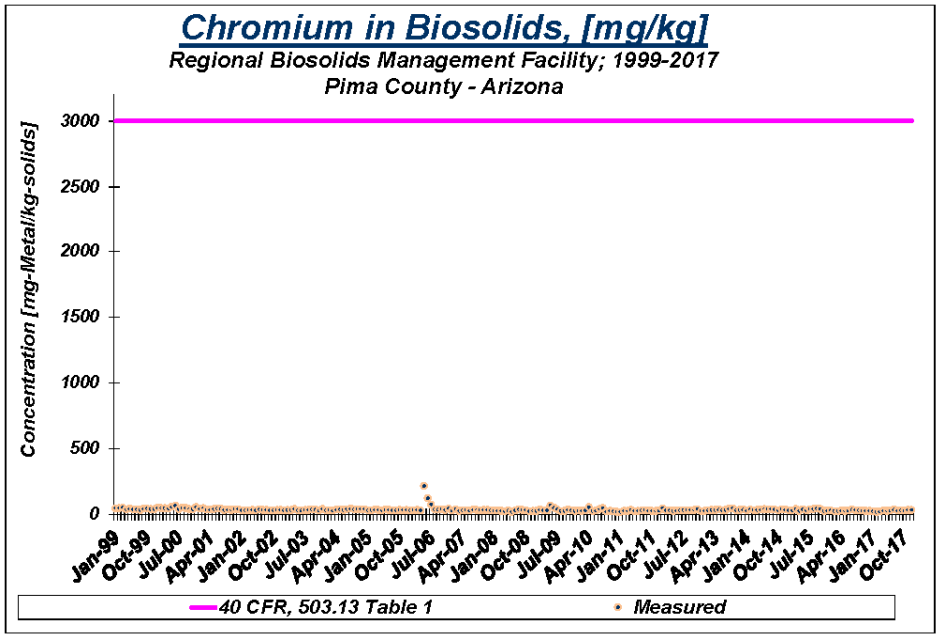


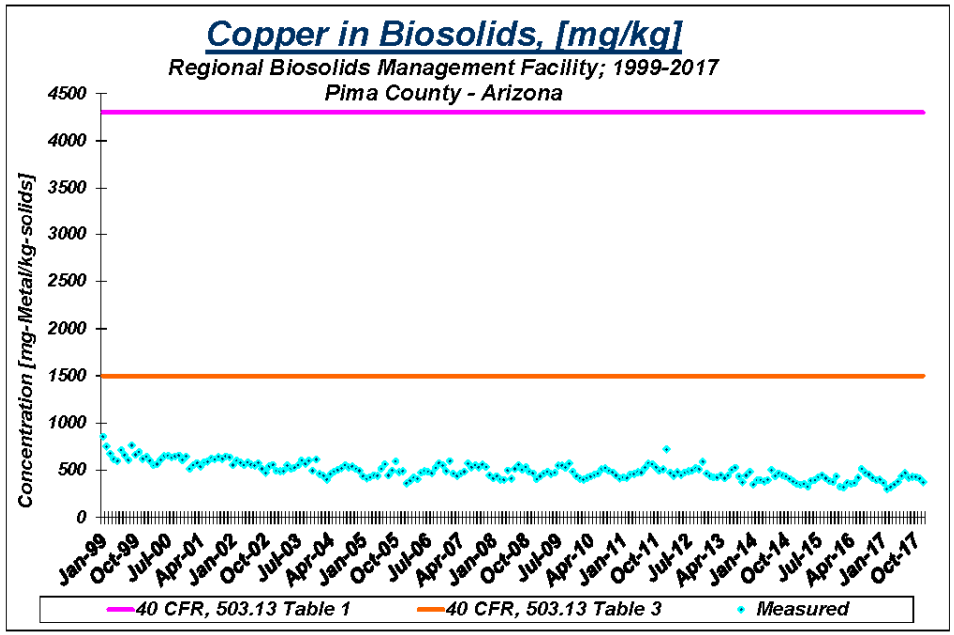


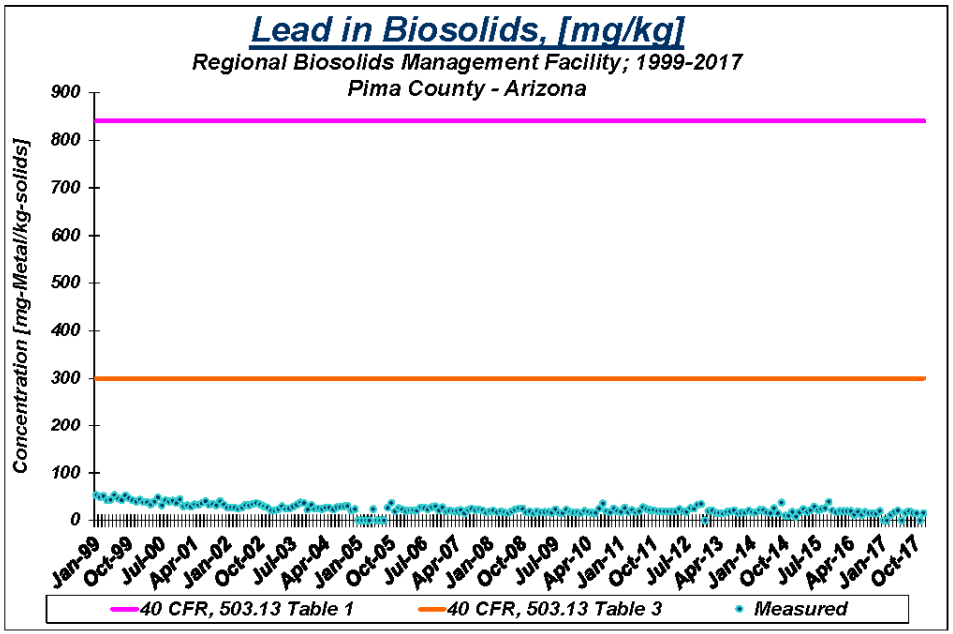


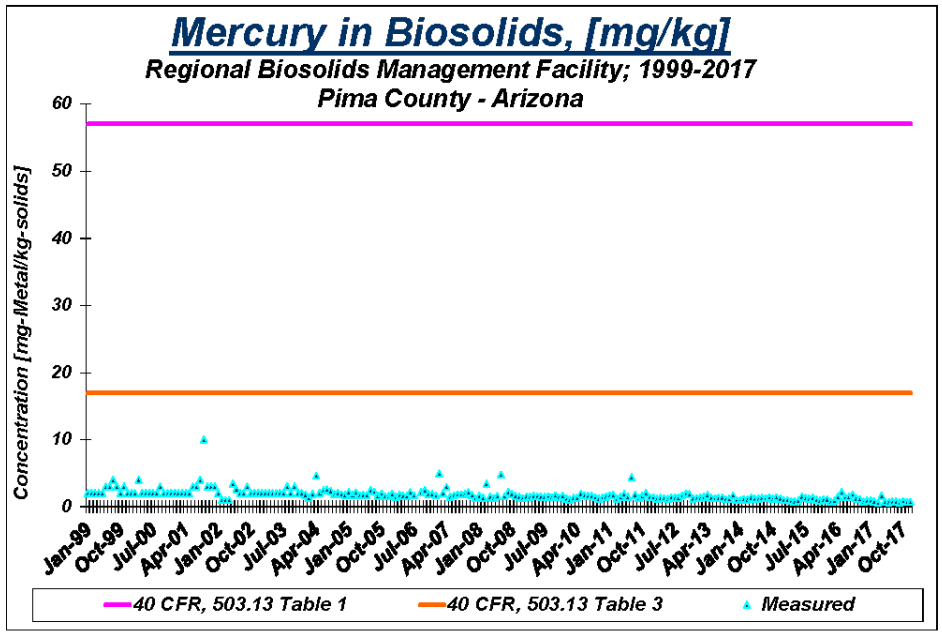

Arsenic in Biosolids, [mg/kg]
Regional Biosolids Management Facility; 1999-2017
Pima County - Arizona
Concentration [mg-Metal/kg-solids]
40 CFR, 503.13 Table 1
40 CFR, 503.13 Table 3
Measured

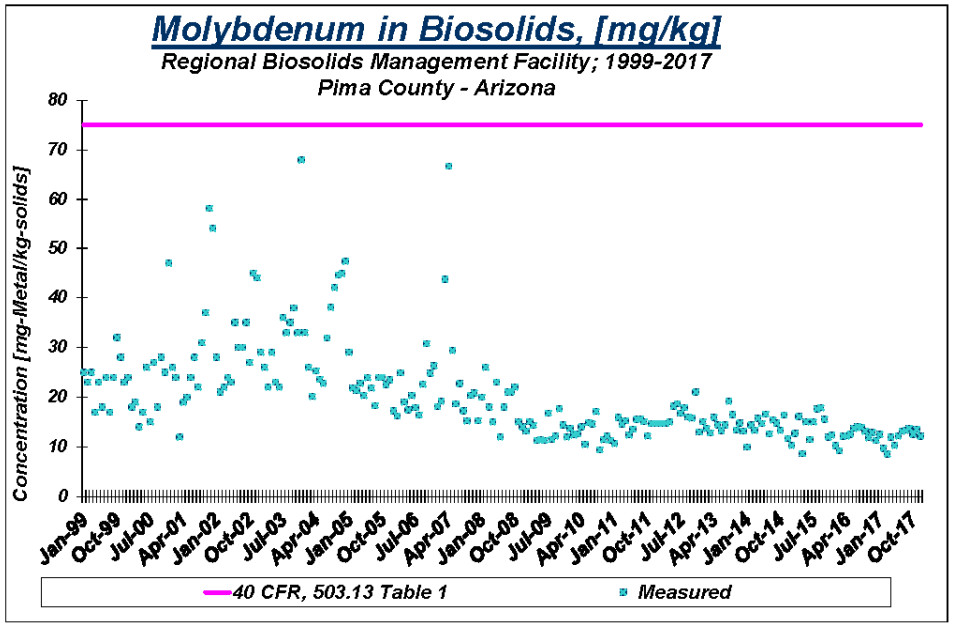

Cadmium in Biosolids, [mg/kg]
Regional Biosolids Management Facility; 1999-2017
Pima County - Arizona
Concentration [mg-Metal/kg-solids]
40 CFR, 503.13 Table 1
40 CFR, 503.13 Table 3
Measured

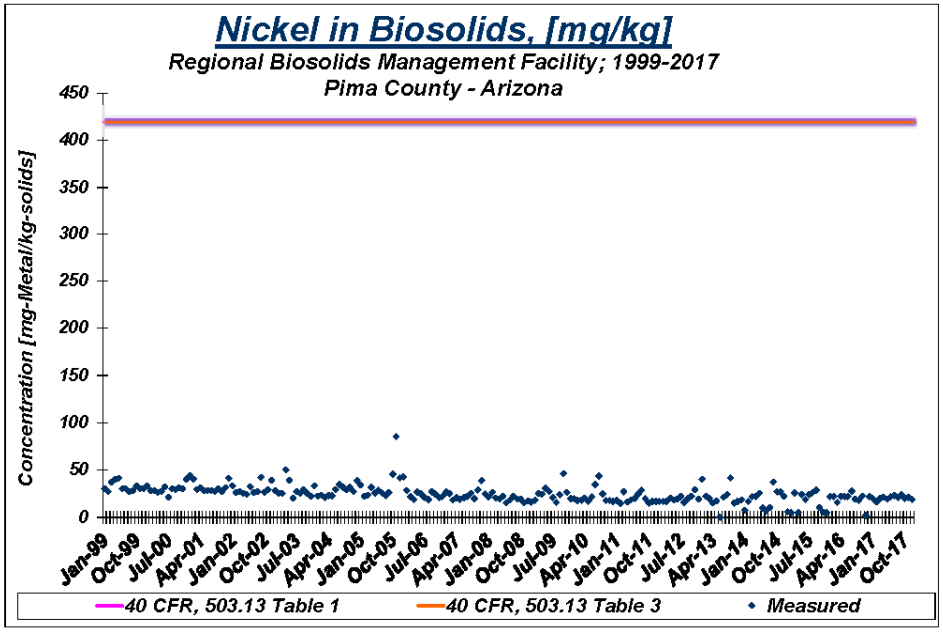

Chromium in Biosolids, [mg/kg]
Regional Biosolids Management Facility; 1999-2017
Pima County - Arizona
Concentration [mg-Metal/kg-solids]
40 CFR, 503.13 Table 1
Measured

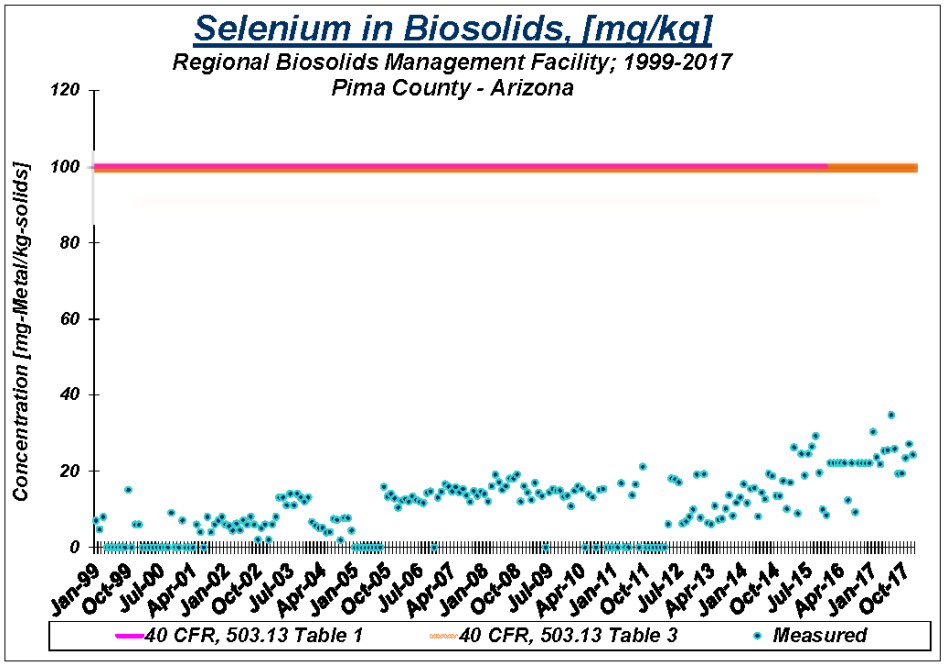

Copper in Biosolids, [mg/kg]
Regional Biosolids Management Facility; 1999-2017
Pima County - Arizona
Concentration [mg-Metal/kg-solids]
40 CFR, 503.13 Table 1
40 CFR, 503.13 Table 3
Measured


Lead in Biosolids, [mg/kg]
Regional Biosolids Management Facility; 1999-2017
Pima County - Arizona
Concentration [mg-Metal/kg-solids]
40 CFR, 503.13 Table 1
40 CFR, 503.13 Table 3
Measured


Mercury in Biosolids, [mg/kg]
Regional Biosolids Management Facility; 1999-2017
Pima County - Arizona
Concentration [mg-Metal/kg-solids]
40 CFR, 503.13 Table 1
40 CFR, 503.13 Table 3
Measured


Molybdenum in Biosolids, [mg/kg]
Regional Biosolids Management Facility; 1999-2017
Pima County - Arizona
Concentration [mg-Metal/kg-solids]
40 CFR, 503.13 Table 1
Measured


Nickel in Biosolids, [mg/kg]
Regional Biosolids Management Facility; 1999-2017
Pima County - Arizona
Concentration [mg-Metal/kg-solids]
40 CFR, 503.13 Table 1
40 CFR, 503.13 Table 3
Measured


Selenium in Biosolids, [mg/kg]
Regional Biosolids Management Facility; 1999-2017
Pima County - Arizona
Concentration [mg-Metal/kg-solids]
120
100
80
60
40
20
0
Jan-99
Oct-99
Jul-00
Apr-01
Jan-02
Oct-02
Jul-03
Apr-04
Jan-05
Oct-05
Jul-06
Apr-07
Jan-08
Oct-08
Jul-09
Apr-10
Jan-11
Oct-11
Jul-12
Apr-13
Jan-14
Oct-14
Jul-15
Apr-16
Jan-17
Oct-17
40 CFR, 503.13 Table 1
40 CFR, 503.13 Table 3
Measured

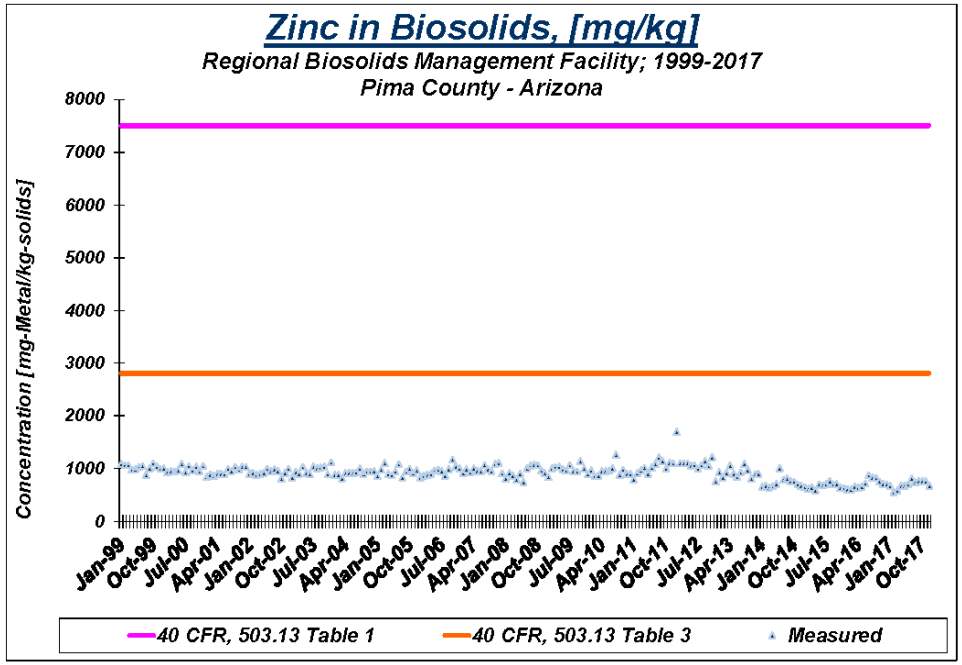

Zinc in Biosolids, [mg/kg]
Regional Biosolids Management Facility; 1999-2017
Pima County - Arizona
Concentration [mg-Metal/kg-solids]
8000
7000
6000
5000
4000
3000
2000
1000
0
Jan-99
Oct-99
Jul-00
Apr-01
Jan-02
Oct-02
Jul-03
Apr-04
Jan-05
Oct-05
Jul-06
Apr-07
Jan-08
Oct-08
Jul-09
Apr-10
Jan-11
Oct-11
Jul-12
Apr-13
Jan-14
Oct-14
Jul-15
Apr-16
Jan-17
Oct-17
40 CFR, 503.13 Table 1
40 CFR, 503.13 Table 3
Measured

TABLE 8 - LAND APPLICATION POLLUTANT LIMITS

1. Name and Address of Facility: Regional Biosolids Management Facility, 7101 North Casa Grande Highway, Tucson, Arizona 85743-9577
   Facility Contact: John W. Sherlock, Deputy Director
   Phone: (520) 724-6100
2. Name and Address of Facility Owner: Pima County Regional Wastewater Reclamation Department, 201 North Stone, Tucson, Arizona 85701
3. Monitoring Period: January 1, 2017 through January 31, 2017
4. AZPDES Permit Number: AZ0020001
5. Sludge Permit Number: N/A

Parameter	Regulatory Requireme		Pollutant Concentration (dry weight) Average		Units	Frequency of	Sample Type (Discrete or	Analytical Method
Arsenic	R18-9-1005	Sample	<15.12		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	75	41	mg/kg	1/60 days		
Cadmium	R18-9-1005	Sample	<6.05		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 / Table 2	85	39	mg/kg	1/60 days		
Chromium	R18-9-1005	Sample	24.0		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1	3000		mg/kg	1/60 days		
Copper	R18-9-1005	Sample	364		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	4300	1500	mg/kg	1/60 days		
Lead	R18-9-1005	Sample	<15.12		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	840	300	mg/kg	1/60 days		
Mercury	R18-9-1005	Sample	0.900		mg/kg	1/31 days	Composite	EPA 7471B
	40 CFR 503.13	Table / Table 2	57	17	mg/kg	1/60 days		
Molybdenum	R18-9-1005	Sample	12.5		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1	75		mg/kg	1/60 days		
Nickel	R18-9-1005	Sample	19.5		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	420	420	mg/kg	1/60 days		
Selenium	R18-9-1005	Sample	<30.24		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	100	100	mg/kg	1/60 days		
Zinc	R18-9-1005	Sample	676		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 / Table 2	7500	3100	mg/kg	1/60 days		

R18-9-1005 Table 2 is equivalent to 40 CFR 503.13 Table 3

6. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information submitted, it is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Name and Official Title (type or print) John W. Sherlock, Deputy Director	Area Code and Phone (520) 724-6100
Signature	Date Signed 2-16-18

TABLE 9 - LAND APPLICATION POLLUTANT LIMITS

1. Name and Address of Facility: Regional Biosolids Management Facility, 7101 North Casa Grande Highway, Tucson, Arizona 85743-9577
   Facility Contact: John W. Sherlock, Deputy Director
   Phone: (520) 724-6100
2. Name and Address of Facility Owner: Pima County Regional Wastewater Reclamation Department, 201 North Stone, Tucson, Arizona 85701
3. Monitoring Period: February 1, 2017 through February 28, 2017
4. AZPDES Permit Number: AZ0020001
5. Sludge Permit Number: N/A

Parameter	Regulatory Requireme		Pollutant Concentration (dry weight) Average		Units	Frequency of	Sample Type (Discrete or	Analytical Method
Arsenic	R18-9-1005 40 CFR 503.13	Sample	<11.80		mg/kg	1/28 days	Composite	EPA 6010D
		Table / Table 2	75	41	mg/kg	1/60 days		
Cadmium	R18-9-1005 40 CFR 503.13	Sample	<4.72		mg/kg	1/28 days	Composite	EPA 6010D
		Table 1 / Table 2	85	39	mg/kg	1/60 days		
Chromium	R18-9-1005	Sample	19.9		mg/kg	1/28 days	Composite	EPA 6010D
		Table 1	3000		mg/kg	1/60 days		
Copper	R18-9-1005 40 CFR 503.13	Sample	303		mg/kg	1/28 days	Composite	EPA 6010D
		Table / Table 2	4300	1500	mg/kg	1/60 days		
Lead	R18-9-1005 40 CFR 503.13	Sample	<11.80		mg/kg	1/28 days	Composite	EPA 6010D
		Table / Table 2	840	300	mg/kg	1/60 days		
Mercury	R18-9-1005 40 CFR 503.13	Sample	0.80		mg/kg	1/28 days	Composite	EPA 7471B
		Table / Table 2	57	17	mg/kg	1/60 days		
Molybdenum	R18-9-1005 40 CFR 503.13	Sample	9.68		mg/kg	1/28 days	Composite	EPA 6010D
		Table 1	75		mg/kg	1/60 days		
Nickel	R18-9-1005 40 CFR 503.13	Sample	16.2		mg/kg	1/28 days	Composite	EPA 6010D
		Table / Table 2	420	420	mg/kg	1/60 days		
Selenium	R18-9-1005 40 CFR 503.13	Sample	<23.61		mg/kg	1/28 days	Composite	EPA 6010D
		Table / Table 2	100	100	mg/kg	1/60 days		
Zinc	R18-9-1005 40 CFR 503.13	Sample	556		mg/kg	1/28 days	Composite	EPA 6010D
		Table 1 / Table 2	7500	3100	mg/kg	1/60 days		

R18-9-1005 Table 2 is equivalent to 40 CFR 503.13 Table 3

6. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information submitted, it is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Name and Official Title (type or print) John W. Sherlock, Deputy Director	Area Code and Phone (520) 724-6100
Signature	Date Signed 2-16-18

TABLE 10 - LAND APPLICATION POLLUTANT LIMITS

1. Name and Address of Facility: Regional Biosolids Management Facility
7101 North Casa Grande Highway
Tucson, Arizona 85743-9577
Facility Contact: John W. Sherlock, Deputy Director
Phone: (520) 724-6100

2. Name and Address of Facility Owner: Pima County Regional Wastewater Reclamation Department
201 North Stone, Tucson, Arizona 85701
3. Monitoring Period: March 1, 2017 through March 31, 2017
4. AZPDES Permit Number: AZ0020001
5. Sludge Permit Number: N/A

Parameter	Regulatory Requireme		Pollutant Concentration (dry weight) Average		Units	Frequency of	Sample Type (Discrete or	Analytical Method
Arsenic	R18-9-1005 40 CFR 503.13	Sample	<10.89		mg/kg	1/31 days	Composite	EPA 6010D
		Table Table 2	75	41	mg/kg	1/60 days		
Cadmium	R18-9-1005 40 CFR 503.13	Sample	<4.36		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1 Table 2	85	39	mg/kg	1/60 days		
Chromium	R18-9-1005	Sample	22.4		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1	3000		mg/kg	1/60 days		
Copper	R18-9-1005 40 CFR 503.13	Sample	323		mg/kg	1/31 days	Composite	EPA 6010D
		Table Table 2	4300	1500	mg/kg	1/60 days		
Lead	R18-9-1005 40 CFR 503.13	Sample	11.1		mg/kg	1/31 days	Composite	EPA 6010D
		Table Table 2	840	300	mg/kg	1/60 days		
Mercury	R18-9-1005 40 CFR 503.13	Sample	0.58		mg/kg	1/31 days	Composite	EPA 7471B
		Table Table 2	57	17	mg/kg	1/60 days		
Molybdenum	R18-9-1005 40 CFR 503.13	Sample	8.54		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1	75		mg/kg	1/60 days		
Nickel	R18-9-1005 40 CFR 503.13	Sample	19.9		mg/kg	1/31 days	Composite	EPA 6010D
		Table Table 2	420	420	mg/kg	1/60 days		
Selenium	R18-9-1005 40 CFR 503.13	Sample	<21.78		mg/kg	1/31 days	Composite	EPA 6010D
		Table Table 2	100	100	mg/kg	1/60 days		
Zinc	R18-9-1005 40 CFR 503.13	Sample	586		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1 Table 2	7500	3100	mg/kg	1/60 days		

R18-9-1005 Table 2 is equivalent to 40 CFR 503.13 Table 3

6. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information submitted, it is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Name and Official Title (type or print) John W. Sherlock, Deputy Director	Area Code and Phone (520) 724-6100
Signature	Date Signed 2-16-18

TABLE 11 - LAND APPLICATION POLLUTANT LIMITS

1. Name and Address of Facility: Regional Biosolids Management Facility
7101 North Casa Grande Highway
Tucson, Arizona 85743-9577
Facility Contact: John W. Sherlock, Deputy Director
Phone: (520) 724-6100

2. Name and Address of Facility Owner: Pima County Regional Wastewater Reclamation Department
201 North Stone, Tucson, Arizona 85701
3. Monitoring Period: April 1, 2017 through April 30, 2017
4. AZPDES Permit Number: AZ0020001
5. Sludge Permit Number: N/A

Parameter	Regulatory Requireme		Pollutant Concentration (dry weight) Average		Units	Frequency of	Sample Type (Discrete or	Analytical Method
Arsenic	R18-9-1005	Sample	<12.64		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	75	41	mg/kg	1/60 days		
Cadmium	R18-9-1005	Sample	<5.06		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 / Table 2	85	39	mg/kg	1/60 days		
Chromium	R18-9-1005	Sample	29.1		mg/kg	1/30 days	Composite	EPA 6010D
		Table 1	3000		mg/kg	1/60 days		
Copper	R18-9-1005	Sample	347		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	4300	1500	mg/kg	1/60 days		
Lead	R18-9-1005	Sample	16.6		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	840	300	mg/kg	1/60 days		
Mercury	R18-9-1005	Sample	1.63		mg/kg	1/30 days	Composite	EPA 7471B
	40 CFR 503.13	Table / Table 2	57	17	mg/kg	1/60 days		
Molybdenum	R18-9-1005	Sample	11.9		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1	75		mg/kg	1/60 days		
Nickel	R18-9-1005	Sample	21.0		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	420	420	mg/kg	1/60 days		
Selenium	R18-9-1005	Sample	<25.28		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	100	100	mg/kg	1/60 days		
Zinc	R18-9-1005	Sample	680		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 / Table 2	7500	3100	mg/kg	1/60 days		

R18-9-1005 Table 2 is equivalent to 40 CFR 503.13 Table 3

6. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information submitted, it is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Name and Official Title (type or print) John W. Sherlock, Deputy Director	Area Code and Phone (520) 724-6100
Signature	Date Signed 2-16-18

TABLE 12 - LAND APPLICATION POLLUTANT LIMITS

1. Name and Address of Facility: Regional Biosolids Management Facility
7101 North Casa Grande Highway
Tucson, Arizona 85743-9577
Facility Contact: John W. Sherlock, Deputy Director
Phone: (520) 724-6100

2. Name and Address of Facility Owner: Pima County Regional Wastewater Reclamation Department
201 North Stone, Tucson, Arizona 85701
3. Monitoring Period: May 1, 2017 through May 31, 2017
4. AZPDES Permit Number: AZ0020001
5. Sludge Permit Number: N/A

Parameter	Regulatory Requireme		Pollutant Concentration (dry weight) Average		Units	Frequency of	Sample Type (Discrete or	Analytical Method
Arsenic	R18-9-1005 40 CFR 503.13	Sample	<12.70		mg/kg	1/31 days	Composite	EPA 6010D
		Table / Table 2	75	41	mg/kg	1/60 days		
Cadmium	R18-9-1005 40 CFR 503.13	Sample	<5.08		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1 / Table 2	85	39	mg/kg	1/60 days		
Chromium	R18-9-1005	Sample	27.3		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1	3000		mg/kg	1/60 days		
Copper	R18-9-1005 40 CFR 503.13	Sample	378		mg/kg	1/31 days	Composite	EPA 6010D
		Table / Table 2	4300	1500	mg/kg	1/60 days		
Lead	R18-9-1005 40 CFR 503.13	Sample	19.9		mg/kg	1/31 days	Composite	EPA 6010D
		Table / Table 2	840	300	mg/kg	1/60 days		
Mercury	R18-9-1005 40 CFR 503.13	Sample	0.73		mg/kg	1/31 days	Composite	EPA 7471B
		Table / Table 2	57	17	mg/kg	1/60 days		
Molybdenum	R18-9-1005 40 CFR 503.13	Sample	10.3		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1	75		mg/kg	1/60 days		
Nickel	R18-9-1005 40 CFR 503.13	Sample	19.2		mg/kg	1/31 days	Composite	EPA 6010D
		Table / Table 2	420	420	mg/kg	1/60 days		
Selenium	R18-9-1005 40 CFR 503.13	Sample	<25.41		mg/kg	1/31 days	Composite	EPA 6010D
		Table / Table 2	100	100	mg/kg	1/60 days		
Zinc	R18-9-1005 40 CFR 503.13	Sample	676		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1 / Table 2	7500	3100	mg/kg	1/60 days		

R18-9-1005 Table 2 is equivalent to 40 CFR 503.13 Table 3

6. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information submitted, it is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Name and Official Title (type or print) John W. Sherlock, Deputy Director	Area Code and Phone (520) 724-6100
Signature	Date Signed 2-16-18

TABLE 13 - LAND APPLICATION POLLUTANT LIMITS

1. Name and Address of Facility: Regional Biosolids Management Facility
7101 North Casa Grande Highway
Tucson, Arizona 85743-9577
Facility Contact: John W. Sherlock, Deputy Director
Phone: (520) 724-6100

2. Name and Address of Facility Owner: Pima County Regional Wastewater Reclamation Department
201 North Stone, Tucson, Arizona 85701
3. Monitoring Period: June 1, 2017 through June 30, 2017
4. AZPDES Permit Number: AZ0020001
5. Sludge Permit Number: N/A

Parameter	Regulatory Requirement		Pollutant Concentration (dry weight) Average		Units	Frequency of	Sample Type (Discrete or	Analytical Method
Arsenic	R18-9-1005	Sample	<17.32		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	75	41	mg/kg	1/60 days		
Cadmium	R18-9-1005	Sample	<6.93		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 / Table 2	85	39	mg/kg	1/60 days		
Chromium	R18-9-1005	Sample	29.5		mg/kg	1/30 days	Composite	EPA 6010D
		Table 1	3000		mg/kg	1/60 days		
Copper	R18-9-1005	Sample	437		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	4300	1500	mg/kg	1/60 days		
Lead	R18-9-1005	Sample	<17.32		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	840	300	mg/kg	1/60 days		
Mercury	R18-9-1005	Sample	0.65		mg/kg	1/30 days	Composite	EPA 7471B
	40 CFR 503.13	Table / Table 2	57	17	mg/kg	1/60 days		
Molybdenum	R18-9-1005	Sample	12.2		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1	75		mg/kg	1/60 days		
Nickel	R18-9-1005	Sample	21.5		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	420	420	mg/kg	1/60 days		
Selenium	R18-9-1005	Sample	<34.65		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table / Table 2	100	100	mg/kg	1/60 days		
Zinc	R18-9-1005	Sample	705		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 / Table 2	7500	3100	mg/kg	1/60 days		

R18-9-1005 Table 2 is equivalent to 40 CFR 503.13 Table 3

6. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information submitted, it is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Name and Official Title (type or print) John W. Sherlock, Deputy Director	Area Code and Phone (520) 724-6100
Signature	Date Signed 2-16-18

TABLE 14 - LAND APPLICATION POLLUTANT LIMITS

1. Name and Address of Facility: Regional Biosolids Management Facility
7101 North Casa Grande Highway
Tucson, Arizona 85743-9577
Facility Contact: John W. Sherlock, Deputy Director
Phone: (520) 724-6100

2. Name and Address of Facility Owner: Pima County Regional Wastewater Reclamation Department
201 North Stone, Tucson, Arizona 85701
3. Monitoring Period: July 1, 2017 through July 31, 2017
4. AZPDES Permit Number: AZ0020001
5. Sludge Permit Number: N/A

Parameter	Regulatory Requirement		Pollutant Concentration (dry weight) Average		Units	Frequency of	Sample Type (Discrete or	Analytical Method
Arsenic	R18-9-1005	Sample	<12.89		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table	Table 2					
		75	41		mg/kg	1/60 days		
Cadmium	R18-9-1005	Sample	<5.16		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1	Table 2					
		85	39		mg/kg	1/60 days		
Chromium	R18-9-1005	Sample	34.8		mg/kg	1/30 days	Composite	EPA 6010D
		Table 1						
		3000			mg/kg	1/60 days		
Copper	R18-9-1005	Sample	472		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table	Table 2					
		4300	1500		mg/kg	1/60 days		
Lead	R18-9-1005	Sample	15.5		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table	Table 2					
		840	300		mg/kg	1/60 days		
Mercury	R18-9-1005	Sample	0.81		mg/kg	1/30 days	Composite	EPA 7471B
	40 CFR 503.13	Table	Table 2					
		57	17		mg/kg	1/60 days		
Molybdenum	R18-9-1005	Sample	13.1		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1						
		75			mg/kg	1/60 days		
Nickel	R18-9-1005	Sample	22.8		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table	Table 2					
		420	420		mg/kg	1/60 days		
Selenium	R18-9-1005	Sample	<25.79		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table	Table 2					
		100	100		mg/kg	1/60 days		
Zinc	R18-9-1005	Sample	812		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1	Table 2					
		7500	3100		mg/kg	1/60 days		

R18-9-1005 Table 2 is equivalent to 40 CFR 503.13 Table 3

6. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information submitted, it is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Name and Official Title (type or print) John W. Sherlock, Deputy Director	Area Code and Phone (520) 724-6100
Signature	Date Signed 2-16-18

TABLE 15 - LAND APPLICATION POLLUTANT LIMITS

1. Name and Address of Facility: Regional Biosolids Management Facility
7101 North Casa Grande Highway
Tucson, Arizona 85743-9577
Facility Contact: John W. Sherlock, Deputy Director
Phone: (520) 724-6100

2. Name and Address of Facility Owner: Pima County Regional Wastewater Reclamation Department
201 North Stone, Tucson, Arizona 85701
3. Monitoring Period: August 1, 2017 through August 31, 2017
4. AZPDES Permit Number: AZ0020001
5. Sludge Permit Number: N/A

Parameter	Regulatory Requireme		Pollutant Concentration (dry weight) Average		Units	Frequency of	Sample Type (Discrete or	Analytical Method
Arsenic	R18-9-1005	Sample	<9.63		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 / Table 2	75	41	mg/kg	1/60 days		
Cadmium	R18-9-1005	Sample	<3.85		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 / Table 2	85	39	mg/kg	1/60 days		
Chromium	R18-9-1005	Sample	29.5		mg/kg	1/30 days	Composite	EPA 6010D
		Table 1	3000		mg/kg	1/60 days		
Copper	R18-9-1005	Sample	423		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 / Table 2	4300	1500	mg/kg	1/60 days		
Lead	R18-9-1005	Sample	18.9		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 / Table 2	840	300	mg/kg	1/60 days		
Mercury	R18-9-1005	Sample	0.80		mg/kg	1/30 days	Composite	EPA 7471B
	40 CFR 503.13	Table 1 / Table 2	57	17	mg/kg	1/60 days		
Molybdenum	R18-9-1005	Sample	13.3		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1	75		mg/kg	1/60 days		
Nickel	R18-9-1005	Sample	20.6		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 / Table 2	420	420	mg/kg	1/60 days		
Selenium	R18-9-1005	Sample	<19.25		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 / Table 2	100	100	mg/kg	1/60 days		
Zinc	R18-9-1005	Sample	741		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 / Table 2	7500	3100	mg/kg	1/60 days		

R18-9-1005 Table 2 is equivalent to 40 CFR 503.13 Table 3

6. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information submitted, it is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Name and Official Title (type or print) John W. Sherlock, Deputy Director	Area Code and Phone (520) 724-6100
Signature	Date Signed 2-16-18

TABLE 16 - LAND APPLICATION POLLUTANT LIMITS

1. Name and Address of Facility: Regional Biosolids Management Facility
7101 North Casa Grande Highway
Tucson, Arizona 85743-9577
Facility Contact: John W. Sherlock, Deputy Director
Phone: (520) 724-6100

2. Name and Address of Facility Owner: Pima County Regional Wastewater Reclamation Department
201 North Stone, Tucson, Arizona 85701
3. Monitoring Period: September 1, 2017 through September 30, 2017
4. AZPDES Permit Number: AZ0020001
5. Sludge Permit Number: N/A

Parameter	Regulatory Requirement		Pollutant Concentration (dry weight) Average		Units	Frequency of	Sample Type (Discrete or	Analytical Method
Arsenic	R18-9-1005	Sample	<9.66		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table	Table 2	75	41	mg/kg	1/60 days	
Cadmium	R18-9-1005	Sample	<3.86		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1	Table 2	85	39	mg/kg	1/60 days	
Chromium	R18-9-1005	Sample	28.2		mg/kg	1/30 days	Composite	EPA 6010D
		Table 1		3000		mg/kg	1/60 days	
Copper	R18-9-1005	Sample	430		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table	Table 2	4300	1500	mg/kg	1/60 days	
Lead	R18-9-1005	Sample	15.4		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table	Table 2	840	300	mg/kg	1/60 days	
Mercury	R18-9-1005	Sample	0.65		mg/kg	1/30 days	Composite	EPA 7471B
	40 CFR 503.13	Table	Table 2	57	17	mg/kg	1/60 days	
Molybdenum	R18-9-1005	Sample	13.7		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1		75		mg/kg	1/60 days	
Nickel	R18-9-1005	Sample	23.3		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table	Table 2	420	420	mg/kg	1/60 days	
Selenium	R18-9-1005	Sample	<19.32		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table	Table 2	100	100	mg/kg	1/60 days	
Zinc	R18-9-1005	Sample	767		mg/kg	1/30 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1	Table 2	7500	3100	mg/kg	1/60 days	

R18-9-1005 Table 2 is equivalent to 40 CFR 503.13 Table 3

6. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information submitted, it is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Name and Official Title (type or print) John W. Sherlock, Deputy Director	Area Code and Phone (520) 724-6100
Signature	Date Signed 2-16-18

TABLE 17 - LAND APPLICATION POLLUTANT LIMITS

1. Name and Address of Facility: Regional Biosolids Management Facility
7101 North Casa Grande Highway
Tucson, Arizona 85743-9577
Facility Contact: John W. Sherlock, Deputy Director
Phone: (520) 724-6100

2. Name and Address of Facility Owner: Pima County Regional Wastewater Reclamation Department
201 North Stone, Tucson, Arizona 85701
3. Monitoring Period: October 1, 2017 through October 31, 2017
4. AZPDES Permit Number: AZ0020001
5. Sludge Permit Number: N/A

Parameter	Regulatory Requireme		Pollutant Concentration (dry weight) Average		Units	Frequency of	Sample Type (Discrete or	Analytical Method
Arsenic	R18-9-1005	Sample	<11.68		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table Table 2	75	41	mg/kg	1/60 days		
Cadmium	R18-9-1005	Sample	<4.67		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 Table 2	85	39	mg/kg	1/60 days		
Chromium	R18-9-1005	Sample	28.1		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1	3000		mg/kg	1/60 days		
Copper	R18-9-1005	Sample	428		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table Table 2	4300	1500	mg/kg	1/60 days		
Lead	R18-9-1005	Sample	14.9		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table Table 2	840	300	mg/kg	1/60 days		
Mercury	R18-9-1005	Sample	0.85		mg/kg	1/31 days	Composite	EPA 7471B
	40 CFR 503.13	Table Table 2	57	17	mg/kg	1/60 days		
Molybdenum	R18-9-1005	Sample	12.5		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1	75		mg/kg	1/60 days		
Nickel	R18-9-1005	Sample	19.8		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table Table 2	420	420	mg/kg	1/60 days		
Selenium	R18-9-1005	Sample	<23.37		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table Table 2	100	100	mg/kg	1/60 days		
Zinc	R18-9-1005	Sample	766		mg/kg	1/31 days	Composite	EPA 6010D
	40 CFR 503.13	Table 1 Table 2	7500	3100	mg/kg	1/60 days		

R18-9-1005 Table 2 is equivalent to 40 CFR 503.13 Table 3

6. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information submitted, it is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Name and Official Title (type or print) John W. Sherlock, Deputy Director	Area Code and Phone (520) 724-6100
Signature	Date Signed 2-16-18

TABLE 18 - LAND APPLICATION POLLUTANT LIMITS

1. Name and Address of Facility: Regional Biosolids Management Facility
7101 North Casa Grande Highway
Tucson, Arizona 85743-9577
Facility Contact: John W. Sherlock, Deputy Director
Phone: (520) 724-6100

2. Name and Address of Facility Owner: Pima County Regional Wastewater Reclamation Department
201 North Stone, Tucson, Arizona 85701
3. Monitoring Period: November 1, 2017 through November 30, 2017
4. AZPDES Permit Number: AZ0020001
5. Sludge Permit Number: N/A

Parameter	Regulatory Requireme		Pollutant Concentration (dry weight) Average		Units	Frequency of	Sample Type (Discrete or	Analytical Method
Arsenic	R18-9-1005 40 CFR 503.13	Sample	<13.52		mg/kg	1/30 days	Composite	EPA 6010D
		Table / Table 2	75	41	mg/kg	1/60 days		
Cadmium	R18-9-1005 40 CFR 503.13	Sample	<5.41		mg/kg	1/30 days	Composite	EPA 6010D
		Table 1 / Table 2	85	39	mg/kg	1/60 days		
Chromium	R18-9-1005	Sample	33.0		mg/kg	1/30 days	Composite	EPA 6010D
		Table 1	3000		mg/kg	1/60 days		
Copper	R18-9-1005 40 CFR 503.13	Sample	411		mg/kg	1/30 days	Composite	EPA 6010D
		Table / Table 2	4300	1500	mg/kg	1/60 days		
Lead	R18-9-1005 40 CFR 503.13	Sample	<13.52		mg/kg	1/30 days	Composite	EPA 6010D
		Table / Table 2	840	300	mg/kg	1/60 days		
Mercury	R18-9-1005 40 CFR 503.13	Sample	0.71		mg/kg	1/30 days	Composite	EPA 7471B
		Table / Table 2	57	17	mg/kg	1/60 days		
Molybdenum	R18-9-1005 40 CFR 503.13	Sample	13.5		mg/kg	1/30 days	Composite	EPA 6010D
		Table 1	75		mg/kg	1/60 days		
Nickel	R18-9-1005 40 CFR 503.13	Sample	20.6		mg/kg	1/30 days	Composite	EPA 6010D
		Table / Table 2	420	420	mg/kg	1/60 days		
Selenium	R18-9-1005 40 CFR 503.13	Sample	<27.05		mg/kg	1/30 days	Composite	EPA 6010D
		Table / Table 2	100	100	mg/kg	1/60 days		
Zinc	R18-9-1005 40 CFR 503.13	Sample	758		mg/kg	1/30 days	Composite	EPA 6010D
		Table 1 / Table 2	7500	3100	mg/kg	1/60 days		

R18-9-1005 Table 2 is equivalent to 40 CFR 503.13 Table 3

6. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information submitted, it is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Name and Official Title (type or print) John W. Sherlock, Deputy Director	Area Code and Phone (520) 724-6100
Signature	Date Signed 2-16-18

TABLE 19 - LAND APPLICATION POLLUTANT LIMITS

1. Name and Address of Facility: Regional Biosolids Management Facility
7101 North Casa Grande Highway
Tucson, Arizona 85743-9577
Facility Contact: John W. Sherlock, Deputy Director
Phone: (520) 724-6100

2. Name and Address of Facility Owner: Pima County Regional Wastewater Reclamation Department
201 North Stone, Tucson, Arizona 85701
3. Monitoring Period: December 1, 2017 through December 31, 2017
4. AZPDES Permit Number: AZ0020001
5. Sludge Permit Number: N/A

Parameter	Regulatory Requireme		Pollutant Concentration (dry weight) Average		Units	Frequency of	Sample Type (Discrete or	Analytical Method
Arsenic	R18-9-1005 40 CFR 503.13	Sample	<12.13		mg/kg	1/31 days	Composite	EPA 6010D
		Table / Table 2	75	41	mg/kg	1/60 days		
Cadmium	R18-9-1005 40 CFR 503.13	Sample	<4.85		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1 / Table 2	85	39	mg/kg	1/60 days		
Chromium	R18-9-1005	Sample	33.8		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1	3000		mg/kg	1/60 days		
Copper	R18-9-1005 40 CFR 503.13	Sample	370		mg/kg	1/31 days	Composite	EPA 6010D
		Table / Table 2	4300	1500	mg/kg	1/60 days		
Lead	R18-9-1005 40 CFR 503.13	Sample	14.7		mg/kg	1/31 days	Composite	EPA 6010D
		Table / Table 2	840	300	mg/kg	1/60 days		
Mercury	R18-9-1005 40 CFR 503.13	Sample	0.69		mg/kg	1/31 days	Composite	EPA 7471B
		Table / Table 2	57	17	mg/kg	1/60 days		
Molybdenum	R18-9-1005 40 CFR 503.13	Sample	12.1		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1	75		mg/kg	1/60 days		
Nickel	R18-9-1005 40 CFR 503.13	Sample	18.5		mg/kg	1/31 days	Composite	EPA 6010D
		Table / Table 2	420	420	mg/kg	1/60 days		
Selenium	R18-9-1005 40 CFR 503.13	Sample	<24.27		mg/kg	1/31 days	Composite	EPA 6010D
		Table / Table 2	100	100	mg/kg	1/60 days		
Zinc	R18-9-1005 40 CFR 503.13	Sample	679		mg/kg	1/31 days	Composite	EPA 6010D
		Table 1 / Table 2	7500	3100	mg/kg	1/60 days		

R18-9-1005 Table 2 is equivalent to 40 CFR 503.13 Table 3

6. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information submitted, it is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Name and Official Title (type or print) John W. Sherlock, Deputy Director	Area Code and Phone (520) 724-6100
Signature	Date Signed 2-16-18

PIMA COUNTY
WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 02/07/2017
Laboratory License: AZO159

Sample Analysis Report

Regional Biosolids Facility Management

January 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Barbara Absmeier

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

02/07/17
Date

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Dewatered Cake Biosolids	1701069-01	Biosolids	1/9/2017 23:00:00	1/10/2017 9:08:00	Q6

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
Dewatered Cake Biosolids (20002-5703)											
Cross reference WO 1701065-08											
1701069-01	C	Ammonia	01/09/17 23:00	EPA 350.1	1/17/17 11:59	**8510**	mg/kg dry	0.61	354.75	D2	KMT
1701069-01	C	Arsenic	01/09/17 23:00	EPA 6010D	1/25/17 12:48	**ND**	mg/kg dry		15.12		MLB
1701069-01	C	Cadmium	01/09/17 23:00	EPA 6010D	1/24/17 15:56	**ND**	mg/kg dry		6.05		MLB
1701069-01	C	Chromium	01/09/17 23:00	EPA 6010D	1/24/17 15:56	**24.0**	mg/kg dry		15.12		MLB
1701069-01	C	Copper	01/09/17 23:00	EPA 6010D	1/24/17 15:56	**364**	mg/kg dry		15.12		MLB
1701069-01	C	Lead	01/09/17 23:00	EPA 6010D	1/24/17 15:56	**ND**	mg/kg dry		15.12		MLB
1701069-01	C	Mercury	01/09/17 23:00	EPA 7471B	1/24/17 11:17	**0.900**	mg/kg dry		0.04		DML
1701069-01	C	Molybdenum	01/09/17 23:00	EPA 6010D	1/24/17 15:56	**12.5**	mg/kg dry		6.05		MLB
1701069-01	C	Nickel	01/09/17 23:00	EPA 6010D	1/24/17 15:56	**19.5**	mg/kg dry		15.12		MLB
1701069-01	C	Nitrate/Nitrite	01/09/17 23:00	EPA 353.2	1/11/17 13:09	**1.61**	mg/kg dry	0.25	1.42	D1	KMT
1701069-01	C	Nitrite	01/09/17 23:00	SM4500-NO2	1/10/17 11:20	**1.00**	mg/kg dry	0.14	1.42	J	DML
1701069-01	C	Total Kjeldahl Nitrogen	01/09/17 23:00	EPA 351.2	1/17/17 11:09	**71660**	mg/kg dry	3.72	11.35	D2	KKH
1701069-01	C	Nitrogen Total Biosolids	01/09/17 23:00	Calculated	1/17/17 11:09	**71661**	mg/kg dry	0.52	1.60		KKH
1701069-01	C	Selenium	01/09/17 23:00	EPA 6010D	1/24/17 15:56	**ND**	mg/kg dry		30.24		MLB
1701069-01	C	Silver	01/09/17 23:00	EPA 6010D	1/25/17 12:48	**4.65**	mg/kg dry		1.51		MLB
1701069-01	C	Zinc	01/09/17 23:00	EPA 6010D	1/24/17 17:29	**676**	mg/kg dry		15.12		MLB
1701069-01	C	% Solids	01/09/17 23:00	SM 2540G	1/11/17 08:04	**14.09**	%		0.01		DEB

Qualifier Definitions

D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of target analyte.
J	Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
Q6	Sample was received above recommended temperature.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

None

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1701069-01

PROJECT & LOCATION: Regional Biosolids Facility Management - Dewatered Cake Biosolids

PROJECT-LOCATION NUMBER: 20002-5703 (XXXXX-XXXX)

SAMPLE START DATE: 01/09/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0950 (Military time)

CLIENT: Deputy Director-Treatment

SAMPLE END DATE: 01/09/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 2300 (Military time)

SAMPLER(S): Vasquez, Otero (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	×		☐	■
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	×		☐	■
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	■
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	■
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	■
Nitrite as N	☐	■
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	■
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ ° C
☐ Temperature *SM 2550 B*		° C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
Monthly pour off. Poured off the daily sample 1701065-08

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

See 1701065-08 for COC

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 2

Transported on Ice: ☐ YES ☒ NO

Lab Receipt

Temperature: 19 ° C

Initials: GCS

Q6 qualifier? ☒ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

PROJECT: **Tres Rios WRF**

NUMBER OF BOTTLES: **3**

SAMPLES START DATE: **01/09/2017** MM/DD/YY or MM/DD/YYYY

PROJECT NUMBER: **20001**

SAMPLES END DATE: **01/09/2017** MM/DD/YY or MM/DD/YYYY

CLIENT: **Tres Rios Operations**

COMMENTS: * Pour off GOS 01-10-17 See 1701069-01

SAMPLER(S): **Vasquez,Otero** (Print Last Name(s) Only)

Work Order ID: 1701065

Sample #	Location Description Location Number	D	C	Composite Sample Start Time (Military time)	Alkalinity	BOD	COD	E. coli	pH	Solids, Total	Solids, Total Grams	Solids, Total Dissolved	Solids, Total Suspended	Solids, Total Volatile	Solids, Volatile Suspended	Soluble BOD	Soluble COD	Specific Conductance	Air Filter Be or Pb	Ammonia	Chloride	Cyanide, Total	Cyanide, Amenable	Fluoride	Hardness	Metals *	Nitrate	Nitrite	Nitrate/Nitrite	Nitrogen, Total Kjeldahl	Nitrogen, Total	Orthophosphate	Phosphorus, Total	Sulfate	Digester Gas	Oil and Grease	TTHM	VOA	Field Ammonia Probe Result (mg/L)	Field Nitrate Probe Result (mg/L)	Sample End Time (Military time)	Initials
07	Centrifuge Feed Sludge 5300		■	0935						■																																
08	Dewatered Cake Biosolids 5703 *		■	0950						■	■																														2250	B.O.
	Thickened to Avragro 5701																																								2300	B.O.
10	Centrate 5501		■	0940						■																																
	Thickened Cake Biosolids 5600																																								2255	B.O.
	Unprocessed dig. sludge to Avragro 5702																																									

Microbiology | Inorganic | Organic | Field

* Please indicate specific metals request here:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Buddy Otero	Refrigerator @ 52	01/09/17	2310
Refrigerator @ 52	Andrea Palmer	1/10/17	0738

Lab Use Only

	Yes	No	NA
Chain of Custody Record completed appropriately?	✓		
Sample Labels match Chain of Custody?	✓		
Correct number of sample bottles were delivered?	✓		
Custody seals intact?			✓
Within holding time?	✓		
Sufficient sample volume for analysis?	✓		
Samples are in properly preserved containers?	✓		
Sample containers damaged/leaking/frozen?		✓	
40 ml vials headspace, > pea-sized air bubble?			✓
Received from a refrigerator?	✓		

Temperature: 15 °C Initials: AP

COC-Multiple-Revision 2

Revised: 03/12/2015

PIMA COUNTY
WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 03/28/2017
Laboratory License: AZO159

Sample Analysis Report

Regional Biosolids Facility Management

February 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

04/13/17
Date

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Dewatered Cake Biosolids	1702051-01	Biosolids	2/6/2017 22:10:00	2/7/2017 8:22:00	Q6

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
Dewatered Cake Biosolids (20002-5703)											
Cross reference WO 1702047-08											
1702051-01	C	Ammonia	02/06/17 22:10	EPA 350.1	2/8/17 11:31	**11300**	mg/kg dry	0.55	3.18		KKH
1702051-01	C	Arsenic	02/06/17 22:10	EPA 6010D	3/8/17 16:02	**ND**	mg/kg dry		11.80		MLB
1702051-01	C	Cadmium	02/06/17 22:10	EPA 6010D	3/8/17 16:02	**ND**	mg/kg dry		4.72		MLB
1702051-01	C	Chromium	02/06/17 22:10	EPA 6010D	3/8/17 16:02	**19.9**	mg/kg dry		11.80		MLB
1702051-01	C	Copper	02/06/17 22:10	EPA 6010D	3/8/17 16:02	**303**	mg/kg dry		11.80		MLB
1702051-01	C	Lead	02/06/17 22:10	EPA 6010D	3/8/17 16:02	**ND**	mg/kg dry		11.80		MLB
1702051-01	C	Molybdenum	02/06/17 22:10	EPA 6010D	3/8/17 16:02	**9.68**	mg/kg dry		4.72		MLB
1702051-01	C	Nickel	02/06/17 22:10	EPA 6010D	3/8/17 16:02	**16.2**	mg/kg dry		11.80		MLB
1702051-01	C	Nitrate/Nitrite	02/06/17 22:10	EPA 353.2	2/12/17 12:14	**1.24**	mg/kg dry	0.13	1.27	J	KKH
1702051-01	C	Nitrite	02/06/17 22:10	SM4500-NO2	2/7/17 14:36	**0.88**	mg/kg dry	0.13	1.27	J	KMT
1702051-01	C	Total Kjeldahl Nitrogen	02/06/17 22:10	EPA 351.2	2/13/17 11:06	**63504**	mg/kg dry	3.33	10.16	D2	KKH
1702051-01	C	Nitrogen Total Biosolids	02/06/17 22:10	Calculated	2/13/17 11:06	**63506**	mg/kg dry	0.52	1.60		KKH
1702051-01	C	Selenium	02/06/17 22:10	EPA 6010D	3/8/17 16:02	**ND**	mg/kg dry		23.61		MLB
1702051-01	C	Silver	02/06/17 22:10	EPA 6010D	3/8/17 16:02	**3.75**	mg/kg dry		1.18		MLB
1702051-01	C	Zinc	02/06/17 22:10	EPA 6010D	3/8/17 16:02	**556**	mg/kg dry		11.80		MLB
1702051-01	C	% Solids	02/06/17 22:10	SM 2540G	2/8/17 08:30	**15.75**	%		0.01		ADP
1702215-01	C	Mercury	02/27/17 23:45	7471B	3/3/17 12:32	**0.80**	mg/Kg dry	0.40	0.40		JTG *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1702215-01	C	Percent Solids	02/27/17 23:45	2540G	3/2/17 10:18	**14.9**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1702215-01	C	Percent Moisture	02/27/17 23:45	2540G	3/2/17 10:18	**85.1**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											

Qualifier Definitions

D2	Sample required dilution due to high concentration of target analyte.
J	Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
Q6	Sample was received above recommended temperature.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

None

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1702051-01

PROJECT & LOCATION: Regional Biosolids Facility Management - Dewatered Cake Biosolids

PROJECT-LOCATION NUMBER: 20002-5703 (XXXXX-XXXX)

SAMPLE START DATE: 02/06/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 1020 (Military time)

CLIENT: Deputy Director-Treatment

SAMPLE END DATE: 02/06/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 2210 (Military time)

SAMPLER(S): Vasquez, Otero (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ☐ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury (cold vapor)	×		☐	■
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	×		☐	■
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

GCS 02-28-17

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	■
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	■
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	■
Nitrite as N	☐	■
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	■
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ ° C
☐ Temperature *SM 2550 B*		° C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
Monthly pour off. Poured off the daily sample 1702047-08
~~Hg sent to Test America~~ GCS
02-28-17 ~~PO#17-25235~~ GCS 02-28-17

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

See 1702047-08 for COC

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
GCS 02-28-17			
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 2 GCS

Transported on Ice: ☐ YES ☒ NO

Lab Receipt

Temperature: 20 ° C

Initials: GCS

Q6 qualifier? ☑ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1702215-01

PROJECT & LOCATION: Regional Biosolids Facility Management - Dewatered Cake Biosolids

PROJECT-LOCATION NUMBER: 20002-5703 (XXXXX-XXXX)

SAMPLE START DATE: 02/27/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 1018 (Military time)

CLIENT: Deputy Director-Treatment

SAMPLE END DATE: 02/27/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 2345 (Military time)

SAMPLER(S): Otero, Moreno (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury (contract)	X		☐	■
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver			☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total (contract)	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
Extra monthly pour off. Poured off the daily sample
1702210-08 by GOS. JB 2-28-17 All sent to Test America GOS 02-28-17
PO#17-25235

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

See 1702210-08 for COC

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
(Hg and T%S)		3-1-17	1245 X
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 1 GOS

Transported on Ice: ☐ YES ☒ NO

Lab Receipt

Temperature: 22 °C

Initials: GOS

Q6 qualifier? ☒ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

X See contract lab COC Attached. BG-F 3-2-17

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	3 of 3 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Mercury group #1	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 17-25235	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Mercury	Total % solids for mg/kg calc	Mercury mg/kg	Sample Specific Notes:
Agua Nueva WRF plant effluent 26107-7100											
1702126-01	2/15/17	0800	Comp	WW	1	N		1			
Carlson-Fehser PL#1 12690-0100											
1702129-02	2/15/17	1140	Comp	WW	1	N		1			
Regional Biosolids FM dewatered cake 20002-5703											
1702215-01	2/27/17	2345	Comp	BS	1	N			1	1	

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	03-01-17/1225	[signature]	DCS	3-1-17 1225
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

NUMBER OF BOTTLES: 3

PROJECT: **Tres Rios WRF**

PROJECT NUMBER: **20001**

SAMPLES START DATE: **02/06/2017** MM/DD/YY or MM/DD/YYYY

CLIENT: **Tres Rios Operations**

SAMPLES END DATE: **02/06/2017** MM/DD/YY or MM/DD/YYYY

SAMPLER(S): **Vasquez,Otero** (Print Last Name(s) Only)

COMMENTS: * Pour off GOS 02-07-17 See 1702051-01

Work Order ID: 1702047

Sample #	Location Description Location Number	D	C	Composite Sample Start Time (Military time)	Microbiology: Alkalinity	BOD	COD	E. coli	pH	Solids, Total	Solids, Total Grams	Solids, Total Dissolved	Solids, Total Suspended	Solids, Total Volatile	Solids, Volatile Suspended	Soluble BOD	Soluble COD	Specific Conductance	Inorganic: Air Filter Be or Pb	Ammonia	Chloride	Cyanide, Total	Cyanide, Amenable	Fluoride	Hardness	Metals *	Nitrate	Nitrite	Nitrate/Nitrite	Nitrogen, Total Kjeldahl	Nitrogen, Total	Orthophosphate	Phosphorus, Total	Sulfate	Organic: Digester Gas	Oil and Grease	TTHM	VOA	Field: Field Ammonia Probe Result (mg/L)	Field Nitrate Probe Result (mg/L)	Sample End Time (Military time)	Initials
07	Centrifuge Feed Sludge 5300		■	1010						■																																2200	B.A
08	Dewatered Cake Biosolids 5703 *		■	1020						■	■																															2210	B.A
	Thickened to Avragro 5701																																										
10	Centrate 5501		■	1015						■																																2205	B.A
	Thickened Cake Biosolids 5600																																										
	Unprocessed dig. sludge to Avragro 5702																																										

* Please indicate specific metals request here:

Chain of Custody Record (Signatures Only)

Relinquished by:	Received by:	Date:	Time: (Military time)
Budd Otero	Refrigerator @ 52	02/06/17	2215
Refrigerator @ 52	James Brown	2-7-17	0658
		JB 2-21-17	

Lab Use Only

	Yes	No	NA
Chain of Custody Record completed appropriately?	✓		
Sample Labels match Chain of Custody?	✓		
Correct number of sample bottles were delivered?	✓		
Custody seals intact?			✓
Within holding time?	✓		
Sufficient sample volume for analysis?	✓		
Samples are in properly preserved containers?	✓		
Sample containers damaged/leaking/frozen?		✓	
40 ml vials headspace, > pea-sized air bubble?			✓
Received from a refrigerator?	✓		

Temperature: -0.7 °C Initials: JB

PIMA COUNTY

WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1702056-05, 1702055-02, 1702065-02 &-04, 1702074-02, 1702076-01&-02, 1702112-01, 1702113-01, 1702126-01, 1702129-02, 1702215-01**	**DO**	**17-25235**
CONTRACT LAB	**TestAmerica PHX**	**SAMPLE GROUP**	**Mercury Group #1**
ANALYSES	**EPA 245.1, EPA 7471B, %TS**	**REPORT ID**	**550-78443-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	N/A
DO received in Pima Core?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	N/A
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	N/A
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	N/A
Was Tom Berry notified of any exceedences?	N/A
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	N/A
Report states if zeolite treatment was utilized?	N/A
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	N/A

Chemistry data included?	N/A
Reference Toxicant Test Results and Control Chart within limits?	N/A
PMSD Determination included and within acceptable range? (minimum acceptable= 13)	N/A
End Points include TUc, NOEC, LOEC, and IC25?	N/A
Statistics verify endpoints	N/A
Control Charts Updated to include month of analysis	N/A

Reviewer Initials:	**JD**	**Review Date:**	**03-16-17**

PEER/FINAL REVIEW:	PR	FR
LIMS/Excel data matches printed CL report?	✓	✓
Analysis dates are correct?	✓	✓
Correct Data Qualifiers included if necessary.	✓	✓
CRAO report shows result is from Contract Lab?	✓	✓
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?	✓	✓
DO received in Pima Core	✓	
Analysis set to Reported?		✓

Peer Reviewer Initials:	TB	**Review Date:**	3-23-17
Biomonitor Supervisor Initials:	NA		NA
Final Reviewer Initials:	BAE	**Review Date:**	04/13/17

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**

DEVIATIONS FROM ACCEPTABLE QA/QC:

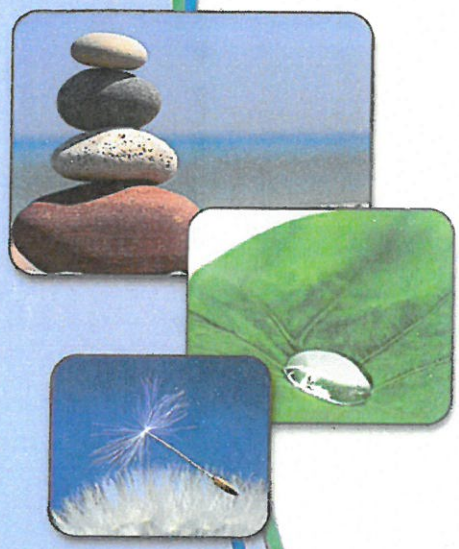
Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-78443-1
Client Project/Site: Mercury group # 1

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Nancy Powell

Authorized for release by:
3/7/2017 11:01:47 AM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Qualifiers

Metals

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Job ID: 550-78443-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-78443-1

Comments
No additional comments.

Receipt
The samples were received on 3/1/2017 2:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

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

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

Sample Summary

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-78443-1	1702054-05	Water	02/07/17 08:00	03/01/17 14:00
550-78443-2	1702055-02	Water	02/07/17 10:10	03/01/17 14:00
550-78443-3	1702065-02	Water	02/08/17 09:00	03/01/17 14:00
550-78443-4	1702065-04	Water	02/08/17 10:10	03/01/17 14:00
550-78443-5	1702074-02	Water	02/09/17 09:40	03/01/17 14:00
550-78443-6	1702076-01	Water	02/09/17 09:50	03/01/17 14:00
550-78443-7	1702076-02	Water	02/09/17 09:50	03/01/17 14:00
550-78443-8	1702112-01	Water	02/14/17 08:20	03/01/17 14:00
550-78443-9	1702113-01	Water	02/14/17 09:00	03/01/17 14:00
550-78443-10	1702126-01	Water	02/15/17 08:00	03/01/17 14:00
550-78443-11	1702129-02	Water	02/15/17 11:40	03/01/17 14:00
550-78443-12	1702215-01	Solid	02/27/17 23:45	03/01/17 14:00

TestAmerica Phoenix

Detection Summary

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Client Sample ID: 1702054-05 — Lab Sample ID: 550-78443-1

No Detections.

Client Sample ID: 1702055-02 — Lab Sample ID: 550-78443-2

No Detections.

Client Sample ID: 1702065-02 — Lab Sample ID: 550-78443-3

No Detections.

Client Sample ID: 1702065-04 — Lab Sample ID: 550-78443-4

No Detections.

Client Sample ID: 1702074-02 — Lab Sample ID: 550-78443-5

No Detections.

Client Sample ID: 1702076-01 — Lab Sample ID: 550-78443-6

No Detections.

Client Sample ID: 1702076-02 — Lab Sample ID: 550-78443-7

No Detections.

Client Sample ID: 1702112-01 — Lab Sample ID: 550-78443-8

No Detections.

Client Sample ID: 1702113-01 — Lab Sample ID: 550-78443-9

No Detections.

Client Sample ID: 1702126-01 — Lab Sample ID: 550-78443-10

No Detections.

Client Sample ID: 1702129-02 — Lab Sample ID: 550-78443-11

No Detections.

Client Sample ID: 1702215-01 — Lab Sample ID: 550-78443-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.80		0.40	0.40	mg/Kg	1	☼	7471B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

3/7/2017

Client Sample Results

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Client Sample ID: 1702054-05
Date Collected: 02/07/17 08:00
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-1
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.070	ug/L		03/03/17 16:38	03/06/17 15:05	1

Client Sample ID: 1702055-02
Date Collected: 02/07/17 10:10
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-2
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.070	ug/L		03/03/17 16:38	03/06/17 15:31	1

Client Sample ID: 1702065-02
Date Collected: 02/08/17 09:00
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-3
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.070	ug/L		03/03/17 16:38	03/06/17 15:07	1

Client Sample ID: 1702065-04
Date Collected: 02/08/17 10:10
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-4
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.070	ug/L		03/03/17 16:38	03/06/17 15:08	1

Client Sample ID: 1702074-02
Date Collected: 02/09/17 09:40
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-5
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.070	ug/L		03/03/17 16:38	03/06/17 15:10	1

Client Sample ID: 1702076-01
Date Collected: 02/09/17 09:50
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-6
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.070	ug/L		03/03/17 16:38	03/06/17 15:12	1

Client Sample ID: 1702076-02
Date Collected: 02/09/17 09:50
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-7
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.070	ug/L		03/03/17 16:38	03/06/17 15:13	1

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Client Sample ID: 1702112-01
Date Collected: 02/14/17 08:20
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-8
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.070	ug/L		03/03/17 16:38	03/06/17 15:15	1

Client Sample ID: 1702113-01
Date Collected: 02/14/17 09:00
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-9
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.070	ug/L		03/03/17 16:38	03/06/17 15:16	1

Client Sample ID: 1702126-01
Date Collected: 02/15/17 08:00
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-10
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.070	ug/L		03/03/17 16:38	03/06/17 15:18	1

Client Sample ID: 1702129-02
Date Collected: 02/15/17 11:40
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-11
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.070	ug/L		03/03/17 16:38	03/06/17 15:22	1

Client Sample ID: 1702215-01
Date Collected: 02/27/17 23:45
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-12
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	85.1		0.1	0.1	%			03/02/17 10:18	1
Percent Solids	14.9		0.1	0.1	%			03/02/17 10:18	1

Client Sample ID: 1702215-01
Date Collected: 02/27/17 23:45
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-12
Matrix: Solid
Percent Solids: 14.9

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.80		0.40	0.40	mg/Kg	☼	03/01/17 17:14	03/03/17 12:32	1

QC Sample Results

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-111575/1-A
Matrix: Water
Analysis Batch: 111705

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 111575

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.070	ug/L		03/03/17 16:38	03/06/17 14:56	1

Lab Sample ID: LCS 550-111575/2-A
Matrix: Water
Analysis Batch: 111705

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 111575

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	10.2		ug/L		102	85 - 115

Lab Sample ID: LCSD 550-111575/3-A
Matrix: Water
Analysis Batch: 111705

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 111575

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	10.2		ug/L		102	85 - 115	0	20

Lab Sample ID: 550-78301-A-5-C MS
Matrix: Water
Analysis Batch: 111705

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 111575

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	E8	10.0	9.48		ug/L		95	70 - 130

Lab Sample ID: 550-78301-A-5-D MSD
Matrix: Water
Analysis Batch: 111705

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 111575

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	E8	10.0	9.18		ug/L		92	70 - 130	3	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 550-111360/1-A
Matrix: Solid
Analysis Batch: 111532

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 111360

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.060	0.060	mg/Kg		03/01/17 17:14	03/03/17 11:56	1

Lab Sample ID: LCS 550-111360/2-A
Matrix: Solid
Analysis Batch: 111532

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 111360

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.997	0.984		mg/Kg		99	80 - 120

TestAmerica Phoenix

QC Sample Results

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 550-111360/3-A
Matrix: Solid
Analysis Batch: 111532

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 111360

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.966	0.952		mg/Kg		99	80 - 120	3	20

Lab Sample ID: 550-78178-D-1-A MS
Matrix: Solid
Analysis Batch: 111532

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 111360

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.99		5.32	5.81		mg/Kg	☼	91	80 - 120

Lab Sample ID: 550-78178-D-1-B MSD
Matrix: Solid
Analysis Batch: 111532

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 111360

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.99		5.27	5.56		mg/Kg	☼	87	80 - 120	4	20

Method: 2540G - SM 2540G

Lab Sample ID: MB 550-111403/1
Matrix: Solid
Analysis Batch: 111403

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.002		0.1	0.1	%			03/02/17 10:18	1
Percent Solids	100		0.1	0.1	%			03/02/17 10:18	1

Lab Sample ID: 550-78443-12 DU
Matrix: Solid
Analysis Batch: 111403

Client Sample ID: 1702215-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	85.1		85.0		%		0	10
Percent Solids	14.9		15.0		%		0.3	10

QC Association Summary

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Metals

Prep Batch: 111360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-78443-12	1702215-01	Total/NA	Solid	7471B	
MB 550-111360/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 550-111360/2-A	Lab Control Sample	Total/NA	Solid	7471B	
LCSD 550-111360/3-A	Lab Control Sample Dup	Total/NA	Solid	7471B	
550-78178-D-1-A MS	Matrix Spike	Total/NA	Solid	7471B	
550-78178-D-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	7471B	

Analysis Batch: 111532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-78443-12	1702215-01	Total/NA	Solid	7471B	111360
MB 550-111360/1-A	Method Blank	Total/NA	Solid	7471B	111360
LCS 550-111360/2-A	Lab Control Sample	Total/NA	Solid	7471B	111360
LCSD 550-111360/3-A	Lab Control Sample Dup	Total/NA	Solid	7471B	111360
550-78178-D-1-A MS	Matrix Spike	Total/NA	Solid	7471B	111360
550-78178-D-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	7471B	111360

Prep Batch: 111575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-78443-1	1702054-05	Total/NA	Water	245.1	
550-78443-2	1702055-02	Total/NA	Water	245.1	
550-78443-3	1702065-02	Total/NA	Water	245.1	
550-78443-4	1702065-04	Total/NA	Water	245.1	
550-78443-5	1702074-02	Total/NA	Water	245.1	
550-78443-6	1702076-01	Total/NA	Water	245.1	
550-78443-7	1702076-02	Total/NA	Water	245.1	
550-78443-8	1702112-01	Total/NA	Water	245.1	
550-78443-9	1702113-01	Total/NA	Water	245.1	
550-78443-10	1702126-01	Total/NA	Water	245.1	
550-78443-11	1702129-02	Total/NA	Water	245.1	
MB 550-111575/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-111575/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-111575/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-78301-A-5-C MS	Matrix Spike	Total/NA	Water	245.1	
550-78301-A-5-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 111705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-78443-1	1702054-05	Total/NA	Water	245.1	111575
550-78443-2	1702055-02	Total/NA	Water	245.1	111575
550-78443-3	1702065-02	Total/NA	Water	245.1	111575
550-78443-4	1702065-04	Total/NA	Water	245.1	111575
550-78443-5	1702074-02	Total/NA	Water	245.1	111575
550-78443-6	1702076-01	Total/NA	Water	245.1	111575
550-78443-7	1702076-02	Total/NA	Water	245.1	111575
550-78443-8	1702112-01	Total/NA	Water	245.1	111575
550-78443-9	1702113-01	Total/NA	Water	245.1	111575
550-78443-10	1702126-01	Total/NA	Water	245.1	111575
550-78443-11	1702129-02	Total/NA	Water	245.1	111575
MB 550-111575/1-A	Method Blank	Total/NA	Water	245.1	111575
LCS 550-111575/2-A	Lab Control Sample	Total/NA	Water	245.1	111575
LCSD 550-111575/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	111575

QC Association Summary

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Metals (Continued)

Analysis Batch: 111705 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-78301-A-5-C MS	Matrix Spike	Total/NA	Water	245.1	111575
550-78301-A-5-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	111575

General Chemistry

Analysis Batch: 111403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-78443-12	1702215-01	Total/NA	Solid	2540G	
MB 550-111403/1	Method Blank	Total/NA	Solid	2540G	
550-78443-12 DU	1702215-01	Total/NA	Solid	2540G	

Lab Chronicle

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Client Sample ID: 1702054-05
Date Collected: 02/07/17 08:00
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			111575	03/03/17 16:38	JTG	TAL PHX
Total/NA	Analysis	245.1		1	111705	03/06/17 15:05	JTG	TAL PHX

Client Sample ID: 1702055-02
Date Collected: 02/07/17 10:10
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			111575	03/03/17 16:38	JTG	TAL PHX
Total/NA	Analysis	245.1		1	111705	03/06/17 15:31	JTG	TAL PHX

Client Sample ID: 1702065-02
Date Collected: 02/08/17 09:00
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			111575	03/03/17 16:38	JTG	TAL PHX
Total/NA	Analysis	245.1		1	111705	03/06/17 15:07	JTG	TAL PHX

Client Sample ID: 1702065-04
Date Collected: 02/08/17 10:10
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			111575	03/03/17 16:38	JTG	TAL PHX
Total/NA	Analysis	245.1		1	111705	03/06/17 15:08	JTG	TAL PHX

Client Sample ID: 1702074-02
Date Collected: 02/09/17 09:40
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			111575	03/03/17 16:38	JTG	TAL PHX
Total/NA	Analysis	245.1		1	111705	03/06/17 15:10	JTG	TAL PHX

Client Sample ID: 1702076-01
Date Collected: 02/09/17 09:50
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			111575	03/03/17 16:38	JTG	TAL PHX
Total/NA	Analysis	245.1		1	111705	03/06/17 15:12	JTG	TAL PHX

Lab Chronicle

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Client Sample ID: 1702076-02
Date Collected: 02/09/17 09:50
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			111575	03/03/17 16:38	JTG	TAL PHX
Total/NA	Analysis	245.1		1	111705	03/06/17 15:13	JTG	TAL PHX

Client Sample ID: 1702112-01
Date Collected: 02/14/17 08:20
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			111575	03/03/17 16:38	JTG	TAL PHX
Total/NA	Analysis	245.1		1	111705	03/06/17 15:15	JTG	TAL PHX

Client Sample ID: 1702113-01
Date Collected: 02/14/17 09:00
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			111575	03/03/17 16:38	JTG	TAL PHX
Total/NA	Analysis	245.1		1	111705	03/06/17 15:16	JTG	TAL PHX

Client Sample ID: 1702126-01
Date Collected: 02/15/17 08:00
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			111575	03/03/17 16:38	JTG	TAL PHX
Total/NA	Analysis	245.1		1	111705	03/06/17 15:18	JTG	TAL PHX

Client Sample ID: 1702129-02
Date Collected: 02/15/17 11:40
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			111575	03/03/17 16:38	JTG	TAL PHX
Total/NA	Analysis	245.1		1	111705	03/06/17 15:22	JTG	TAL PHX

Client Sample ID: 1702215-01
Date Collected: 02/27/17 23:45
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	111403		YET	TAL PHX
					(Start)	03/02/17 10:18		
					(End)	03/03/17 09:50		

TestAmerica Phoenix

Lab Chronicle

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Client Sample ID: 1702215-01
Date Collected: 02/27/17 23:45
Date Received: 03/01/17 14:00

Lab Sample ID: 550-78443-12
Matrix: Solid
Percent Solids: 14.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471B			111360	03/01/17 17:14	EXZ	TAL PHX
Total/NA	Analysis	7471B		1	111532	03/03/17 12:32	JTG	TAL PHX

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix

Certification Summary

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Laboratory: TestAmerica Phoenix

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arizona	State Program	9	AZ0728	06-09-17

Analysis Method	Prep Method	Matrix	Analyte

Method Summary

Client: Pima County WWTP
Project/Site: Mercury group # 1

TestAmerica Job ID: 550-78443-1

Method	Method Description	Protocol	Laboratory
245.1	Mercury (CVAA)	EPA	TAL PHX
7471B	Mercury (CVAA)	SW846	TAL PHX
2540G	SM 2540G	SM22	TAL PHX

Protocol References:

EPA = US Environmental Protection Agency

SM22 = SM22

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

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Chain of Custody Record

78443

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 3 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Mercury group #1	☐ 1 week			Job / SDG No.:
Site: Various	☐ 2 days			
P O # 17-25235	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Mercury	Total % solids for mg/kg calc	Sample Specific Notes:
Corona de Tucson WRF BNROD influent 25006-3000 1702054-05	2/7/17	0800	Comp	WW	1	N		1		-01
Green Valley WRF well GV-02 25000-1500 1702055-02	2/7/17	1010	Grab	W	1	N		1		-02
Busy "D" Pumping PL#2 12738-0200 1702065-02	2/8/17	0900	Comp	WW	1	N		1		-03
Busy "D" Pumping PL#3 12738-0300 1702065-04	2/8/17	1010	Comp	WW	1	N		1		-04

550-78443 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☑Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

2.7°C on ice

Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:				
Relinquished by: Greg Spence for samplers	Company: PC CRAO Lab	Date/Time: 030417/1220	Received by: [signature]	Company: DCS	Date/Time: 3-1-17 12:30
Relinquished by: [signature]	Company: DCS	Date/Time: 3/1/17 1400	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA	Date/Time: 3/1/17 14:00

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

78443

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	2 of 3 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Mercury group #1	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 17-25235	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Mercury	Total % solids for mg/kg calc	Sample Specific Notes:
Tucson Tallow PL#1 11423-0100										
1702074-02	2/9/17	0940	Comp	WW	1	N		1		-05
Tres Rios WRF river SC-03										
1702076-01	2/9/17	0950	Grab	W	1	N		1		-06
1702076-02	02-09-17	0950	Grab	W	1	Y		1		Already filtered. -07
Agua Nueva WRF plant effluent 26107-7100										
1702112-01	2/14/17	0820	Grab	WW	1	N		1		-08
Tres Rios WRF final effluent #3 20001-7030										
1702113-01	2/14/17	0900	Grab	WW	1	N		1		-09

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

2.7° on ice

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	03-01-17/1224		DCS	3-1-17 1224
	DCS	3-1-17 1400			
			Received in Laboratory by:	TA	3/1/17 14:00

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Chain of Custody Record

78443

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	3 of 3 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Mercury group #1	☐ 1 week			Job / SDG No.:
Site: Various	☐ 2 days			
P O # 17-25235	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Mercury	Total % solids for mg/kg calc	Mercury mg/kg	Sample Specific Notes:
Agua Nueva WRF plant effluent 26107-7100 1702126-01	2/15/17	0800	Comp	WW	1	N		1			-10
Carlson-Fehser PL#1 12690-0100 1702129-02	2/15/17	1140	Comp	WW	1	N		1			-11
Regional Biosolids FM dewatered cake 20002-5703 1702215-01	2/27/17	2345	Comp	BS	1	N			1	1	-12

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☑Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:
27w on ice

Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:				
Relinquished by: Greg Spence for samplers	Company: PC CRAO Lab	Date/Time: 03-01-17/1225	Received by:	Company: DSS	Date/Time: 3-1-17 1225
Relinquished by:	Company: DCS	Date/Time: 3-1-17 1400	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA	Date/Time: 3/1/17 14:00

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-78443-1

Login Number: 78443
List Number: 1
Creator: Doerr, Bret C

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

78443

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	3 of 3 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Mercury group #1	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 17-25235	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Mercury	Total % solids for mg/kg calc	Mercury mg/kg	Sample Specific Notes:
Agua Nueva WRF plant effluent 26107-7100											
1702126-01	2/15/17	0800	Comp	WW	1	N		1			-10
Carlson-Fehser PL#1 12690-0100											
1702129-02	2/15/17	1140	Comp	WW	1	N		1			-11
Regional Biosolids FM dewatered cake 20002-5703											
1702215-01	2/27/17	2345	Comp	BS	1	N			1	1	-12

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☑Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

2.7w on ice

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by: Greg Spence for samplers	Company: PC CRAO Lab	03-01-17/1125	[signature]	DCS	3-1-17 1225
[signature]	DCS	3-1-17 1400			
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
			[signature]	TA	3/1/17 14:00

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Chain of Custody Record

78443

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	2 of 3 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Mercury group #1	☐ 1 week			Job / SDG No.:
Site: Various	☐ 2 days			
P O # 17-25235	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Mercury	Total % solids for mg/kg calc	Sample Specific Notes:
Tucson Tallow PL#1 11423-0100										
1702074-02	2/9/17	0940	Comp	WW	1	N		1		-05
Tres Rios WRF river SC-03										
1702076-01	2/9/17	0950	Grab	W	1	N		1		-06
1702076-02	02-09-17	0950	Grab	W	1	Y		1		Already filtered. -07
Agua Nueva WRF plant effluent 26107-7100										
1702112-01	2/14/17	0820	Grab	WW	1	N		1		-08
Tres Rios WRF final effluent #3 20001-7030										
1702113-01	2/14/17	0900	Grab	WW	1	N		1		-09

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

2.7°C on ice

Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:				
Relinquished by: Greg Spence for samplers	Company: PC CRAO Lab	Date/Time: 03-01-17/1224	Received by:	Company: DCS	Date/Time: 3-1-17 1224
Relinquished by:	Company: DCS	Date/Time: 3-1-17 1400	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA	Date/Time: 3/1/17 14:00

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 04/14/2017
Laboratory License: AZO159

Sample Analysis Report

Regional Biosolids Facility Management

March 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

04/18/17

Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
Dewatered Cake Biosolids (20002-5703)											
Cross reference WO 1703045-08											
1703049-01	C	Ammonia	03/06/17 23:50	EPA 350.1	3/10/17 13:53	**9710**	mg/kg dry	0.54	3.13		DML
1703049-01	C	Arsenic	03/06/17 23:50	EPA 6010D	3/30/17 15:29	**ND**	mg/kg dry		10.89		MLB
1703049-01	C	Cadmium	03/06/17 23:50	EPA 6010D	3/30/17 15:29	**ND**	mg/kg dry		4.36		MLB
1703049-01	C	Chromium	03/06/17 23:50	EPA 6010D	3/30/17 15:29	**22.4**	mg/kg dry		10.89		MLB
1703049-01	C	Copper	03/06/17 23:50	EPA 6010D	3/30/17 15:29	**323**	mg/kg dry		10.89		MLB
1703049-01	C	Lead	03/06/17 23:50	EPA 6010D	3/30/17 15:29	**11.1**	mg/kg dry		10.89		MLB
1703049-01	C	Mercury	03/06/17 23:50	EPA 7471B	3/23/17 08:21	**0.58**	mg/kg dry		0.00313		KKH
1703049-01	C	Molybdenum	03/06/17 23:50	EPA 6010D	3/30/17 15:29	**8.54**	mg/kg dry		4.36		MLB
1703049-01	C	Nickel	03/06/17 23:50	EPA 6010D	3/30/17 15:29	**19.9**	mg/kg dry		10.89		MLB
1703049-01	C	Nitrate/Nitrite	03/06/17 23:50	EPA 353.2	3/7/17 13:31	**0.64**	mg/kg dry	0.13	1.25	J	DML
1703049-01	C	Nitrite	03/06/17 23:50	SM4500-NO2	3/7/17 12:17	**0.92**	mg/kg dry	0.13	1.25	J	KKH
1703049-01	C	Total Kjeldahl Nitrogen	03/06/17 23:50	EPA 351.2	3/9/17 11:24	**66123**	mg/kg dry	3.29	10.03	D2	DML
1703049-01	C	Nitrogen Total Biosolids	03/06/17 23:50	Calculated	3/9/17 11:24	**66124**	mg/kg dry	0.52	1.60		DML
1703049-01	C	Selenium	03/06/17 23:50	EPA 6010D	3/31/17 09:40	**ND**	mg/kg dry		21.78		MLB
1703049-01	C	Silver	03/06/17 23:50	EPA 6010D	3/30/17 15:29	**4.61**	mg/kg dry		1.09		MLB
1703049-01	C	Zinc	03/06/17 23:50	EPA 6010D	3/30/17 15:29	**586**	mg/kg dry		10.89		MLB
1703049-01	C	% Solids	03/06/17 23:50	SM 2540G	3/8/17 08:37	**15.96**	%		0.01		ADP

Qualifier Definitions

D2	Sample required dilution due to high concentration of target analyte.
J	Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

None

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1703049-01

PROJECT & LOCATION: Regional Biosolids Facility Management - Dewatered Cake Biosolids

PROJECT-LOCATION NUMBER: 20002-5703 (XXXXX-XXXX)

SAMPLE START DATE: 03/06/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 1015 (Military time)

CLIENT: Deputy Director-Treatment

SAMPLE END DATE: 03/06/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 2350 (Military time)

SAMPLER(S): Otero, Vasquez (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	×		☐	■
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	×		☐	■
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	■
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	■
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	■
Nitrite as N	☐	■
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	■
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ ° C
☐ Temperature *SM 2550 B*		° C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
Extra monthly pour off. Poured off the daily sample
1703045-08

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

See 1703045-08 for COC

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 2 COS

Transported on Ice: ☐ YES ☒ NO

Lab Receipt

Temperature: 6 ° C

Initials: COS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

COC-Single Revision 2

Revised: 03/12/2015

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

NUMBER OF BOTTLES: 3

PROJECT: **Tres Rios WRF**

PROJECT NUMBER: **20001**

SAMPLES START DATE: **03/06/2017** MM/DD/YY or MM/DD/YYYY

CLIENT: **Tres Rios Operations**

SAMPLES END DATE: **03/06/2017** MM/DD/YY or MM/DD/YYYY

SAMPLER(S): **Vasquez,Otero** (Print Last Name(s) Only)

COMMENTS: * See 1703049-01 for pour off. GOS 03-07-17

Work Order ID: 1703045

Sample #	Location Description Location Number	D	C	Composite Sample Start Time (Military time)	Alkalinity	BOD	COD	E. coli	pH	Solids, Total	Solids, Total Grams	Solids, Total Dissolved	Solids, Total Suspended	Solids, Total Volatile	Solids, Volatile Suspended	Soluble BOD	Soluble COD	Specific Conductance	Air Filter Be or Pb	Ammonia	Chloride	Cyanide, Total	Cyanide, Amenable	Fluoride	Hardness	Metals *	Nitrate	Nitrite	Nitrate/Nitrite	Nitrogen, Total Kjeldahl	Nitrogen, Total	Orthophosphate	Phosphorus, Total	Sulfate	Digester Gas	Oil and Grease	TTHM	VOA	Field Ammonia Probe Result (mg/L)	Field Nitrate Probe Result (mg/L)	Sample End Time (Military time)	Initials
		Microbiology																	Inorganic																	Organic				Field			
07	Centrifuge Feed Sludge 5300		■	1000						■																															2340	B.O.
08	Dewatered Cake Biosolids 5703 *		■	1015						■	■																														2350	B.O.
	Thickened to Avragro 5701																																									
10	Centrate 5501		■	1005						■																															2345	B.O.
	Thickened Cake Biosolids 5600																																									
	Unprocessed dig. sludge to Avragro 5702																																									

* Please indicate specific metals request here:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Buddy Otero	Refrigerator @ 52	03/06/17	2355
Refrigerator @ 52	Diana Bonson	03/07/17	0644
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Lab Use Only

	Yes	No	NA
Chain of Custody Record completed appropriately?	☑	☐	☐
Sample Labels match Chain of Custody?	☑	☐	☐
Correct number of sample bottles were delivered?	☑	☐	☐
Custody seals intact?	☐	☐	☑
Within holding time?	☑	☐	☐
Sufficient sample volume for analysis?	☑	☐	☐
Samples are in properly preserved containers?	☑	☐	☐
Sample containers damaged/leaking/frozen?	☐	☑	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☑
Received from a refrigerator?	☑	☐	☐

Temperature: 1.7 °C Initials: DCB

COC-Multiple-Revision 2

Revised: 03/12/2015

Jenette Lee

From: Arturo Norzagaray
Sent: Monday, April 3, 2017 10:42
To: Chantal Blissett
Cc: RWRD CRAO Lab Supervisors; Scott Weiler; Steven Richey; David Bartos; Jason Hartman; Paul Mangold; Belinda Gamboa-Felix; Melaine Halash; Jenette Lee
Subject: Methane Gas Sample for #4 Digester

Chantal,
I would like to collect a special methane sample for #4 Digester tomorrow on 04/03/2017.
We are seeding this digester and it will put in service after April 6th.
Before we blend the methane from this digester into the entire system, we need to analyze the quality of the gas.
Thanks,
Art

Arturo R. Norzagaray, WWTP Plant Manager
Tres Rios Water Reclamation Facility
7101 North Casa Grande Highway
Tucson, Arizona 85743
Phone (520) 724-6172 Fax (520) 791-6604

"Please consider the environment before printing this email"

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 05/23/2017
Laboratory License: AZO159

Sample Analysis Report

Regional Biosolids Facility Management

April 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Pratt

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

5.23.17
Date

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Thickened Sludge to AvraGro Storage	1704077-01	Biosolids	4/10/2017 8:15:00	4/11/2017 8:45:00	Q6

Laboratory License # AZO159

Thickened Sludge to AvraGro Storage (20002-0200)

Cross reference wo #1704073-09

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704077-01	C	Ammonia	04/10/17 8:15	EPA 350.1	4/14/17 13:13	**13900**	mg/kg dry	122	707.30		KMT
1704077-01	C	Arsenic	04/10/17 8:15	EPA 6010D	4/21/17 14:22	**ND**	mg/kg dry		12.64		MLB
1704077-01	C	Cadmium	04/10/17 8:15	EPA 6010D	4/21/17 14:22	**ND**	mg/kg dry		5.06		MLB
1704077-01	C	Chromium	04/10/17 8:15	EPA 6010D	4/21/17 14:22	**29.1**	mg/kg dry		12.64		MLB
1704077-01	C	Copper	04/10/17 8:15	EPA 6010D	4/27/17 13:55	**347**	mg/kg dry		12.64		MLB
1704077-01	C	Lead	04/10/17 8:15	EPA 6010D	4/27/17 15:30	**16.6**	mg/kg dry		12.64		MLB
1704077-01	C	Mercury	04/10/17 8:15	EPA 7471B	4/25/17 10:13	**1.63**	mg/kg dry		0.18		DML
1704077-01	C	Molybdenum	04/10/17 8:15	EPA 6010D	4/21/17 14:22	**11.9**	mg/kg dry		5.06		MLB
1704077-01	C	Nickel	04/10/17 8:15	EPA 6010D	4/21/17 14:22	**21.0**	mg/kg dry		12.64		MLB
1704077-01	C	Nitrate/Nitrite	04/10/17 8:15	EPA 353.2	4/13/17 12:14	**18.79**	mg/kg dry	1.19	11.32		KMT
1704077-01	C	Nitrite	04/10/17 8:15	SM4500-NO2	4/11/17 14:40	**14.0**	mg/kg dry	0.28	2.83		KMT
1704077-01	C	Total Kjeldahl Nitrogen	04/10/17 8:15	EPA 351.2	4/18/17 10:03	**63303**	mg/kg dry	7.43	11.32	D1	DML
1704077-01	C	Nitrogen Total Biosolids	04/10/17 8:15	Calculated	4/18/17 10:03	**63322**	mg/kg dry	0.52	0.80		DML
1704077-01	C	Selenium	04/10/17 8:15	EPA 6010D	4/21/17 14:22	**ND**	mg/kg dry		25.28		MLB
1704077-01	C	Silver	04/10/17 8:15	EPA 6010D	4/21/17 14:22	**3.71**	mg/kg dry		1.26		MLB
1704077-01	C	Zinc	04/10/17 8:15	EPA 6010D	4/21/17 14:22	**680**	mg/kg dry		12.64		MLB
1704077-01	C	% Solids	04/10/17 8:15	SM 2540G	4/13/17 13:09	**7.07**	%		0.01		JEL

Qualifier Definitions

D1	Sample required dilution due to matrix.
Q6	Sample was received above recommended temperature.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

None

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1704077-01

PROJECT & LOCATION: Regional Biosolids Facility Management - Thickened sludge to AvraGro

PROJECT-LOCATION NUMBER: 20002-0200 (XXXXX-XXXX)

SAMPLE START DATE: 04/10/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0350 (Military time)

CLIENT: Deputy Director-Treatment

SAMPLE END DATE: 04/10/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0815 (Military time)

SAMPLER(S): Vasquez, Otero (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ☐ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Hardness				
Iron				
Lead				
Magnesium				
Manganese				
Mercury	x			■
Mercury LL				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver	x			■
Sodium				
Thallium				
Tin				

METALS	Tot	Diss	D	C
Titanium				
Vanadium				
Zinc				
PPMs *				
TCLP Metals				
503 Metals **				■
Dissolved Cr+6				

WET METHODS	D	C
Ammonia as N		■
Chloride		
Cyanide, Total		
Cyanide, Amenable		
Fluoride		
Ignitability		
Nitrate as N		■
Nitrite as N		■
Nitrate/Nitrite as N		
Nitrogen, Total Kjeldahl		
Nitrogen, Total as N		■
Orthophosphate as P		
Phosphorus, Total as P		
Sulfate		
Sulfide		
Other		
Other		

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile		
Dioxin GC/SIM/MS Scan		
Organochlorine Pesticides & PCBs		
Purgeable Organics (GCMS)		
Semivolatile Organics (GCMS)		
Bis(2-ethylhexyl) phthalate		
Digester Gas		
Oil and Grease		
Organic Carbon, Total		
Organic Carbon, Dissolved		
TCLP Herbicides (Contract Lab)		
TCLP Pesticides		
TCLP Semivolatile Organics		
TCLP Volatile Organics		
TTHM		
Total Petroleum Hydrocarbons		
Volatile Acids		
Other		
Other		

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*		
Chronic *C. dubia*		
Chronic *Selenastrum capricornutum*		
Other		

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity		
BOD		
COD		
Coliform, Fecal		
Coliform, Total		
Specific Conductance		
E. coli		
Oxygen, Dissolved		
pH		
Solids, Total		■
Solids, Total Dissolved		
Solids, Total Suspended		
Solids, Total Volatile		
Solids, Volatile Suspended		
Other		

OTHER

	D	C
Paint Filter		

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ ° C
☐ Temperature *SM 2550 B*		° C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
Monthly pour off. Poured off the daily sample 1704073-09

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

See 1704073-09 for COC

Relinquished by Sampler	Received by	Date	Time (Military time)
Relinquished by	Received by	Date	Time (Military time)
Relinquished by	Received by	Date	Time (Military time)
Relinquished by	Received by	Date	Time (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 2 COS

Transported on Ice: ☐ YES ☒ NO

Lab Receipt

Temperature: 16 ° C

Initials: COS

Q6 qualifier? ☒ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

NUMBER OF BOTTLES: 5

PROJECT: **Tres Rios WRF**

PROJECT NUMBER: **20001**

SAMPLES START DATE: **04/10/2017** MM/DD/YY or MM/DD/YYYY

CLIENT: **Tres Rios Operations**

SAMPLES END DATE: **04/10/2017** MM/DD/YY or MM/DD/YYYY

SAMPLER(S): **Vasquez,Otero** (Print Last Name(s) Only)

COMMENTS: * Pour off 1704077-01, GOS 04-11-17

Work Order ID: 1704073

Sample #	Location Description Location Number	D	C	Composite Sample Start Time (Military time)	Microbiology: Alkalinity	BOD	COD	E. coli	pH	Solids, Total	Solids, Total Grams	Solids, Total Dissolved	Solids, Total Suspended	Solids, Total Volatile	Solids, Volatile Suspended	Soluble BOD	Soluble COD	Specific Conductance	Inorganic: Air Filter Be or Pb	Ammonia	Chloride	Cyanide, Total	Cyanide, Amenable	Fluoride	Hardness	Metals *	Nitrate	Nitrite	Nitrate/Nitrite	Nitrogen, Total Kjeldahl	Nitrogen, Total	Orthophosphate	Phosphorus, Total	Sulfate	Digester Gas	Oil and Grease	TTHM	VOA	Organic	Field: Field Ammonia Probe Result (mg/L)	Field Nitrate Probe Result (mg/L)	Sample End Time (Military time)	Initials
07	Centrifuge Feed Sludge 5300		■	0820						■																																2330	B.O.
08	Dewatered Cake Biosolids 5703		■	1130						■	■																															2245	B.O.
* 09	Thickened to Avragro 5701		■	0350						■	■																															0815	A.V.
10	Centrate 5501		■	0810						■																																2335	B.O.
11	Thickened Cake Biosolids 5600		■	0355						■																																0830	A.V.
	Unprocessed dig. sludge to Avragro 5702																																										

* Please indicate specific metals request here:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Refrigerator @ 52	Refrigerator @ 52	04/10/17	2345
Refrigerator @ 52		04/11/17	0635
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Lab Use Only

	Yes	No	NA
Chain of Custody Record completed appropriately?	☑	☐	☐
Sample Labels match Chain of Custody?	☑	☐	☐
Correct number of sample bottles were delivered?	☑	☐	☐
Custody seals intact?	☐	☐	☑
Within holding time?	☑	☐	☐
Sufficient sample volume for analysis?	☑	☐	☐
Samples are in properly preserved containers?	☑	☐	☐
Sample containers damaged/leaking/frozen?	☐	☑	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☑
Received from a refrigerator?	☑	☐	☐

Temperature: 3.8 °C Initials: CJ

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 06/22/2017
Laboratory License: AZO159

Sample Analysis Report

Regional Biosolids Facility Management

May 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Graft

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

6·23·17
Date

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Dewatered Cake Biosolids	1705068-01	Biosolids	5/8/2017 23:20:00	5/9/2017 8:57:00	Q6

Laboratory License # AZO159

Dewatered Cake Biosolids (20002-5703)

Cross reference wo #1705064-08

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1705068-01	C	Ammonia	05/08/17 23:20	EPA 350.1	5/10/17 12:00	**9360**	mg/kg dry	0.60	3.49	D1	DML
1705068-01	C	Arsenic	05/08/17 23:20	EPA 6010D	6/7/17 16:16	**ND**	mg/kg dry		12.70		MLB
1705068-01	C	Cadmium	05/08/17 23:20	EPA 6010D	6/7/17 16:16	**ND**	mg/kg dry		5.08		MLB
1705068-01	C	Chromium	05/08/17 23:20	EPA 6010D	6/7/17 16:16	**27.3**	mg/kg dry		12.70		MLB
1705068-01	C	Copper	05/08/17 23:20	EPA 6010D	6/7/17 16:16	**378**	mg/kg dry		12.70		MLB
1705068-01	C	Lead	05/08/17 23:20	EPA 6010D	6/7/17 16:16	**19.9**	mg/kg dry		12.70		MLB
1705068-01	C	Mercury	05/08/17 23:20	EPA 7471B	5/17/17 11:05	**0.73**	mg/kg dry		0.00349		DML
1705068-01	C	Molybdenum	05/08/17 23:20	EPA 6010D	6/7/17 16:16	**10.3**	mg/kg dry		5.08		MLB
1705068-01	C	Nickel	05/08/17 23:20	EPA 6010D	6/7/17 16:16	**19.2**	mg/kg dry		12.70		MLB
1705068-01	C	Nitrate/Nitrite	05/08/17 23:20	EPA 353.2	5/14/17 14:01	**0.77**	mg/kg dry	0.15	1.40	D1, J	KKH
1705068-01	C	Nitrite	05/08/17 23:20	SM4500-NO2	5/9/17 13:50	**0.88**	mg/kg dry	0.14	1.40	D1, J	KMT
1705068-01	C	Total Kjeldahl Nitrogen	05/08/17 23:20	EPA 351.2	5/10/17 11:06	**71933**	mg/kg dry	3.67	11.17	D2	KKH
1705068-01	C	Nitrogen Total Biosolids	05/08/17 23:20	Calculated	5/14/17 14:01	**71934**	mg/kg dry	0.52	1.60		KKH
1705068-01	C	Selenium	05/08/17 23:20	EPA 6010D	6/7/17 16:16	**ND**	mg/kg dry		25.41		MLB
1705068-01	C	Silver	05/08/17 23:20	EPA 6010D	6/8/17 09:11	**5.07**	mg/kg dry		1.27		MLB
1705068-01	C	Zinc	05/08/17 23:20	EPA 6010D	6/7/17 16:16	**676**	mg/kg dry		12.70		MLB
1705068-01	C	% Solids	05/08/17 23:20	SM 2540G	5/10/17 08:07	**14.32**	%		0.01		DEB

Qualifier Definitions

D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of target analyte.
J	Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
Q6	Sample was received above recommended temperature.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

None

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1705068-01

PROJECT & LOCATION: Regional Biosolids Facility Management - Dewatered Cake Biosolids

PROJECT-LOCATION NUMBER: 20002-5703 (XXXXX-XXXX)

SAMPLE START DATE: 05/08/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 1005 (Military time)

CLIENT: Deputy Director-Treatment

SAMPLE END DATE: 05/08/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 2320 (Military time)

SAMPLER(S): Otero, Vasquez (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ☐ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	×		☐	■
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	×		☐	■
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	■
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	■
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	■
Nitrite as N	☐	■
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	■
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
Poured off the daily sample 1705064-08

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

See 1705064-08 for COC

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 2 GOS

Transported on Ice: ☐ YES ☒ NO

Lab Receipt

Temperature: 19 °C

Initials: GOS

Q6 qualifier? ☒ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Mo, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*

** *As, Ba, Be, Cd, Cr, Cu, Pb, Mo, Mercury, Ni, Se, Ag, Tl, Zn*

COC-Single Revision 2 Revised: 03/12/2015

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

NUMBER OF BOTTLES: 3

PROJECT: Tres Rios WRF
PROJECT NUMBER: 20001
SAMPLES START DATE: 05/08/2017 MM/DD/YY or MM/DD/YYYY
CLIENT: Tres Rios Operations
SAMPLES END DATE: 05/08/2017 MM/DD/YY or MM/DD/YYYY
SAMPLER(S): Vasquez,Otero (Print Last Name(s) Only)
COMMENTS: * 1705068-01 poured off for metals and N-forms. COS 05-09-17

Work Order ID: 1705064

Sample #	Location Description Location Number	D	C	Composite Sample Start Time (Military time)	Microbiology: Alkalinity	BOD	COD	E. coli	pH	Solids, Total	Solids, Total Grams	Solids, Total Dissolved	Solids, Total Suspended	Solids, Total Volatile	Solids, Volatile Suspended	Soluble BOD	Soluble COD	Specific Conductance	Inorganic: Air Filter Be or Pb	Ammonia	Chloride	Cyanide, Total	Cyanide, Amenable	Fluoride	Hardness	Metals *	Nitrate	Nitrite	Nitrate/Nitrite	Nitrogen, Total Kjeldahl	Nitrogen, Total	Orthophosphate	Phosphorus, Total	Sulfate	Organic: Digester Gas	Oil and Grease	TTHM	VOA			Field: Field Ammonia Probe Result (mg/L)	Field Nitrate Probe Result (mg/L)	Sample End Time (Military time)	Initials
07	Centrifuge Feed Sludge 5300		■	0950						■																																	2315	B.O.
* 08	Dewatered Cake Biosolids 5703		■	1005						■	■																																2320	B.O.
	Thickened to Avragro 5701																																											
10	Centrate 5501		■	0955						■																																	2310	B.O.
	Thickened Cake Biosolids 5600																																											
	Unprocessed dig. sludge to Avragro 5702																																											

* Please indicate specific metals request here:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Refrigerator @ 52	Refrigerator @ 52	05/08/17	2325
Relinquished by:	Received by:	Date:	Time: (Military time)
Refrigerator @ 52	Sarah Russell	05/09/17	0658
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Lab Use Only

	Yes	No	NA
Chain of Custody Record completed appropriately?	☑	☐	☐
Sample Labels match Chain of Custody?	☑	☐	☐
Correct number of sample bottles were delivered?	☑	☐	☐
Custody seals intact?	☐	☐	☑
Within holding time?	☑	☐	☐
Sufficient sample volume for analysis?	☑	☐	☐
Samples are in properly preserved containers?	☑	☐	☐
Sample containers damaged/leaking/frozen?	☐	☑	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☑
Received from a refrigerator?	☑	☐	☐

Temperature: 3.3 °C Initials: SR

Jenette Lee

From: Arturo Norzagaray
Sent: Monday, May 15, 2017 13:13
To: Erika Weidenschilling; David Bartos; Scott Weiler
Cc: Jenelle Chraft; Christina McMillan; Greg Spence; Joseph Doranski; Larry Jones; Nancy Powell; Sharon Nevius; Belinda Gamboa-Felix; Jenette Lee; Melaine Halash; Tres_Rios_OM_Techs
Subject: RE: Digester 1 no label

I assume this is #1 Digester's sample.
We are pumping #1 Digester to the centrifuge in order to get it empty for annual cleaning.
Hopefully by this week it will be empty and out of service.
We stopped feeding it sludge on April 17th and put it on hold for 15 days before we started transferring it to the centrifuge on May 3rd.
Just giving everyone an update on what's going on with #1 Digester.
Art

From: Erika Weidenschilling
Sent: Monday, May 15, 2017 9:55 AM
To: Arturo Norzagaray <Arturo.Norzagaray@pima.gov>; David Bartos <David.Bartos@pima.gov>; Scott Weiler <Scott.Weiler@pima.gov>
Cc: Jenelle Chraft <Jenelle.Chraft@pima.gov>; Christina McMillan <Christina.McMillan@pima.gov>; Greg Spence <Greg.Spence@pima.gov>; Joseph Doranski <Joseph.Doranski@pima.gov>; Larry Jones <Larry.Jones@pima.gov>; Nancy Powell <Nancy.Powell@pima.gov>; Sharon Nevius <Sharon.Nevius@pima.gov>; Belinda Gamboa-Felix <Belinda.Gamboa-Felix@pima.gov>; Jenette Lee <Jenette.Lee@pima.gov>; Melaine Halash <Melaine.Halash@pima.gov>
Subject: FW: Digester 1 no label
Importance: High

Hello everyone,
This morning we received a bottle that is missing a label. It was in with the Digesters. All of the other bottles are labeled Digester 2 through 6 but Digester #1 is missing. Is this unlabeled bottle Digester #1? I've included a copy of the COC and a picture of the bottles for your reference.

Thanks,

Erika Weidenschilling
Wastewater Laboratory Chemist Specialist
Microbiology & Wet Chemistry Unit
Office: (520) 724-6065
Cell: (520) 404-6739 NEW

Pima County Regional Wastewater Reclamation Department
CRAO Laboratory
2955 W Calle Agua Nueva
Tucson, Az 85745

www.pima.gov/wastewaterreclamation
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Please consider the environment before printing this e-mail

From: Jesus Hernandez
Sent: Monday, May 15, 2017 9:12 AM
To: Erika Weidenschilling <Erika.Weidenschilling@pima.gov>
Subject: Digester 1 no label

Digester #1 did not have a label on bottle. The rest of the Digester have the numbers. Thank you.

Jesus

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 08/01/2017
Laboratory License: AZO159

Sample Analysis Report

Regional Biosolids Facility Management

June 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Pratt

8·1·17
Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Dewatered Cake Biosolids	1706132-01	Biosolids	6/19/2017 22:05:00	6/20/2017 8:44:00	Q6

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
Dewatered Cake Biosolids (20002-5703)											
Cross reference wo #1706128-08											
1706132-01	C	Ammonia	06/19/17 22:05	EPA 350.1	6/21/17 13:28	**8420**	mg/kg dry	0.57	9.91	D1	KMT
1706132-01	C	Arsenic	06/19/17 22:05	EPA 6010D	6/23/17 13:06	**ND**	mg/kg dry		17.32		MLB
1706132-01	C	Cadmium	06/19/17 22:05	EPA 6010D	6/23/17 11:29	**ND**	mg/kg dry		6.93		MLB
1706132-01	C	Chromium	06/19/17 22:05	EPA 6010D	6/23/17 11:29	**29.5**	mg/kg dry		17.32		MLB
1706132-01	C	Copper	06/19/17 22:05	EPA 6010D	6/23/17 11:29	**437**	mg/kg dry		17.32		MLB
1706132-01	C	Lead	06/19/17 22:05	EPA 6010D	6/23/17 11:29	**ND**	mg/kg dry		17.32		MLB
1706132-01	C	Mercury	06/19/17 22:05	EPA 7471B	6/23/17 11:28	**0.65**	mg/kg dry		0.00330		DML
1706132-01	C	Molybdenum	06/19/17 22:05	EPA 6010D	6/23/17 11:29	**12.2**	mg/kg dry		6.93		MLB
1706132-01	C	Nickel	06/19/17 22:05	EPA 6010D	6/23/17 11:29	**21.5**	mg/kg dry		17.32		MLB
1706132-01	C	Nitrate/Nitrite	06/19/17 22:05	EPA 353.2	6/26/17 12:25	**3.57**	mg/kg dry	0.14	1.32		KMT
1706132-01	C	Nitrite	06/19/17 22:05	SM4500-NO2	6/20/17 11:52	**4.12**	mg/kg dry	0.13	1.32		DML
1706132-01	C	Total Kjeldahl Nitrogen	06/19/17 22:05	EPA 351.2	6/22/17 15:10	**74982**	mg/kg dry	3.47	10.57	D2	DML
1706132-01	C	Nitrogen Total Biosolids	06/19/17 22:05	Calculated	6/26/17 12:25	**74986**	mg/kg dry	0.52	1.60		DML
1706132-01	C	Selenium	06/19/17 22:05	EPA 6010D	6/23/17 11:29	**ND**	mg/kg dry		34.65		MLB
1706132-01	C	Silver	06/19/17 22:05	EPA 6010D	6/23/17 11:29	**3.66**	mg/kg dry		1.73		MLB
1706132-01	C	Zinc	06/19/17 22:05	EPA 6010D	6/23/17 11:29	**705**	mg/kg dry		17.32		MLB
1706132-01	C	% Solids	06/19/17 22:05	SM 2540G	6/21/17 08:45	**15.14**	%		0.01		JGB

Qualifier Definitions

D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of target analyte.
Q6	Sample was received above recommended temperature.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

None

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1706132-01

PROJECT & LOCATION: Regional Biosolids Facility Management - Dewatered Cake Biosolids

PROJECT-LOCATION NUMBER: 20002-5703 (XXXXX-XXXX)

SAMPLE START DATE: 06/19/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 1015 (Military time)

CLIENT: Deputy Director-Treatment

SAMPLE END DATE: 06/19/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 2205 (Military time)

SAMPLER(S): Mondragon, Vasquez (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Hardness				
Iron				
Lead				
Magnesium				
Manganese				
Mercury	×			■
Mercury LL				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver	×			■
Sodium				
Thallium				
Tin				

METALS	Tot	Diss	D	C
Titanium				
Vanadium				
Zinc				
PPMs *				
TCLP Metals				
503 Metals **				■
Dissolved Cr+6				

WET METHODS	D	C
Ammonia as N		■
Chloride		
Cyanide, Total		
Cyanide, Amenable		
Fluoride		
Ignitability		
Nitrate as N		■
Nitrite as N		■
Nitrate/Nitrite as N		
Nitrogen, Total Kjeldahl		
Nitrogen, Total as N		■
Orthophosphate as P		
Phosphorus, Total as P		
Sulfate		
Sulfide		
Other		
Other		

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile		
Dioxin GC/SIM/MS Scan		
Organochlorine Pesticides & PCBs		
Purgeable Organics (GCMS)		
Semivolatile Organics (GCMS)		
Bis(2-ethylhexyl) phthalate		
Digester Gas		
Oil and Grease		
Organic Carbon, Total		
Organic Carbon, Dissolved		
TCLP Herbicides (Contract Lab)		
TCLP Pesticides		
TCLP Semivolatile Organics		
TCLP Volatile Organics		
TTHM		
Total Petroleum Hydrocarbons		
Volatile Acids		
Other		
Other		

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*		
Chronic *C. dubia*		
Chronic *Selenastrum capricornutum*		
Other		

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity		
BOD		
COD		
Coliform, Fecal		
Coliform, Total		
Specific Conductance		
E. coli		
Oxygen, Dissolved		
pH		
Solids, Total		■
Solids, Total Dissolved		
Solids, Total Suspended		
Solids, Total Volatile		
Solids, Volatile Suspended		
Other		

OTHER

	D	C
Paint Filter		

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
Poured off the daily sample 1706128-08

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

See 1706128-08 for COC

Relinquished by Sampler	Received by	Date	Time (Military time)
Relinquished by	Received by	Date	Time (Military time)
Relinquished by	Received by	Date	Time (Military time)
Relinquished by	Received by	Date	Time (Military time)

Sample Integrity/Preservation:

of Bottles Delivered: 2 COS

Transported on Ice: ☐ YES ☒ NO

Lab Receipt

Temperature: 20 °C

Initials: COS

Q6 qualifier? ☒ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

NUMBER OF BOTTLES: 3

PROJECT: Tres Rios WRF
PROJECT NUMBER: 20001
SAMPLES START DATE: 06/19/2017 MM/DD/YY or MM/DD/YYYY
CLIENT: Tres Rios Operations
SAMPLES END DATE: 06/19/2017 MM/DD/YY or MM/DD/YYYY
SAMPLER(S): Vasquez, Mondragon (Print Last Name(s) Only)
COMMENTS: * Pour off GOS 06-20-17 See 1706132-01

Work Order ID: 1706128

Location Description Location Number	D	C	Composite Sample Start Time (Military time)	Microbiology: Alkalinity	BOD	COD	E. coli	pH	Solids, Total	Solids, Total Grams	Solids, Total Dissolved	Solids, Total Suspended	Solids, Total Volatile	Solids, Volatile Suspended	Soluble BOD	Soluble COD	Specific Conductance	Inorganic: Air Filter Be or Pb	Ammonia	Chloride	Cyanide, Total	Cyanide, Amenable	Fluoride	Hardness	Metals *	Nitrate	Nitrite	Nitrate/Nitrite	Nitrogen, Total Kjeldahl	Nitrogen, Total	Orthophosphate	Phosphorus, Total	Sulfate	Organic: Digester Gas	Oil and Grease	TTHM	VOA			Field: Field Ammonia Probe Result (mg/L)	Field Nitrate Probe Result (mg/L)	Sample End Time (Military time)	Initials
Centrifuge Feed Sludge 5300		■	1000						■																																	2200	EM
Dewatered Cake Biosolids 5703 *		■	1015						■	■																															6/30/17 EM	2205 ~~2205~~	EM
Thickened to Avragro 5701																																											
Centrate 5501		■	1005						■																																	2210	EM
Thickened Cake Biosolids 5600																																											
Unprocessed Dig. sludge to Avragro 5702																																											

* Please indicate specific metals request here:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Refrigerator @ 23	Refrigerator @ 23	06-19-2017	2215
Relinquished by:	Received by:	Date:	Time: (Military time)
	Dianna C Bonson	6/20/17	0654
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Lab Use Only

	Yes	No	NA
Chain of Custody Record completed appropriately?	✓		
Sample Labels match Chain of Custody?	✓		
Correct number of sample bottles were delivered?	✓		
Custody seals intact?			✓
Within holding time?	✓		
Sufficient sample volume for analysis?	✓		
Samples are in properly preserved containers?	✓		
Sample containers damaged/leaking/frozen?		✓	
40 ml vials headspace, > pea-sized air bubble?			✓
Received from a refrigerator?	✓		

Temperature: 5.6 °C Initials: DEB

COC-Multiple-Revision 2

Revised: 03/12/2015

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 08/21/2017
Laboratory License: AZO159

Sample Analysis Report

Regional Biosolids Facility Management

July 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Chaffee

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

8·25·17
Date

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Dewatered Cake Biosolids	1707175-01	Biosolids	7/24/2017 20:15:00	7/25/2017 9:00:00	Q6

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
Dewatered Cake Biosolids (20002-5703)											
Cross reference wo #1707171-08											
1707175-01	C	Ammonia	07/24/17 20:15	EPA 350.1	7/26/17 13:58	**11800**	mg/kg dry	0.54	9.95	D2	KMT
1707175-01	C	Arsenic	07/24/17 20:15	EPA 6010D	7/27/17 10:54	**ND**	mg/kg dry		12.89		MLB
1707175-01	C	Cadmium	07/24/17 20:15	EPA 6010D	7/27/17 10:54	**ND**	mg/kg dry		5.16		MLB
1707175-01	C	Chromium	07/24/17 20:15	EPA 6010D	7/27/17 10:54	**34.8**	mg/kg dry		12.89		MLB
1707175-01	C	Copper	07/24/17 20:15	EPA 6010D	7/27/17 10:54	**472**	mg/kg dry		12.89		MLB
1707175-01	C	Lead	07/24/17 20:15	EPA 6010D	7/27/17 12:15	**15.5**	mg/kg dry		12.89		MLB
1707175-01	C	Mercury	07/24/17 20:15	EPA 7471B	8/18/17 14:44	**0.81**	mg/kg dry		0.00332		DML
1707175-01	C	Molybdenum	07/24/17 20:15	EPA 6010D	7/27/17 10:54	**13.1**	mg/kg dry		5.16		MLB
1707175-01	C	Nickel	07/24/17 20:15	EPA 6010D	7/27/17 10:54	**22.8**	mg/kg dry		12.89		MLB
1707175-01	C	Nitrate/Nitrite	07/24/17 20:15	EPA 353.2	8/1/17 10:17	**2.29**	mg/kg dry	0.15	1.33		KMT
1707175-01	C	Nitrite	07/24/17 20:15	SM4500-NO2	7/25/17 13:01	**1.54**	mg/kg dry	0.53	5.31	J	KMT
1707175-01	C	Total Kjeldahl Nitrogen	07/24/17 20:15	EPA 351.2	8/3/17 15:01	**80295**	mg/kg dry	588.94	2,654.39	D2	DML
1707175-01	C	Nitrogen Total Biosolids	07/24/17 20:15	Calculated	8/3/17 15:01	**80297**	mg/kg dry	88.75	400.00		DML
1707175-01	C	Selenium	07/24/17 20:15	EPA 6010D	7/27/17 10:54	**ND**	mg/kg dry		25.79		MLB
1707175-01	C	Silver	07/24/17 20:15	EPA 6010D	7/27/17 13:24	**3.42**	mg/kg dry		1.29		MLB
1707175-01	C	Zinc	07/24/17 20:15	EPA 6010D	7/27/17 10:54	**812**	mg/kg dry		12.89		MLB
1707175-01	C	% Solids	07/24/17 20:15	SM 2540G	7/26/17 07:19	**15.07**	%		0.01		DEB

Qualifier Definitions

D2	Sample required dilution due to high concentration of target analyte.
J	Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
Q6	Sample was received above recommended temperature.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

None

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1707175-01

PROJECT & LOCATION: Regional Biosolids Facility Management - Dewatered Cake Biosolids

PROJECT-LOCATION NUMBER: 20002-5703 (XXXXX-XXXX)

SAMPLE START DATE: 07/24/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 1010 (Military time)

CLIENT: Deputy Director-Treatment

SAMPLE END DATE: 07/24/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 2015 (Military time)

SAMPLER(S): Moreno, Bell (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	×		☐	■
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	×		☐	■
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	■
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	■
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	■
Nitrite as N	☐	■
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	■
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @° C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
Poured off the daily sample 1707171-08

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

See 1707171-08 for COC

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 2 GCD

Transported on Ice: ☐ YES ☒ NO

Lab Receipt

Temperature: 20 °C

Initials: GCJ

Q6 qualifier? ☒ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

COC-Single Revision 2

Revised: 03/12/2015

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

NUMBER OF BOTTLES: 3

PROJECT: Tres Rios WRF

PROJECT NUMBER: 20001

SAMPLES START DATE: 07/24/2017 MM/DD/YY or MM/DD/YYYY

CLIENT: Tres Rios Operations

SAMPLES END DATE: 07/24/2017 MM/DD/YY or MM/DD/YYYY

SAMPLER(S): Moreno,Bell (Print Last Name(s) Only)

COMMENTS: * 1707175-01 pour off GOS 07-25-17

Work Order ID: 1707171

Sample #	Location Description Location Number	D	C	Composite Sample Start Time (Military time)	Microbiology: Alkalinity	BOD	COD	E. coli	pH	Solids, Total	Solids, Total Grams	Solids, Total Dissolved	Solids, Total Suspended	Solids, Total Volatile	Solids, Volatile Suspended	Soluble BOD	Soluble COD	Specific Conductance	Inorganic: Air Filter Be or Pb	Ammonia	Chloride	Cyanide, Total	Cyanide, Amenable	Fluoride	Hardness	Metals *	Nitrate	Nitrite	Nitrate/Nitrite	Nitrogen, Total Kjeldahl	Nitrogen, Total	Orthophosphate	Phosphorus, Total	Sulfate	Organic: Digester Gas	Oil and Grease	TTHM	VOA			Field: Field Ammonia Probe Result (mg/L)	Field Nitrate Probe Result (mg/L)	Sample End Time (Military time)	Initials
07	Centrifuge Feed Sludge 5300		■	1000						■																																		
08	Dewatered Cake Biosolids 5703 *		■	1010						■	■																																2010	NCB
	Thickened to Avragro 5701																																										2015	NCB
10	Centrate 5501		■	1005						■																																		
	Thickened Cake Biosolids 5600																																										2020	NCB
	Unprocessed Dig. sludge to Avragro 5702																																											

* Please indicate specific metals request here:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Nathan C. Bell	Refrigerator @ 23	7/24/2017	2100
Refrigerator @ 23	[signature]	7/25/17	0637
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Lab Use Only

	Yes	No	NA
Chain of Custody Record completed appropriately?	✓		
Sample Labels match Chain of Custody?	✓		
Correct number of sample bottles were delivered?	✓		
Custody seals intact?			✓
Within holding time?	✓		
Sufficient sample volume for analysis?	✓		
Samples are in properly preserved containers?	✓		
Sample containers damaged/leaking/frozen?		✓	
40 ml vials headspace, > pea-sized air bubble?			✓
Received from a refrigerator?	✓		

Temperature: 5.0 °C Initials: AP

COC-Multiple-Revision 2

Revised: 03/12/2015

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 09/22/2017
Laboratory License: AZO159

Sample Analysis Report

Regional Biosolids Facility Management

August 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Pratt

9.25.17
Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Thickened Sludge to AvraGro Storage	1708119-01	Biosolids	8/14/2017 22:00:00	8/15/2017 9:00:00	Q6

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
Thickened Sludge to AvraGro Storage (20002-0200)											
Cross reference wo #1708115-09											
1708119-01	C	Ammonia	08/14/17 22:00	EPA 350.1	8/18/17 12:11	**15800**	mg/kg dry	1.00	18.24	D2	KMT
1708119-01	C	Arsenic	08/14/17 22:00	EPA 6010D	9/5/17 14:05	**ND**	mg/kg dry		9.63		MLB
1708119-01	C	Cadmium	08/14/17 22:00	EPA 6010D	9/5/17 14:05	**ND**	mg/kg dry		3.85		MLB
1708119-01	C	Chromium	08/14/17 22:00	EPA 6010D	9/5/17 14:05	**29.5**	mg/kg dry		9.63		MLB
1708119-01	C	Copper	08/14/17 22:00	EPA 6010D	9/5/17 14:05	**423**	mg/kg dry		9.63		MLB
1708119-01	C	Lead	08/14/17 22:00	EPA 6010D	9/6/17 13:09	**18.9**	mg/kg dry		9.63		MLB
1708119-01	C	Mercury	08/14/17 22:00	EPA 7471B	8/18/17 14:51	**0.80**	mg/kg dry		0.00122		DML
1708119-01	C	Molybdenum	08/14/17 22:00	EPA 6010D	9/5/17 14:05	**13.3**	mg/kg dry		3.85		MLB
1708119-01	C	Nickel	08/14/17 22:00	EPA 6010D	9/5/17 14:05	**20.6**	mg/kg dry		9.63		MLB
1708119-01	C	Nitrate/Nitrite	08/14/17 22:00	EPA 353.2	8/21/17 14:14	**2.55**	mg/kg dry	0.28	2.43		MGA
1708119-01	C	Nitrite	08/14/17 22:00	SM4500-NO2	8/15/17 11:03	**3.08**	mg/kg dry	0.24	2.43		KMT
1708119-01	C	Total Kjeldahl Nitrogen	08/14/17 22:00	EPA 351.2	8/27/17 09:36	**65976**	mg/kg dry	4.32	9.73		MGA
1708119-01	C	Nitrogen Total Biosolids	08/14/17 22:00	Calculated	8/27/17 09:36	**65978**	mg/kg dry	0.36	0.80		MGA
1708119-01	C	Selenium	08/14/17 22:00	EPA 6010D	9/5/17 14:05	**ND**	mg/kg dry		19.25		MLB
1708119-01	C	Silver	08/14/17 22:00	EPA 6010D	9/6/17 13:09	**3.84**	mg/kg dry		0.96		MLB
1708119-01	C	Zinc	08/14/17 22:00	EPA 6010D	9/5/17 14:05	**741**	mg/kg dry		9.63	M1, M5	MLB
1708119-01	C	% Solids	08/14/17 22:00	SM 2540G	8/15/17 15:46	**8.22**	%		0.01	R8	JGB

Qualifier Definitions

D2	Sample required dilution due to high concentration of target analyte.
M1	Matrix spike recovery was high; the associated blank spike recovery was acceptable.
M5	Analyte concentration was determined by the method of standard addition (MSA).
Q6	Sample was received above recommended temperature.
R8	Sample RPD exceeded the method acceptance limit.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

None

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1708119-01

PROJECT & LOCATION: Regional Biosolids Facility Management - Thickened sludge to AvraGro

PROJECT-LOCATION NUMBER: 20002-0200 (XXXXX-XXXX)

SAMPLE START DATE: 08/14/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 2000 (Military time)

CLIENT: Deputy Director-Treatment

SAMPLE END DATE: 08/14/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 2200 (Military time)

SAMPLER(S): Otero, Moreno (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ☐ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

Aluminum	Titanium	Acrolein and Acrylonitrile	Alkalinity
Antimony	Vanadium	Dioxin GC/SIM/MS Scan	BOD
Arsenic	Zinc	Organochlorine Pesticides & PCBs	COD
Barium	PPMs *	Purgeable Organics (GCMS)	Coliform, Fecal
Beryllium	TCLP Metals	Semivolatile Organics (GCMS)	Coliform, Total
Boron	[redacted]	Bis(2-ethylhexyl) phthalate	Specific Conductance
Cadmium	Dissolved Cr+6	Digester Gas	*E. coli*
Calcium		Oil and Grease	Oxygen, Dissolved
Chromium	[redacted]	Organic Carbon, Total	pH
Cobalt	Chloride	Organic Carbon, Dissolved	[redacted]
Copper	Cyanide, Total	TCLP Herbicides (Contract Lab)	Solids, Total Dissolved
Hardness	Cyanide, Amenable	TCLP Pesticides	Solids, Total Suspended
Iron	Fluoride	TCLP Semivolatile Organics	Solids, Total Volatile
Lead	Ignitability	TCLP Volatile Organics	Solids, Volatile Suspended
Magnesium	[redacted]	TTHM	Other
Manganese	[redacted]	Total Petroleum Hydrocarbons	
[redacted]	Nitrate/Nitrite as N	Volatile Acids	Paint Filter
Mercury LL	Nitrogen, Total Kjeldahl	Other	
Molybdenum	[redacted]	Other	
Nickel	Orthophosphate as P		
Potassium	Phosphorus, Total as P	Chronic *P. promelas*	
Selenium	Sulfate	Chronic *C. dubia*	
[redacted]	Sulfide	Chronic *Selenastrum capricornutum*	
Sodium	Other	Other	
Thallium	Other		
Tin			

☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ ° C
☐ Temperature *SM 2550 B*		° C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
Monthly pour off. Poured off the daily sample 1708115-09

Septum Blank Prep Date & Initials:

See 1708115-09 for COC

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

# of Bottles Delivered: 2 GOS

Transported on Ice: ☐ YES ☒ NO

Temperature: 22 ° C

Initials: GOS

Q6 qualifier? ☒ YES ☐ NO

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *Al, As, Ba, Be, Cd, Cr, Cu, Fe, Pb, Mn, Mo, Ni, Se, Ag, Tl, Zn*

COC-Single Revision 2 Revised: 03/12/2015

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 10/23/2017
Laboratory License: AZO159

Sample Analysis Report

Regional Biosolids Facility Management

September 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Pratt

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

10·23·17
Date

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Dewatered Cake Biosolids	1709084-01	Biosolids	9/11/2017 22:05:00	9/12/2017 8:29:00	Q6

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
Dewatered Cake Biosolids (20002-5703)											
Cross reference WO 1709080-08											
1709084-01	C	Ammonia	09/11/17 22:05	EPA 350.1	9/17/17 09:29	**8320**	mg/kg dry	0.50	3.06		MGA
1709084-01	C	Arsenic	09/11/17 22:05	EPA 6010D	9/19/17 11:16	**ND**	mg/kg dry		9.66		MLB
1709084-01	C	Cadmium	09/11/17 22:05	EPA 6010D	9/19/17 11:16	**ND**	mg/kg dry		3.86		MLB
1709084-01	C	Chromium	09/11/17 22:05	EPA 6010D	9/19/17 11:16	**28.2**	mg/kg dry		9.66		MLB
1709084-01	C	Copper	09/11/17 22:05	EPA 6010D	9/19/17 11:16	**430**	mg/kg dry		9.66		MLB
1709084-01	C	Lead	09/11/17 22:05	EPA 6010D	9/19/17 11:16	**15.4**	mg/kg dry		9.66		MLB
1709084-01	C	Mercury	09/11/17 22:05	EPA 7471B	9/28/17 12:06	**0.65**	mg/kg dry		0.00306		DML
1709084-01	C	Molybdenum	09/11/17 22:05	EPA 6010D	9/19/17 11:16	**13.7**	mg/kg dry		3.86		MLB
1709084-01	C	Nickel	09/11/17 22:05	EPA 6010D	9/19/17 11:16	**23.3**	mg/kg dry		9.66		MLB
1709084-01	C	Nitrate/Nitrite	09/11/17 22:05	EPA 353.2	9/13/17 13:07	**0.29**	mg/kg dry	0.14	1.22	J	KMT
1709084-01	C	Nitrite	09/11/17 22:05	SM4500-NO2	9/12/17 12:38	**1.09**	mg/kg dry	0.12	1.22	J	KMT
1709084-01	C	Total Kjeldahl Nitrogen	09/11/17 22:05	EPA 351.2	9/24/17 15:03	**61560**	mg/kg dry	2.17	24.47	D2	MGA
1709084-01	C	Nitrogen Total Biosolids	09/11/17 22:05	Calculated	9/24/17 15:03	**61561**	mg/kg dry	0.36	4.00		MGA
1709084-01	C	Selenium	09/11/17 22:05	EPA 6010D	9/19/17 14:20	**ND**	mg/kg dry		19.32		MLB
1709084-01	C	Silver	09/11/17 22:05	EPA 6010D	9/19/17 15:39	**2.59**	mg/kg dry		0.97		MLB
1709084-01	C	Zinc	09/11/17 22:05	EPA 6010D	9/19/17 11:16	**767**	mg/kg dry		9.66		MLB
1709084-01	C	% Solids	09/11/17 22:05	SM 2540G	9/13/17 08:34	**16.35**	%		0.01		ESW

Qualifier Definitions

D2	Sample required dilution due to high concentration of target analyte.
J	Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
Q6	Sample was received above recommended temperature.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

None

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1709084-01

PROJECT & LOCATION: Regional Biosolids Facility Management - Dewatered Cake Biosolids

PROJECT-LOCATION NUMBER: 20002-5703 (XXXXX-XXXX)

SAMPLE START DATE: 09/11/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 1105 (Military time)

CLIENT: Deputy Director-Treatment

SAMPLE END DATE: 09/11/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 2205 (Military time)

SAMPLER(S): Moreno, Mondragon (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Hardness				
Iron				
Lead				
Magnesium				
Manganese				
Mercury	x			■
Mercury LL				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver	x			■
Sodium				
Thallium				
Tin				

METALS	Tot	Diss	D	C
Titanium				
Vanadium				
Zinc				
PPMs *				
TCLP Metals				
503 Metals **				■
Dissolved Cr+6				

WET METHODS	D	C
Ammonia as N		■
Chloride		
Cyanide, Total		
Cyanide, Amenable		
Fluoride		
Ignitability		
Nitrate as N		■
Nitrite as N		■
Nitrate/Nitrite as N		
Nitrogen, Total Kjeldahl		
Nitrogen, Total as N		■
Orthophosphate as P		
Phosphorus, Total as P		
Sulfate		
Sulfide		
Other		
Other		

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile		
Dioxin GC/SIM/MS Scan		
Organochlorine Pesticides & PCBs		
Purgeable Organics (GCMS)		
Semivolatile Organics (GCMS)		
Bis(2-ethylhexyl) phthalate		
Digester Gas		
Oil and Grease		
Organic Carbon, Total		
Organic Carbon, Dissolved		
TCLP Herbicides (Contract Lab)		
TCLP Pesticides		
TCLP Semivolatile Organics		
TCLP Volatile Organics		
TTHM		
Total Petroleum Hydrocarbons		
Volatile Acids		
Other		
Other		

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*		
Chronic *C. dubia*		
Chronic *Selenastrum capricornutum*		
Other		

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity		
BOD		
COD		
Coliform, Fecal		
Coliform, Total		
Specific Conductance		
E. coli		
Oxygen, Dissolved		
pH		
Solids, Total		■
Solids, Total Dissolved		
Solids, Total Suspended		
Solids, Total Volatile		
Solids, Volatile Suspended		
Other		

OTHER

	D	C
Paint Filter		

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
Poured off the daily sample 1709080-08
Poured off 0829-605 09-15-17

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

See 1709080-08 for COC

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 2 605

Transported on Ice: ☐ YES ☒ NO

Lab Receipt

Temperature: 19 °C

Initials: 605

Q6 qualifier? ☒ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 11/13/2017
Laboratory License: AZO159

Sample Analysis Report

Regional Biosolids Facility Management

October 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Pratt

11·13·17
Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Dewatered Cake Biosolids	1710073-01	Biosolids	10/9/2017 22:05:00	10/10/2017 8:45:00	Q6

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
Dewatered Cake Biosolids (20002-5703)											
Cross Reference 1710069-08											
1710073-01	C	Ammonia	10/09/17 22:05	EPA 350.1	10/16/17 12:36	**8000**	mg/kg dry	0.56	3.42		DCR
1710073-01	C	Arsenic	10/09/17 22:05	EPA 6010D	10/25/17 16:02	**ND**	mg/kg dry		11.68		MLB
1710073-01	C	Cadmium	10/09/17 22:05	EPA 6010D	10/25/17 16:02	**ND**	mg/kg dry		4.67		MLB
1710073-01	C	Chromium	10/09/17 22:05	EPA 6010D	10/25/17 16:02	**28.1**	mg/kg dry		11.68		MLB
1710073-01	C	Copper	10/09/17 22:05	EPA 6010D	10/25/17 16:02	**428**	mg/kg dry		11.68		MLB
1710073-01	C	Lead	10/09/17 22:05	EPA 6010D	10/25/17 16:02	**14.9**	mg/kg dry		11.68		MLB
1710073-01	C	Mercury	10/09/17 22:05	EPA 7471B	10/31/17 10:28	**0.85**	mg/kg dry		0.00342	M5	DML
1710073-01	C	Molybdenum	10/09/17 22:05	EPA 6010D	10/25/17 16:02	**12.5**	mg/kg dry		4.67		MLB
1710073-01	C	Nickel	10/09/17 22:05	EPA 6010D	10/25/17 16:02	**19.8**	mg/kg dry		11.68		MLB
1710073-01	C	Nitrate/Nitrite	10/09/17 22:05	EPA 353.2	10/16/17 15:56	**1.37**	mg/kg dry	0.16	1.37		MGA
1710073-01	C	Nitrite	10/09/17 22:05	SM4500-NO2	10/10/17 15:14	**1.57**	mg/kg dry	0.14	1.37		DCR
1710073-01	C	Total Kjeldahl Nitrogen	10/09/17 22:05	EPA 351.2	10/16/17 12:12	**57090**	mg/kg dry	2.43	5.47		MGA
1710073-01	C	Nitrogen Total Biosolids	10/09/17 22:05	Calculated	10/16/17 15:56	**57091**	mg/kg dry	0.36	0.80		MGA
1710073-01	C	Selenium	10/09/17 22:05	EPA 6010D	10/25/17 16:02	**ND**	mg/kg dry		23.37		MLB
1710073-01	C	Silver	10/09/17 22:05	EPA 6010D	10/26/17 17:07	**2.65**	mg/kg dry		1.17		MLB
1710073-01	C	Zinc	10/09/17 22:05	EPA 6010D	10/25/17 16:02	**766**	mg/kg dry		11.68		MLB
1710073-01	C	% Solids	10/09/17 22:05	SM 2540G	10/11/17 08:17	**14.63**	%		0.01		ESW

Qualifier Definitions

M5	Analyte concentration was determined by the method of standard addition (MSA).
Q6	Sample was received above recommended temperature.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

None

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

COPY

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1710073-01

PROJECT & LOCATION: Regional Biosolids Facility Management - Dewatered Cake Biosolids

PROJECT-LOCATION NUMBER: 20002-5703 (XXXXX-XXXX)

SAMPLE START DATE: 10/09/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0835 (Military time)

CLIENT: Deputy Director-Treatment

SAMPLE END DATE: 10/09/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 2205 (Military time)

SAMPLER(S): Moreno, Mondragon (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

Aluminum	Titanium	Acrolein and Acrylonitrile	Alkalinity	Chlorine (Hach 10014) µg/L
Antimony	Vanadium	Dioxin GC/SIM/MS Scan	BOD	Specific Conductance (SM 2510 B) µmhos/cm
Arsenic	Zinc	Organochlorine Pesticides & PCBs	COD	Oxygen, Dissolved (SM 4500-O G) mg/L
Barium	PPMs *	Purgeable Organics (GCMS)	Coliform, Fecal	pH @ pH Temp (SM 4500-H B) @ pH Units @ ° C
Beryllium	TCLP Metals	Semivolatile Organics (GCMS)	Coliform, Total	Temperature (SM 2550 B) ° C
Boron	[redacted]	Bis(2-ethylhexyl) phthalate	Specific Conductance	Total Depth of Well feet
Cadmium	Dissolved Cr+6	Digester Gas	*E. coli*	Depth to Water feet
Calcium		Oil and Grease	Oxygen, Dissolved	Other
Chromium	[redacted]	Organic Carbon, Total	pH	
Cobalt	Chloride	Organic Carbon, Dissolved	[redacted]	
Copper	Cyanide, Total	TCLP Herbicides (Contract Lab)	Solids, Total Dissolved	
Hardness	Cyanide, Amenable	TCLP Pesticides	Solids, Total Suspended	
Iron	Fluoride	TCLP Semivolatile Organics	Solids, Total Volatile	
Lead	Ignitability	TCLP Volatile Organics	Solids, Volatile Suspended	
Magnesium	[redacted]	TTHM	Other	
Manganese	[redacted]	Total Petroleum Hydrocarbons		
[redacted]	Nitrate/Nitrite as N	Volatile Acids		
Mercury LL	Nitrogen, Total Kjeldahl	Other		
Molybdenum	[redacted]	Other		
Nickel	Orthophosphate as P			
Potassium	Phosphorus, Total as P	Chronic *P. promelas*		
Selenium	Sulfate	Chronic *C. dubia*		
[redacted]	Sulfide	Chronic *Selenastrum capricornutum*		
Sodium	Other	Other		
Thallium	Other			
Tin				

Paint Filter

Comments/Instructions: Poured off the daily sample 1710069-08

Septum Blank Prep Date & Initials:

See 1710069-08 for COC

Relinquished by Sampler	Received by	Date	Time (Military time)
Relinquished by	Received by	Date	Time (Military time)
Relinquished by	Received by	Date	Time (Military time)
Relinquished by	Received by	Date	Time (Military time)

# of Bottles Delivered: 2 GOS

Transported on Ice: ☐ YES ☒ NO

Temperature: 18 °C

Initials: GOS

Q6 qualifier? ☒ YES ☐ NO

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2

Revised: 03/12/2015

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

COPY

CHAIN OF CUSTODY

NUMBER OF BOTTLES: 3

PROJECT: Tres Rios WRF

PROJECT NUMBER: 20001

SAMPLES START DATE: 10/09/2017 MM/DD/YY or MM/DD/YYYY

CLIENT: Tres Rios Operations

SAMPLES END DATE: 10/09/2017 MM/DD/YY or MM/DD/YYYY

SAMPLER(S): Moreno, Mondragon (Print Last Name(s) Only)

COMMENTS: * 1710073-01 poured off 10-10-17 GOS

Work Order ID: 1710069 GOS 10-10-17

Sample #	Location Description Location Number	D	C	Composite Sample Start Time (Military time)	Microbiology: Alkalinity	BOD	COD	E. coli	pH	Solids, Total	Solids, Total Grains	Solids, Total Dissolved	Solids, Total Suspended	Solids, Total Volatile	Solids, Volatile Suspended	Soluble BOD	Soluble COD	Specific Conductance	Inorganic: Air Filter Be or Pb	Ammonia	Chloride	Cyanide, Total	Cyanide, Amenable	Fluoride	Hardness	Metals *	Nitrate	Nitrite	Nitrate/Nitrite	Nitrogen, Total Kjeldahl	Nitrogen, Total	Orthophosphate	Phosphorus, Total	Sulfate	Organic: Digester Gas	Oil and Grease	TTHM	VOA	Field: Field Ammonia Probe Result (mg/L)	Field Nitrate Probe Result (mg/L)	Sample End Time (Military time)	Initials
07	Centrifuge Feed Sludge 5300		■	0830						■																																2200	EM
08	Dewatered Cake Biosolids 5703 *		■	0835						■	■																															2205	EM
	Thickened to Avragro 5701																																										
10	Centrate 5501		■	0840						■																																2210	EM
	Thickened Cake Biosolids 5600																																										
	Unprocessed Dig. sludge to Avragro 5702																																										

* Please indicate specific metals request here:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Edgar Mendez	Refrigerator @ 23	10-09-2017	2215
Refrigerator @ 23	Jesús Hernández	10-10-17	0655
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Lab Use Only

	Yes	No	NA
Chain of Custody Record completed appropriately?	✓		
Sample Labels match Chain of Custody?	✓		
Correct number of sample bottles were delivered?	✓		
Custody seals intact?			✓
Within holding time?	✓		
Sufficient sample volume for analysis?	✓		
Samples are in properly preserved containers?	✓		
Sample containers damaged/leaking/frozen?		✓	
40 ml vials headspace, > pea-sized air bubble?			✓
Received from a refrigerator?	✓		

Temperature: 4.6 °C Initials: JH

COC-Multiple-Revision 2

Revised: 03/12/2015

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 12/27/2017
Laboratory License: AZO159

Sample Analysis Report

Regional Biosolids Facility Management

November 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Chraft

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

12·27·17
Date

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Dewatered Cake Biosolids	1711051-01	Biosolids	11/6/2017 22:05:00	11/7/2017 9:10:00	Q6

Laboratory License # AZO159

Dewatered Cake Biosolids (20002-5703)

Cross Reference 1711047-08

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1711051-01	C	Ammonia	11/06/17 22:05	EPA 350.1	11/8/17 14:35	**8720**	mg/kg dry	59.6	363.14		KMT
1711051-01	C	Arsenic	11/06/17 22:05	EPA 6010D	12/6/17 10:13	**ND**	mg/kg dry		13.52		MLB
1711051-01	C	Cadmium	11/06/17 22:05	EPA 6010D	12/6/17 10:13	**ND**	mg/kg dry		5.41		MLB
1711051-01	C	Chromium	11/06/17 22:05	EPA 6010D	12/6/17 10:13	**33.0**	mg/kg dry		13.52		MLB
1711051-01	C	Copper	11/06/17 22:05	EPA 6010D	12/6/17 10:13	**411**	mg/kg dry		13.52		MLB
1711051-01	C	Lead	11/06/17 22:05	EPA 6010D	12/6/17 10:13	**ND**	mg/kg dry		13.52		MLB
1711051-01	C	Mercury	11/06/17 22:05	EPA 7471B	11/30/17 10:02	**0.71**	mg/kg dry		0.00363		DML
1711051-01	C	Molybdenum	11/06/17 22:05	EPA 6010D	12/6/17 10:13	**13.5**	mg/kg dry		5.41		MLB
1711051-01	C	Nickel	11/06/17 22:05	EPA 6010D	12/6/17 10:13	**20.6**	mg/kg dry		13.52		MLB
1711051-01	C	Nitrate/Nitrite	11/06/17 22:05	EPA 353.2	11/22/17 12:32	**2.08**	mg/kg dry	0.17	1.45		DCR
1711051-01	C	Nitrite	11/06/17 22:05	SM4500-NO2	11/7/17 14:14	**1.19**	mg/kg dry	0.15	1.45	J	KMT
1711051-01	C	Total Kjeldahl Nitrogen	11/06/17 22:05	EPA 351.2	11/13/17 11:59	**65910**	mg/kg dry	2.58	17.43	D2	MGA
1711051-01	C	Nitrogen Total Biosolids	11/06/17 22:05	Calculated	11/22/17 12:32	**65912**	mg/kg dry	0.36	2.40		MGA
1711051-01	C	Selenium	11/06/17 22:05	EPA 6010D	12/6/17 10:13	**ND**	mg/kg dry		27.05		MLB
1711051-01	C	Silver	11/06/17 22:05	EPA 6010D	12/6/17 11:26	**3.69**	mg/kg dry		1.35		MLB
1711051-01	C	Zinc	11/06/17 22:05	EPA 6010D	12/6/17 10:13	**758**	mg/kg dry		13.52		MLB
1711051-01	C	% Solids	11/06/17 22:05	SM 2540G	11/8/17 08:06	**13.77**	%		0.01		ESW

Qualifier Definitions

D2	Sample required dilution due to high concentration of target analyte.
J	Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
Q6	Sample was received above recommended temperature.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

None

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

COPY

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1711051-01

PROJECT & LOCATION: Regional Biosolids Facility Management - Dewatered Cake Biosolids

PROJECT-LOCATION NUMBER: 20002-5703 (XXXXX-XXXX)

SAMPLE START DATE: 11/06/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0915 (Military time)

CLIENT: Deputy Director-Treatment

SAMPLE END DATE: 11/06/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 2205 (Military time)

SAMPLER(S): Vasquez, Mondragon (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	×		☐	■
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	×		☐	■
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	■
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	■
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	■
Nitrite as N	☐	■
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	■
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
Poured off the daily sample 1711047-08

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

See 1711047-08 for COC

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

of Bottles Delivered: 2 GOD

Transported on Ice: ☐ YES ☒ NO

Lab Receipt

Temperature: 17 °C

Initials: GOD

Q6 qualifier? ☒ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

COC-Single Revision 2

Revised: 03/12/2015

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

COPY

CHAIN OF CUSTODY

PROJECT: Tres Rios WRF

NUMBER OF BOTTLES: 3

SAMPLES START DATE: 11/06/2017 MM/DD/YY or MM/DD/YYYY

PROJECT NUMBER: 20001

SAMPLES END DATE: 11/06/2017 MM/DD/YY or MM/DD/YYYY

CLIENT: Tres Rios Operations

COMMENTS: * 1711051-01 poured off 11-07-17 GCS

SAMPLER(S): Vasquez, Mondragon (Print Last Name(s) Only)

Work Order ID: 1711047

Sample #	Location Description Location Number	D	C	Composite Sample Start Time (Military time)	Microbiology: Alkalinity	BOD	COD	E. coli	pH	Solids, Total	Solids, Total Grams	Solids, Total Dissolved	Solids, Total Suspended	Solids, Total Volatile	Solids, Volatile Suspended	Soluble BOD	Soluble COD	Specific Conductance	Inorganic: Air Filter Be or Pb	Ammonia	Chloride	Cyanide, Total	Cyanide, Amenable	Fluoride	Hardness	Metals *	Nitrate	Nitrite	Nitrate/Nitrite	Nitrogen, Total Kjeldahl	Nitrogen, Total	Orthophosphate	Phosphorus, Total	Sulfate	Organic: Digester Gas	Oil and Grease	TTHM	VOA	Field: Field Ammonia Probe Result (mg/L)	Field Nitrate Probe Result (mg/L)	Sample End Time (Military time)	Initials
07	Centrifuge Feed Sludge 5300		■	0910						■																																	
08	Dewatered Cake Biosolids 5703 *		■	0915						■	■																														2200	Em
	Thickened To Avragro 5701																																								2205	Em
10	Centrate 5501		■	0920						■																																	
	Thickened Cake Biosolids 5600																																								2210	Em
	Unprocessed sludge to Avragro 5702																																										

* Please indicate specific metals request here:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Refrigerator @ 52	Refrigerator @ 52	11-06-2017	2215
Refrigerator @ 52		11-07-17	0705

Lab Use Only

	Yes	No	NA
Chain of Custody Record completed appropriately?	✓		
Sample Labels match Chain of Custody?	✓		
Correct number of sample bottles were delivered?	✓		
Custody seals intact?			✓
Within holding time?	✓		
Sufficient sample volume for analysis?	✓		
Samples are in properly preserved containers?	✓		
Sample containers damaged/leaking/frozen?		✓	
40 ml vials headspace, > pea-sized air bubble?			✓
Received from a refrigerator?	✓		

Temperature: 6.7 °C Initials: JH

COC-Multiple-Revision 2

Revised: 03/12/2015

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 01/09/2018
Laboratory License: AZO159

Sample Analysis Report

Regional Biosolids Facility Management

December 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Chratt

1·9·18
Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Dewatered Cake Biosolids	1712031-01	Biosolids	12/4/2017 18:25:00	12/5/2017 9:00:00	Q6

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
Dewatered Cake Biosolids (20002-5703)											
Cross reference 1712027-08											
1712031-01	C	Ammonia	12/04/17 18:25	EPA 350.1	12/7/17 11:36	**7390**	mg/kg dry	0.60	3.66		HAV
1712031-01	C	Arsenic	12/04/17 18:25	EPA 6010D	12/6/17 10:16	**ND**	mg/kg dry		12.13		MLB
1712031-01	C	Cadmium	12/04/17 18:25	EPA 6010D	12/6/17 10:16	**ND**	mg/kg dry		4.85		MLB
1712031-01	C	Chromium	12/04/17 18:25	EPA 6010D	12/6/17 10:16	**33.8**	mg/kg dry		12.13		MLB
1712031-01	C	Copper	12/04/17 18:25	EPA 6010D	12/6/17 10:16	**370**	mg/kg dry		12.13		MLB
1712031-01	C	Lead	12/04/17 18:25	EPA 6010D	12/6/17 10:16	**14.7**	mg/kg dry		12.13		MLB
1712031-01	C	Mercury	12/04/17 18:25	EPA 7471B	12/27/17 13:57	**0.69**	mg/kg dry		0.00366		DML
1712031-01	C	Molybdenum	12/04/17 18:25	EPA 6010D	12/6/17 10:16	**12.1**	mg/kg dry		4.85		MLB
1712031-01	C	Nickel	12/04/17 18:25	EPA 6010D	12/6/17 10:16	**18.5**	mg/kg dry		12.13		MLB
1712031-01	C	Nitrate/Nitrite	12/04/17 18:25	EPA 353.2	12/7/17 13:01	**2.70**	mg/kg dry	0.17	1.46		DCR
1712031-01	C	Nitrite	12/04/17 18:25	SM4500-NO2	12/6/17 09:51	**3.57**	mg/kg dry	0.15	1.46		DCR
1712031-01	C	Total Kjeldahl Nitrogen	12/04/17 18:25	EPA 351.2	12/15/17 13:02	**67658**	mg/kg dry	2.60	5.85	D2	MGA
1712031-01	C	Nitrogen Total Biosolids	12/04/17 18:25	Calculated	12/15/17 13:02	**67661**	mg/kg dry	0.36	0.80		MGA
1712031-01	C	Selenium	12/04/17 18:25	EPA 6010D	12/6/17 10:16	**ND**	mg/kg dry		24.27		MLB
1712031-01	C	Silver	12/04/17 18:25	EPA 6010D	12/6/17 11:29	**3.14**	mg/kg dry		1.21		MLB
1712031-01	C	Zinc	12/04/17 18:25	EPA 6010D	12/6/17 10:16	**679**	mg/kg dry		12.13		MLB
1712031-01	C	% Solids	12/04/17 18:25	SM 2540G	12/6/17 07:38	**13.67**	%		0.01		JEL

Qualifier Definitions

D2	Sample required dilution due to high concentration of target analyte.
Q6	Sample was received above recommended temperature.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

None

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

COPY

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1712031-01

PROJECT & LOCATION: Regional Biosolids Facility Management - Dewatered Cake Biosolids

PROJECT-LOCATION NUMBER: 20002-5703 (XXXXX-XXXX)

SAMPLE START DATE: 12/04/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0946 (Military time)

CLIENT: Deputy Director-Treatment

SAMPLE END DATE: 12/04/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: ~~1820~~ 1825 (Military time) GCS 12-12-17

SAMPLER(S): Fitzpatrick, Mondragon (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	X		☐	■
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	X		☐	■
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	■
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	■
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	■
Nitrite as N	☐	■
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	■
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Reading	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
Poured off the daily sample 1712027-08

Septum Blank Prep Date & Initials:

Chain of Custody Record (Samplers Only)

See 1712027-08 for COC

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation

of Bottles Delivered: 2 GCS

Transported on Ice: ☐ YES ☒ NO

Lab Receipt

Temperature: 18 °C

Initials: GCS

Q6 qualifier? ☒ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Mo, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2 Revised: 03/12/2015

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

COPY

CHAIN OF CUSTODY

NUMBER OF BOTTLES: 3

PROJECT: Tres Rios WRF
PROJECT NUMBER: 20001
SAMPLES START DATE: 12/04/2017 MM/DD/YY or MM/DD/YYYY
CLIENT: Tres Rios Operations
SAMPLES END DATE: 12/04/2017 MM/DD/YY or MM/DD/YYYY
SAMPLER(S): Fitpatrick, Mondragon (Print Last Name(s) Only)
COMMENTS: * 1712031-01 poured off GOS 12-05-17

Work Order ID: 1712027

Sample #	Location Description Location Number	D	C	Composite Sample Start Time (Military time)	Microbiology: Alkalinity	BOD	COD	E. coli	pH	Solids, Total	Solids, Total Grams	Solids, Total Dissolved	Solids, Total Suspended	Solids, Total Volatile	Solids, Volatile Suspended	Soluble BOD	Soluble COD	Specific Conductance	Inorganic: Air Filter Be or Pb	Ammonia	Chloride	Cyanide, Total	Cyanide, Amenable	Fluoride	Hardness	Metals *	Nitrate	Nitrite	Nitrate/Nitrite	Nitrogen, Total Kjeldahl	Nitrogen, Total	Orthophosphate	Phosphorus, Total	Sulfate	Organic: Digester Gas	Oil and Grease	TTHM	VOA		Field: Field Ammonia Probe Result (mg/L)	Field Nitrate Probe Result (mg/L)	Sample End Time (Military time)	Initials
07	Centrifuge Feed Sludge 5300		■	0936						■																																	1815	GM
08	Dewatered Cake Biosolids 5703		■	0946						■	■																																~~0930~~ 1825 EM 12/4/17	EM
	Thickened To Avragro 5701																																											
10	Centrate 5501		■	0950						■																																	1820	EM
	Thickened Cake Biosolids 5600																																											
	Unprocessed sludge to Avragro 5702																																											

* Please indicate specific metals request here:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
J Edgar Mech	Refrigerator @ 9	12-04-17	1830
Refrigerator @ 9	Dianna Benner	12-5-17	0656 DGB 12-13-17
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Lab Use Only

	Yes	No	NA
Chain of Custody Record completed appropriately?	☑	☐	☐
Sample Labels match Chain of Custody?	☑	☐	☐
Correct number of sample bottles were delivered?	☑	☐	☐
Custody seals intact?	☐	☐	☑
Within holding time?	☑	☐	☐
Sufficient sample volume for analysis?	☑	☐	☐
Samples are in properly preserved containers?	☑	☐	☐
Sample containers damaged/leaking/frozen?	☐	☑	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☑
Received from a refrigerator?	☑	☐	☐

Temperature: 2.8 °C Initials: DGB

COC-Multiple-Revision 2 Revised: 03/12/2015

SECTION 3

TRES RIOS WRF
AZPDES NO. AZ0020001

SAMPLING AND ANALYSIS

PRIORITY POLLUTANTS

TCLP

HAZARDOUSNESS

ANNUAL BIOSOLIDS REPORT 2017

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ANNUAL BIOSOLIDS REPORT 2017

REGIONAL WATER
RECLAMATION DEPARTMENT

TREATMENT DIVISION

PIMA COUNTY
TUCSON, ARIZONA

PIMA COUNTY
WASTEWATER RECLAMATION

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 03/20/2017
Laboratory License: AZO159

Sample Analysis Report

Tres Rios WRF

January 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

04/17/17
Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Raw Influent	1701098-01	Water	1/13/2017 6:00:00	1/13/2017 8:28:00	Q6
Dewatered Cake Biosolids	1701100-02	Biosolids	1/13/2017 6:00:00	1/13/2017 11:34:00	Q6
Final Effluent #3 Final	1701098-02	Water	1/13/2017 6:00:00	1/13/2017 8:28:00	Q6
Effluent #3	1701098-03	Water	1/13/2017 6:00:00	1/13/2017 8:28:00	Q6

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701081-02	D	Carbon dioxide	01/11/17 3:15	SM 2720C	1/11/17 11:46	**39.2**	%				CAB
1701081-02	D	Hydrogen Sulfide	01/11/17 3:15	SM 2720C	1/11/17 11:46	**1.09**	%				CAB
1701081-02	D	Methane	01/11/17 3:15	SM 2720C	1/11/17 11:46	**56.7**	%				CAB
1701081-02	D	Nitrogen	01/11/17 3:15	SM 2720C	1/11/17 11:46	**2.97**	%				CAB
1701127-01	D	BTU	01/18/17 3:15	SM 2720C	1/18/17 13:07	**417**	BTU				CAB
1701127-01	D	Carbon dioxide	01/18/17 3:15	SM 2720C	1/18/17 13:07	**58.1**	%				CAB
1701127-01	D	Hydrogen Sulfide	01/18/17 3:15	SM 2720C	1/18/17 13:07	**0.30**	%				CAB
1701127-01	D	Methane	01/18/17 3:15	SM 2720C	1/18/17 13:07	**41.2**	%				CAB
1701127-01	D	Nitrogen	01/18/17 3:15	SM 2720C	1/18/17 13:07	**0.38**	%				CAB
1701177-02	D	BTU	01/25/17 3:15	SM 2720C	1/25/17 11:26	**594**	BTU				CAB
1701177-02	D	Carbon dioxide	01/25/17 3:15	SM 2720C	1/25/17 11:26	**35.8**	%				CAB
1701177-02	D	Hydrogen Sulfide	01/25/17 3:15	SM 2720C	1/25/17 11:26	**1.12**	%				CAB
1701177-02	D	Methane	01/25/17 3:15	SM 2720C	1/25/17 11:26	**58.7**	%				CAB
1701177-02	D	Nitrogen	01/25/17 3:15	SM 2720C	1/25/17 11:26	**4.43**	%				CAB
Dewatered Cake Biosolids (20001-5703)											
1701100-01	C	Antimony	01/13/17 6:00	EPA 6010D	1/24/17 16:05	**ND**	mg/kg dry		12.10		MLB
1701100-01	C	Arsenic	01/13/17 6:00	EPA 6010D	1/25/17 12:56	**ND**	mg/kg dry		12.10		MLB
1701100-01	C	Barium	01/13/17 6:00	EPA 6010D	1/24/17 16:05	**276**	mg/kg dry		12.10		MLB
1701100-01	C	Beryllium	01/13/17 6:00	EPA 6010D	1/24/17 16:05	**ND**	mg/kg dry		2.42		MLB
1701100-01	C	Cadmium	01/13/17 6:00	EPA 6010D	1/24/17 16:05	**ND**	mg/kg dry		4.84		MLB
1701100-01	C	Chromium	01/13/17 6:00	EPA 6010D	1/24/17 16:05	**29.5**	mg/kg dry		12.10		MLB
1701100-01	C	Copper	01/13/17 6:00	EPA 6010D	1/24/17 16:05	**348**	mg/kg dry		12.10		MLB
1701100-01	C	Lead	01/13/17 6:00	EPA 6010D	1/24/17 16:05	**ND**	mg/kg dry		12.10		MLB
1701100-01	C	Mercury	01/13/17 6:00	EPA 7471B	1/24/17 11:21	**0.73**	mg/kg dry		0.03		DML
1701100-01	C	Molybdenum	01/13/17 6:00	EPA 6010D	1/24/17 16:05	**11.0**	mg/kg dry		4.84		MLB
1701100-01	C	Nickel	01/13/17 6:00	EPA 6010D	1/24/17 16:05	**19.6**	mg/kg dry		12.10		MLB
1701100-01	C	Selenium	01/13/17 6:00	EPA 6010D	1/24/17 16:05	**ND**	mg/kg dry		24.20		MLB
1701100-01	C	Silver	01/13/17 6:00	EPA 6010D	1/25/17 12:56	**4.13**	mg/kg dry		1.21		MLB
1701100-01	C	Arsenic	01/13/17 6:00	TCLP/EPA 6010D	1/24/17 16:05	**NA**	mg/L		0.03	N7	MLB
1701100-01	C	Barium	01/13/17 6:00	TCLP/EPA 6010D	1/24/17 16:05	**NA**	mg/L		0.03	N7	MLB
1701100-01	C	Cadmium	01/13/17 6:00	TCLP/EPA 6010D	1/24/17 16:05	**NA**	mg/L		0.01	N7	MLB
1701100-01	C	Chromium	01/13/17 6:00	TCLP/EPA 6010D	1/24/17 16:05	**NA**	mg/L		0.03	N7	MLB
1701100-01	C	Lead	01/13/17 6:00	TCLP/EPA 6010D	1/24/17 16:05	**NA**	mg/L		0.03	N7	MLB
1701100-01	C	Mercury	01/13/17 6:00	TCLP/EPA 7470	2/15/17 13:39	**NA**	mg/L		0.0002	N7	DML
1701100-01	C	Selenium	01/13/17 6:00	TCLP/EPA 6010D	1/24/17 16:05	**NA**	mg/L		0.05	N7	MLB
1701100-01	C	Silver	01/13/17 6:00	TCLP/EPA 6010D	1/24/17 16:05	**NA**	mg/L		0.0025	N7	MLB
1701100-01	C	Thallium	01/13/17 6:00	EPA 6010D	1/25/17 14:12	**ND**	mg/kg dry		12.10		MLB
1701100-01	C	Zinc	01/13/17 6:00	EPA 6010D	1/24/17 17:34	**639**	mg/kg dry		12.10		MLB
1701100-01	C	% Solids	01/13/17 6:00	SM 2540G	1/15/17 09:47	**15.09**	%		0.01		CJF
1701100-01	C	Acrolein	01/13/17 6:00	EPA 624	1/17/17 14:13	**ND**	mg/kg dry	0.00299	0.66		JOB
1701100-01	C	Acrylonitrile	01/13/17 6:00	EPA 624	1/17/17 14:13	**ND**	mg/kg dry	0.000650	0.66		JOB
1701100-01	C	4,4-DDD	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00006	0.00020	D1, D7	klh
1701100-01	C	4,4-DDE	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00003	0.00020	D1, D7	klh
1701100-01	C	4,4-DDT	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00006	0.00020	D1, D7	klh
1701100-01	C	Aldrin	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00006	0.00020	D1, D7	klh
1701100-01	C	alpha-BHC	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00004	0.00020	D1, D7	klh
1701100-01	C	beta-BHC	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00009	0.00020	D1, D7	klh
1701100-01	C	Chlordane	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00025	0.00158	D1, D7	klh
1701100-01	C	delta-BHC	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00007	0.00020	D1, D7	klh
1701100-01	C	Dieldrin	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00015	0.00040	D1, D7	klh
1701100-01	C	Endosulfan I	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00004	0.00020	D1, D7	klh
1701100-01	C	Endosulfan II	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00003	0.00020	D1, D7	klh
1701100-01	C	Endosulfan sulfate	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00004	0.00020	D1, D7	klh
1701100-01	C	Endrin	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00010	0.00020	D1, D7	klh
1701100-01	C	Endrin aldehyde	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00011	0.00020	D1, D7, N1	klh
1701100-01	C	gamma-BHC (Lindane)	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00007	0.00020	D1, D7	klh
1701100-01	C	Heptachlor	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00005	0.00020	D1, D7	klh

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701100-01	C	Heptachlor Epoxide	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00004	0.00020	D1, D7	klh
1701100-01	C	PCB 1016	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00006	0.00040	D1, D7	klh
1701100-01	C	PCB 1221	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00017	0.00119	D1, D7	klh
1701100-01	C	PCB 1232	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00007	0.00119	D1, D7	klh
1701100-01	C	PCB 1242	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00013	0.00119	D1, D7	klh
1701100-01	C	PCB 1248	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00010	0.00119	D1, D7	klh
1701100-01	C	PCB 1254	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00019	0.00119	D1, D7	klh
1701100-01	C	PCB 1260	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00007	0.00040	D1, D7	klh
1701100-01	C	Total PCBs	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00016	0.00119	D1, D7	klh
1701100-01	C	Toxaphene	01/13/17 6:00	EPA 625	1/25/17 15:40	**ND**	mg/kg dry	0.00094	0.00316	D1, D7	klh
1701100-01	C	Methoxychlor	01/13/17 6:00	EPA 8270C	1/25/17 15:40	**ND**	mg/kg dry		0.00020	D1, D7	klh
1701100-01	C	1,1,1-Trichloroethane	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0002	0.00007		SRM
1701100-01	C	1,1,2,2-Tetrachloroethane	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.00006	0.00007		SRM
1701100-01	C	1,1,2-Trichloroethane	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.00009	0.00007		SRM
1701100-01	C	1,1-Dichloroethane	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0002	0.00007		SRM
1701100-01	C	1,1-Dichloroethene	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0001	0.00007		SRM
1701100-01	C	1,2-Dichlorobenzene	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.00008	0.00007		SRM
1701100-01	C	1,2-Dichloroethane	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.00009	0.00007		SRM
1701100-01	C	1,2-Dichloropropane	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0001	0.00007		SRM
1701100-01	C	1,3-Dichlorobenzene	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.00008	0.00007		SRM
1701100-01	C	1,4-Dichlorobenzene	01/13/17 6:00	EPA 624	1/18/17 18:04	**0.057**	mg/kg dry	0.0002	0.00007		SRM
1701100-01	C	2-Chloroethyl vinyl ether	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0003	0.00013		SRM
1701100-01	C	Benzene	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0001	0.00007		SRM
1701100-01	C	Bromodichloromethane	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0002	0.00007		SRM
1701100-01	C	Bromoform	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0003	0.00007		SRM
1701100-01	C	Bromomethane	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0001	0.00007		SRM
1701100-01	C	Carbon Tetrachloride	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0004	0.00007		SRM
1701100-01	C	Chlorobenzene	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.00006	0.00007		SRM
1701100-01	C	Chloroethane	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0002	0.00007		SRM
1701100-01	C	Chloroform	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0001	0.00007		SRM
1701100-01	C	Chloromethane	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0002	0.00007		SRM
1701100-01	C	cis-1,3-Dichloropropene	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.00009	0.00007		SRM
1701100-01	C	Dibromochloromethane	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.00006	0.00007		SRM
1701100-01	C	Ethyl Benzene	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.00009	0.00007		SRM
1701100-01	C	Methylene Chloride	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0002	0.00007		SRM
1701100-01	C	Tetrachloroethene	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0002	0.00007		SRM
1701100-01	C	Toluene	01/13/17 6:00	EPA 624	1/18/17 18:04	**0.064**	mg/kg dry	0.0001	0.00007		SRM
1701100-01	C	Total Trihalomethanes	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0003	0.00007		SRM
1701100-01	C	trans-1,2-Dichloroethene	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0001	0.00007		SRM
1701100-01	C	trans-1,3-Dichloropropene	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0001	0.00007		SRM
1701100-01	C	Trichloroethene	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0001	0.00007		SRM
1701100-01	C	Trichlorofluoromethane	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0003	0.00007		SRM
1701100-01	C	Vinyl chloride	01/13/17 6:00	EPA 624	1/18/17 18:04	**ND**	mg/kg dry	0.0002	0.00007		SRM
1701100-01	C	1,2,4-Trichlorobenzene	01/13/17 6:00	EPA 8260	1/18/17 18:04	**ND**	mg/kg dry		0.00007		SRM
1701100-01	C	1,2-Dibromo-3-chloropropane	01/13/17 6:00	EPA 8260	1/18/17 18:04	**ND**	mg/kg dry		0.00013		SRM
1701100-01	C	1,2-Dibromoethane	01/13/17 6:00	EPA 8260	1/18/17 18:04	**ND**	mg/kg dry		0.00007		SRM
1701100-01	C	cis-1,2-Dichloroethene	01/13/17 6:00	EPA 8260	1/18/17 18:04	**ND**	mg/kg dry		0.00007		SRM
1701100-01	C	m,p-Xylenes	01/13/17 6:00	EPA 8260	1/18/17 18:04	**ND**	mg/kg dry		0.00013		SRM
1701100-01	C	Methyl Ethyl Ketone	01/13/17 6:00	EPA 8260	1/18/17 18:04	**7.21**	mg/kg dry		0.00007		SRM
1701100-01	C	o-Xylene	01/13/17 6:00	EPA 8260	1/18/17 18:04	**ND**	mg/kg dry		0.00007		SRM
1701100-01	C	Styrene	01/13/17 6:00	EPA 8260	1/18/17 18:04	**ND**	mg/kg dry		0.00007		SRM
1701100-01	C	Xylenes, total	01/13/17 6:00	EPA 8260	1/18/17 18:04	**ND**	mg/kg dry		0.00013		SRM
1701100-01	C	2,3,7,8-TCDD - Dioxin Scan	01/13/17 6:00	EPA 625	1/26/17 13:53	**ND**	ug/kg dry		0.17		SJM
1701100-01	C	1,2,4-Trichlorobenzene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	2,3-Dichloroaniline	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701100-01	C	2,4,6-Trichlorophenol	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	2,4-Dichlorophenol	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701100-01	C	2,4-Dimethylphenol	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1701100-01	C	2,4-Dinitrophenol	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.009	0.02	D1, D7	SJM
1701100-01	C	2,4-Dinitrotoluene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701100-01	C	2,6-Dinitrotoluene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	2-Chloronaphthalene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	2-Chlorophenol	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	2-Methyl-4,6-dinitrophenol	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1701100-01	C	2-Methylphenol	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	2-Nitrophenol	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701100-01	C	3,3-Dichlorobenzidine	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701100-01	C	4-Bromophenyl phenyl ether	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	4-Chloro-3-methylphenol	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701100-01	C	4-Chlorophenyl phenyl ether	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	4-Methylphenol	01/13/17 6:00	EPA 625	1/23/17 17:58	**3.63**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	4-Nitrophenol	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1701100-01	C	Acenaphthene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	Acenaphthylene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	Anthracene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	Benzidine	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.007	0.01	D1, D7	SJM
1701100-01	C	Benzo[a]anthracene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	Benzo[a]pyrene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	Benzo[b]fluoranthene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	Benzo[ghi]perylene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701100-01	C	Benzo[k]fluoranthene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701100-01	C	bis(2-chloroethoxy)methane	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	bis(2-chloroethyl)ether	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701100-01	C	bis(2-chloroisopropyl)ether	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7, V1	SJM
1701100-01	C	bis(2-ethylhexyl)phthalate	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701100-01	C	Butylbenzylphthalate	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	Carbazole	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701100-01	C	Chrysene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	Dibenzo(a,h)anthracene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701100-01	C	Diethyl phthalate	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701100-01	C	Dimethyl phthalate	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1701100-01	C	Di-n-butyl phthalate	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701100-01	C	Di-n-octyl phthalate	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701100-01	C	Fluoranthene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	Fluorene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	Hexachlorobenzene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1701100-01	C	Hexachlorobutadiene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	Hexachlorocyclopentadiene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1701100-01	C	Hexachloroethane	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	Indeno(1,2,3-cd)pyrene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701100-01	C	Isophorone	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	Naphthalene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	n-Decane	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	Nitrobenzene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701100-01	C	N-Nitrosodimethylamine	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1701100-01	C	N-Nitrosodi-n-propylamine	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701100-01	C	N-Nitrosodiphenylamine	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.006	0.01	D1, D7	SJM
1701100-01	C	n-Octadecane	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701100-01	C	Pentachlorophenol	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1701100-01	C	Phenanthrene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	Phenol	01/13/17 6:00	EPA 625	1/23/17 17:58	**7.24**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701100-01	C	Pyrene	01/13/17 6:00	EPA 625	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	1,2-Diphenylhydrazine	01/13/17 6:00	EPA 8270C	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	1,4-Dichlorobenzene	01/13/17 6:00	EPA 8270C	1/23/17 17:58	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701100-01	C	2,4,5-Trichlorophenol	01/13/17 6:00	EPA 8270C	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.03	D1, D7	SJM
1701100-01	C	3 & 4-Methylphenol	01/13/17 6:00	EPA 8270C	1/23/17 17:58	**4.45**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701100-01	C	Pyridine	01/13/17 6:00	EPA 8270C	1/23/17 17:58	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701100-01	C	Chlordane	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	1.38	3.00	N7	KLH
1701100-01	C	Endrin	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.200	0.50	N7	KLH
1701100-01	C	gamma-BHC (Lindane)	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.270	0.50	N7	KLH

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701100-01	C	Heptachlor	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.270	0.50	N7	KLH
1701100-01	C	Heptachlor Epoxide	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.290	0.50	N7	KLH
1701100-01	C	Methoxychlor	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.270	0.50	N7	KLH
1701100-01	C	Toxaphene	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	3.79	6.00	N7	KLH
1701100-01	C	1,1-Dichloroethene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:04	**NA**	ug/L	0.110	0.50	N7	SRM
1701100-01	C	1,2-Dichloroethane	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:04	**NA**	ug/L	0.0900	0.50	N7	SRM
1701100-01	C	1,4-Dichlorobenzene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:04	**NA**	ug/L	0.170	0.50	N7	SRM
1701100-01	C	Benzene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:04	**NA**	ug/L	0.110	0.50	N7	SRM
1701100-01	C	Carbon Tetrachloride	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:04	**NA**	ug/L	0.340	0.50	N7	SRM
1701100-01	C	Chlorobenzene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:04	**NA**	ug/L	0.0600	0.50	N7	SRM
1701100-01	C	Chloroform	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:04	**NA**	ug/L	0.140	0.50	N7	SRM
1701100-01	C	Hexachlorobutadiene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:04	**NA**	ug/L	0.230	0.50	N7	SRM
1701100-01	C	Methyl Ethyl Ketone	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:04	**NA**	ug/L	0.290	0.50	N7	SRM
1701100-01	C	Tetrachloroethene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:04	**NA**	ug/L	0.180	0.50	N7	SRM
1701100-01	C	Trichloroethene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:04	**NA**	ug/L	0.130	0.50	N7	SRM
1701100-01	C	Vinyl chloride	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:04	**NA**	ug/L	0.210	0.50	N7	SRM
1701100-01	C	1,4-Dichlorobenzene	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.37	2.00	N7	SJM
1701100-01	C	2,4,5-Trichlorophenol	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	2.46	10.00	N7	SJM
1701100-01	C	2,4,6-Trichlorophenol	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.14	5.00	N7	SJM
1701100-01	C	2,4-Dinitrotoluene	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.44	5.00	N7	SJM
1701100-01	C	2-Methylphenol	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.09	2.00	N7	SJM
1701100-01	C	3 & 4-Methylphenol	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.07	4.00	N7	SJM
1701100-01	C	Hexachlorobenzene	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	0.610	2.00	N7	SJM
1701100-01	C	Hexachlorobutadiene	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	0.880	2.00	N7	SJM
1701100-01	C	Hexachloroethane	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.09	2.00	N7	SJM
1701100-01	C	Nitrobenzene	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.84	5.00	N7	SJM
1701100-01	C	Pentachlorophenol	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	6.10	10.00	N7	SJM
1701100-01	C	Pyridine	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.55	2.00	N7	SJM
1701100-02	C	Cyanide, Total	01/13/17 6:00	9012B	1/17/17 22:44	**2.0**	mg/Kg dry	0.72	3.5	E4	ALS *
* Analysis Performed by:TestAmerica Denver - See attached contract lab report for official results.											
1701100-02	C	2,4-D	01/13/17 6:00	8151A	1/25/17 00:04	**ND**	ug/L	2.1	40	E8, R4	AMB1*
1701100-02	C	Silvex (2,4,5-TP)	01/13/17 6:00	8151A	1/25/17 00:04	**ND**	ug/L	1.7	10	E8, R4	AMB1*
* Analysis Performed by:TestAmerica Denver - See attached contract lab report for official results.											
1701100-02	C	Sulfide	01/13/17 6:00	9034	1/19/17 19:13	**720**	mg/Kg dry	280	280	M2	HTL *
* Analysis Performed by:TestAmerica Irvine - See attached contract lab report for official results.											
1701100-02	C	Ignitability	01/13/17 6:00	1030	1/16/17 18:00	**Non-Ignitable**	NONE				BCB *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1701100-02	C	pH	01/13/17 6:00	9045D	1/19/17 17:05	**7.0**	SU	1.7	1.7	H5	JCB *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1701100-02	C	Percent Solids	01/13/17 6:00	2540G	1/16/17 14:38	**14.5**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1701100-02	C	Percent Moisture	01/13/17 6:00	2540G	1/16/17 14:38	**85.5**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											

Final Effluent #3 (20001-7030)

1701082-01	D	Temperature	01/11/17 9:05	SM2550B	1/11/17 09:05	**24.0**	°C		0.10		SMPLR
1701082-01	D	pH	01/11/17 9:05	SM4500 H B	1/11/17 09:05	**7.3**	pH Units				SMPLR
1701082-01	D	Temp at time of pH, °C	01/11/17 9:05	SM4500 H B	1/11/17 09:05	**20.5**	°C				SMPLR
1701082-01	D	Ammonia	01/11/17 9:05	SM4500-NH3-D	1/12/17 10:54	**3.20**	mg/L	0.04	0.50		KMT
1701082-01	D	Mercury	01/11/17 9:05	EPA 245.7	1/23/17 10:03	**1.26**	ng/L	0.730	5.00	J	KKH
1701082-01	D	Nitrate	01/11/17 9:05	Calculated	1/18/17 09:39	**1.01**	mg/L	0.04	0.20		KKH
1701082-01	D	Nitrate/Nitrite	01/11/17 9:05	EPA 353.2	1/18/17 09:39	**1.20**	mg/L	0.04	0.20		KKH
1701082-01	D	Nitrite	01/11/17 9:05	SM4500-NO2 B	1/11/17 14:06	**0.19**	mg/L	0.02	0.20	J	KKH
1701082-01	D	Total Kjeldahl Nitrogen	01/11/17 9:05	EPA 351.2	1/17/17 11:28	**4.69**	mg/L	0.52	0.80		KKH
1701082-01	D	Nitrogen Total Water	01/11/17 9:05	Calculated	1/18/17 09:39	**5.89**	mg/L	0.52	0.80		KKH
1701082-01	D	Sulfide	01/11/17 9:05	Hach 8131	1/12/17 12:47	**0.010**	mg/L	0.003	0.100	J	KMT
1701082-01	D	Oil & Grease	01/11/17 9:05	EPA 1664B	1/23/17 15:41	**3.86**	mg/L	1.25	4.55	J	JOB
1701082-02	FB	Mercury	01/11/17 9:05	EPA 245.7	1/23/17 10:00	**ND**	ng/L	0.730	5.00		KKH

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1701100-01

PROJECT & LOCATION: Tres Rios WRF - Dewatered Cake Biosolids (Annual)

PROJECT-LOCATION NUMBER: 20001-5703 (XXXXX-XXXX)

SAMPLE START DATE: 01/12/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0600 (Military time)

CLIENT: IWC

SAMPLE END DATE: 01/13/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0600 (Military time)

SAMPLER(S): Silva, Echanove, Riccaboni, Martinez (Print Last Name(s) Only)

Permit Type: ☐ APP ■ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Hardness				
Iron				
Lead				
Magnesium				
Manganese				
Mercury	×			■
Mercury LL				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Thallium				
Tin				

METALS	Tot	Diss	D	C
Titanium				
Vanadium				
Zinc				
PPMs *	×			■
TCLP Metals				■
503 Metals **				■
Dissolved Cr+6				

WET METHODS	D	C
Ammonia as N		
Chloride 1-13-17		
~~Cyanide, Total~~		■
Cyanide, Amenable		
Fluoride		
Ignitability		
Nitrate as N		
Nitrite as N		
Nitrate/Nitrite as N		
Nitrogen, Total Kjeldahl		
Nitrogen, Total as N		
Orthophosphate as P		
Phosphorus, Total as P		
Sulfate		
Sulfide		
Other		
Other		

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	
Dioxin GC/SIM/MS Scan		■
Organochlorine Pesticides & PCBs		■
Purgeable Organics (GCMS)	■	
Semivolatile Organics (GCMS)		■
Bis(2-ethylhexyl) phthalate		
Digester Gas		
Oil and Grease		
Organic Carbon, Total		
Organic Carbon, Dissolved		
TCLP Herbicides (Contract Lab)		
TCLP Pesticides		■
TCLP Semivolatile Organics		■
TCLP Volatile Organics	■	
TTHM		
Total Petroleum Hydrocarbons		
Volatile Acids		
Other		
Other		

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*		
Chronic *C. dubia*		
Chronic *Selenastrum capricornutum*		
Other		

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity		
BOD		
COD		
Coliform, Fecal		
Coliform, Total		
Specific Conductance		
E. coli		
Oxygen, Dissolved		
pH		
Solids, Total		■
Solids, Total Dissolved		
Solids, Total Suspended		
Solids, Total Volatile		
Solids, Volatile Suspended		
Other		

OTHER

	D	C
Paint Filter		

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @° C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
The Lab shall composite the Purgeable Organic, TCLP Volatile Organics and Acrolein/Acrylonitrile samples.

Septum Blank Prep Date & Initials: 12-13-16 | le

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	1-12-17	1600
Relinquished by: Riccaboni	Received by: Refrigerator	1-13-17	0230
Relinquished by: Refrigerator	Received by: [signature]	1-13-17	0600
Relinquished by: [signature]	Received by: [signature]	01-13-17	1134
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 11 GCS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 5 °C

Initials: GCS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒		
Sample labels match Chain of Custody?	☒		
Correct number of sample bottles were delivered?	☒		
Custody seals intact?			☒
Within holding time?	☒		
Sufficient sample volume for analysis?	☒		
Samples are in properly preserved containers?	☒		
Sample containers damaged/leaking/frozen?		☒	
40 ml vials headspace, > pea-sized air bubble?	☒		
Received from a refrigerator?		☒	

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Tl

COC-Single Revision 2

Revised: 03/12/2015

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1701100-02

PROJECT & LOCATION: Tres Rios WRF - Dewatered Cake Biosolids (Annual)

PROJECT-LOCATION NUMBER: 20001-5703 (XXXXX-XXXX)

SAMPLE START DATE: 01/12/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0600 (Military time)

CLIENT: IWC

SAMPLE END DATE: 01/13/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0600 (Military time)

SAMPLER(S): Silva, Echanove, Riccaboni, Martinez (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ☐ 503 ☐ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury			☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *			☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total (contract)	☐	■
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability (contract)	☐	■
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide (contract)	☐	■
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile		☐
Dioxin GC/SIM/MS Scan	☐	
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)		☐
Semivolatile Organics (GCMS)		☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	■
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics		☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total (contract)	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER	D	C
Paint Filter	☐	☐
Corrosivity pH (contract)	☐	■
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ ° C
☐ Temperature *SM 2550 B*		° C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions: All samples sent to Test America. GOS 01-13-17 PO# 17-20752

Septum Blank Prep Date & Initials:

Sample Integrity/Preservation:

# of Bottles Delivered: 5 GOS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 7 ° C

Initials: GOS

Q6 qualifier? ☒ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Riccaboni		1-12-17	1600
Riccaboni	Refrigerator	1-13-17	0230
Refrigerator		1-13-17	0600
		01-13-17	1134
		1/13/17	1158

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2

Revised: 03/12/2015

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
WATER QUALITY
SAMPLE COLLECTION REPORT

SAMPLE LOCATION: Tres Rios WRF – Dewatered Cake Biosolids LIMS: 1701100-01+02
LOCATION ID: 20001 – 5703 SAMPLERS: Silva, Echanove SAMPLE DATE: 1-13-17
Last names only, primary sampler first
Riccaboni, Martinez

Sample D or C	Parameter	Frequency	AUTO MAN	Volume Submitted	Bottle/Preservation
C	Semivolatile Organics	Hand Composite	Man	1000 ml	Amber Glass/None/Ice
C	Organochlorine Pest & PCB's		Man	1000 ml	Amber Glass/None/Ice
C	Dioxin		Man	1000 ml	Amber Glass/None/Ice
C	Priority Pollutant & 503 Metals	4 Aliquots for the duration of the discharge	Man	1000 ml	Dissolved Metals/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
C	TCLP Metals		Man	1000 ml	Dissolved Metals/None/Ice
C	TCLP Pesticides		Man	1000 ml	Amber Glass/None/Ice
C	TCLP Semivolatile organics		Man	1000 ml	Amber Glass/None/Ice
To be Composited by the Laboratory					
D	Purgeable Organics	Hand Composite	Man	4 X 40	None/Ice
D	Acrolein/Acrylonitrile		Man	4 X 40	None/Ice
D	TCLP Volatile Organics	4 Aliquots for the duration of the discharge	Man	4 X 40	None/Ice
To be Submitted to an outside Laboratory					
C	Corrosivity pH & Total Solids	Hand Composite	Man	200 ml	Glass/Ice
C	Sulfide (T)		Man	200 ml	Glass/Ice
C	Ignitability		Man	200 ml	Glass/Ice
C	Total Solids	4 Aliquots for the duration of the discharge	Man	1000 ml	General Purpose/None/Ice
C	TCLP Herbicides		Man	200 ml	Glass/Ice
C	Cyanide (T)		Man	1000 ml	Dissolved Metals/None/Ice

1 bottle

	Time
Aliquot #1 1-12-17	0705
Aliquot #2 1-12-17	1255
Aliquot #3 1-12-17	1900
Aliquot #4 1-13-17	0045

Comments:	Dewatered Cake Biosolids samples are not preserved.
	All Composites including Cyanide can be poured off at the end of the sampling event

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Biosolids	☐ 1 week			
Site: TR and AN	☐ 2 days			Job / SDG No.:
P O # 17-20362	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry	pH/corrosivity	Ignitability	TCLP herbicides	Sulfide mg/kg	Sample Specific Notes:
Agua Nueva WRF - thickened sludge 26107-0600														
1701099-03	1/13/2017	0600	Comp	BS	5	N		1	1	1	1	1		BS - biosolids
Tres Rios WRF - dewatered cake 20001-5703														
1701100-02	1/13/17	0600	Comp	BS	5	N		1	1	1	1	1		

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company: PC CRAO	Date/Time: 01-13-17/1331	Received by:	Company: PC CRAO	Date/Time: 01-13-17 / 1331
Relinquished by:	Company: PC CRAO	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

COPY

PIMA COUNTY

WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1701099-03, 1701100-02**	**DO**	**17-20362**
CONTRACT LAB	**TestAmerica PHX, IRV, NASH, DEV**	**SAMPLE GROUP**	**Biosolids**
ANALYSES	**CN^-, Ignitability, Sulfide, TCLP Herbicides, %TS, pH**	**REPORT ID**	**550-75871-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	N/A
DO received in Pima Core?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	N/A
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times? (*See page 2)	Y/N*
Check that MDLs are below water quality standards, If not notify Tom Berry? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	N/A
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	N/A
Was Tom Berry notified of any exceedences?	N/A
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	N/A
Report states if zeolite treatment was utilized?	N/A
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	N/A
Chemistry data included?	N/A
Reference Toxicant Test Results and Control Chart within limits?	N/A

PMSD Determination included and within acceptable range? (minimum acceptable= 13)	N/A
End Points include TUc, NOEC, LOEC, and IC25?	N/A
Statistics verify endpoints	N/A
Control Charts Updated to include month of analysis	N/A

Reviewer Initials:	**JD**	**Review Date:**	**02-22-17**

PEER/FINAL REVIEW:	PR	FR
LIMS/Excel data matches printed CL report?	✓	
Analysis dates are correct?	✓	
Correct Data Qualifiers included if necessary.	✓	
CRAO report shows result is from Contract Lab?	✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?	✓	
DO received in Pima Core	✓	
Analysis set to Reported?		

Peer Reviewer Initials:	TD	**Review Date:**	3-6-17
Biomonitor Supervisor Initials:	NA		NA
Final Reviewer Initials:	BAE	**Review Date:**	03/06/17

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**
*1701099-03	EPA 8151A Extraction exceeded hold time	Reported as NR
*1701099-03	EPA 9034 Analysis exceeded hold time	Reported as NR

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.*
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1701100-01

PROJECT & LOCATION: Tres Rios WRF - Dewatered Cake Biosolids (Annual)

PROJECT-LOCATION NUMBER: 20001-5703 (XXXXX-XXXX)

SAMPLE START DATE: 01/12/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0600 (Military time)

CLIENT: IWC

SAMPLE END DATE: 01/13/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0600 (Military time)

SAMPLER(S): Silva, Echanove, Riccaboni, Martinez (Print Last Name(s) Only)

Permit Type: ☐ APP ■ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Hardness				
Iron				
Lead				
Magnesium				
Manganese				
Mercury	×			■
Mercury LL				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Thallium				
Tin				

METALS	Tot	Diss	D	C
Titanium				
Vanadium				
Zinc				
PPMs *	×			■
TCLP Metals				■
503 Metals **				■
Dissolved Cr+6				

WET METHODS	D	C
Ammonia as N		
Chloride 1-13-17		
~~Cyanide, Total~~		■
Cyanide, Amenable		
Fluoride		
Ignitability		
Nitrate as N		
Nitrite as N		
Nitrate/Nitrite as N		
Nitrogen, Total Kjeldahl		
Nitrogen, Total as N		
Orthophosphate as P		
Phosphorus, Total as P		
Sulfate		
Sulfide		
Other		
Other		

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	
Dioxin GC/SIM/MS Scan		■
Organochlorine Pesticides & PCBs		■
Purgeable Organics (GCMS)	■	
Semivolatile Organics (GCMS)		■
Bis(2-ethylhexyl) phthalate		
Digester Gas		
Oil and Grease		
Organic Carbon, Total		
Organic Carbon, Dissolved		
TCLP Herbicides (Contract Lab)		
TCLP Pesticides		■
TCLP Semivolatile Organics		■
TCLP Volatile Organics	■	
TTHM		
Total Petroleum Hydrocarbons		
Volatile Acids		
Other		
Other		

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*		
Chronic *C. dubia*		
Chronic *Selenastrum capricornutum*		
Other		

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity		
BOD		
COD		
Coliform, Fecal		
Coliform, Total		
Specific Conductance		
E. coli		
Oxygen, Dissolved		
pH		
Solids, Total		■
Solids, Total Dissolved		
Solids, Total Suspended		
Solids, Total Volatile		
Solids, Volatile Suspended		
Other		

OTHER

	D	C
Paint Filter		

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @° C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions: The Lab shall composite the Purgeable Organic, TCLP Volatile Organics and Acrolein/Acrylonitrile samples.

Septum Blank Prep Date & Initials: 12-13-16 | le

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	1-12-17	1600
Relinquished by: [signature]	Received by: Refrigerator	1-13-17	0230
Relinquished by: Refrigerator	Received by: [signature]	1-13-17	0600
Relinquished by: [signature]	Received by: [signature]	01-13-17	1134
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

of Bottles Delivered: 11 GCS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 5 °C

Initials: GCS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒		
Sample labels match Chain of Custody?	☒		
Correct number of sample bottles were delivered?	☒		
Custody seals intact?			☒
Within holding time?	☒		
Sufficient sample volume for analysis?	☒		
Samples are in properly preserved containers?	☒		
Sample containers damaged/leaking/frozen?		☒	
40 ml vials headspace, > pea-sized air bubble?	☒		
Received from a refrigerator?		☒	

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Tl

COC-Single Revision 2

Revised: 03/12/2015

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1701100-02

PROJECT & LOCATION: Tres Rios WRF - Dewatered Cake Biosolids (Annual)

PROJECT-LOCATION NUMBER: 20001-5703 (XXXXX-XXXX)

SAMPLE START DATE: 01/12/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0600 (Military time)

CLIENT: IWC

SAMPLE END DATE: 01/13/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0600 (Military time)

SAMPLER(S): Silva, Echanove, Riccaboni, Martinez (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ☐ 503 ☐ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury			☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *			☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total (contract)	☐	■
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability (contract)	☐	■
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide (contract)	☐	■
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile		☐
Dioxin GC/SIM/MS Scan	☐	
Organochlorine Pesticides & PCBs	☐	
Purgeable Organics (GCMS)		☐
Semivolatile Organics (GCMS)		☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	■
TCLP Pesticides	☐	
TCLP Semivolatile Organics	☐	
TCLP Volatile Organics		☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total (contract)	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER	D	C
Paint Filter	☐	☐
Corrosivity pH (contract)	☐	■
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ ° C
☐ Temperature *SM 2550 B*		° C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions: All samples sent to Test America. GOS 01-13-17 PO# 17-20752

Septum Blank Prep Date & Initials:

Sample Integrity/Preservation:

# of Bottles Delivered: 5 GOS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 7 °C

Initials: GOS

Q6 qualifier? ☒ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Riccaboni		1-12-17	1600
Riccaboni	Refrigerator	1-13-17	0230
Refrigerator		1-13-17	0600
		01-13-17	1134
		1/13/17	1158

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2

Revised: 03/12/2015

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
WATER QUALITY
SAMPLE COLLECTION REPORT

SAMPLE LOCATION: Tres Rios WRF – Dewatered Cake Biosolids LIMS: 1701100-01+02
LOCATION ID: 20001 – 5703 SAMPLERS: Silva, Echanove SAMPLE DATE: 1-13-17
Last names only, primary sampler first
Riccaboni, Martinez

Sample D or C	Parameter	Frequency	AUTO MAN	Volume Submitted	Bottle/Preservation
C	Semivolatile Organics	Hand Composite	Man	1000 ml	Amber Glass/None/Ice
C	Organochlorine Pest & PCB's		Man	1000 ml	Amber Glass/None/Ice
C	Dioxin		Man	1000 ml	Amber Glass/None/Ice
C	Priority Pollutant & 503 Metals	4 Aliquots for the duration of the discharge	Man	1000 ml	Dissolved Metals/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
C	TCLP Metals		Man	1000 ml	Dissolved Metals/None/Ice
C	TCLP Pesticides		Man	1000 ml	Amber Glass/None/Ice
C	TCLP Semivolatile organics		Man	1000 ml	Amber Glass/None/Ice
To be Composited by the Laboratory					
D	Purgeable Organics	Hand Composite	Man	4 X 40	None/Ice
D	Acrolein/Acrylonitrile		Man	4 X 40	None/Ice
D	TCLP Volatile Organics	4 Aliquots for the duration of the discharge	Man	4 X 40	None/Ice
To be Submitted to an outside Laboratory					
C	Corrosivity pH & Total Solids	Hand Composite	Man	200 ml	Glass/Ice
C	Sulfide (T)		Man	200 ml	Glass/Ice
C	Ignitability		Man	200 ml	Glass/Ice
C	Total Solids	4 Aliquots for the duration of the discharge	Man	1000 ml	General Purpose/None/Ice
C	TCLP Herbicides		Man	200 ml	Glass/Ice
C	Cyanide (T)		Man	1000 ml	Dissolved Metals/None/Ice

1 bottle

	Time
Aliquot #1 1-12-17	0705
Aliquot #2 1-12-17	1255
Aliquot #3 1-12-17	1900
Aliquot #4 1-13-17	0045

Comments:	Dewatered Cake Biosolids samples are not preserved.
	All Composites including Cyanide can be poured off at the end of the sampling event

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Biosolids	☐ 1 week			
Site: TR and AN	☐ 2 days			Job / SDG No.:
P O # 17-20362	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry	pH/corrosivity	Ignitability	TCLP herbicides	Sulfide mg/kg	Sample Specific Notes:
Agua Nueva WRF - thickened sludge 26107-0600														
1701099-03	1/13/2017	0600	Comp	BS	5	N		1	1	1	1	1		BS - biosolids
Tres Rios WRF - dewatered cake 20001-5703														
1701100-02	1/13/17	0600	Comp	BS	5	N		1	1	1	1	1		

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company: PC CRAO	Date/Time: 01-13-17/1331	Received by:	Company: PC CRAO	Date/Time: 01-13-17 / 1331
Relinquished by:	Company: ~~PC CRAO~~ PC CRAO	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

COPY

PIMA COUNTY

WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1701099-03, 1701100-02**	**DO**	**17-20362**
CONTRACT LAB	**TestAmerica PHX, IRV, NASH, DEV**	**SAMPLE GROUP**	**Biosolids**
ANALYSES	**CN^-, Ignitability, Sulfide, TCLP Herbicides, %TS, pH**	**REPORT ID**	**550-75871-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	N/A
DO received in Pima Core?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	N/A
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times? (*See page 2)	Y/N*
Check that MDLs are below water quality standards, If not notify Tom Berry? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	N/A
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	N/A
Was Tom Berry notified of any exceedences?	N/A
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	N/A
Report states if zeolite treatment was utilized?	N/A
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	N/A
Chemistry data included?	N/A
Reference Toxicant Test Results and Control Chart within limits?	N/A

PMSD Determination included and within acceptable range? (minimum acceptable= 13)	N/A
End Points include TUc, NOEC, LOEC, and IC25?	N/A
Statistics verify endpoints	N/A
Control Charts Updated to include month of analysis	N/A

Reviewer Initials:	JD	**Review Date:**	02-22-17

PEER/FINAL REVIEW:	PR	FR
LIMS/Excel data matches printed CL report?	✓	
Analysis dates are correct?	✓	
Correct Data Qualifiers included if necessary.	✓	
CRAO report shows result is from Contract Lab?	✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?	✓	
DO received in Pima Core	✓	
Analysis set to Reported?		

Peer Reviewer Initials:	TD	**Review Date:**	3-6-17
Biomonitor Supervisor Initials:	NA		NA
Final Reviewer Initials:	BAE	**Review Date:**	03/06/17

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**
*1701099-03	EPA 8151A Extraction exceeded hold time	Reported as NR
*1701099-03	EPA 9034 Analysis exceeded hold time	Reported as NR

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.*
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

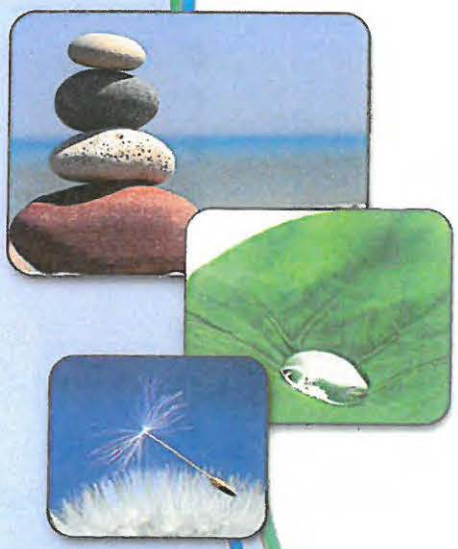
TestAmerica Job ID: 550-75871-1
TestAmerica Sample Delivery Group: TR and AN
Client Project/Site: Biosolids

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Nancy Powell

Authorized for release by:
2/15/2017 2:40:18 PM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com



LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

3

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.

General Chemistry

Qualifier	Qualifier Description
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
V1	CCV recovery was above method acceptance limits. The analyte was not detected in the sample.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Job ID: 550-75871-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-75871-1

Comments
No additional comments.

Receipt
The samples were received on 1/13/2017 4:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.4° C.

Receipt Exceptions

Method(s) 8151A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 490-405739 and analytical batch 490-405912.

Method(s) 8151A: The following sample was extracted outside of analytical holding time due to laboratory error: 1701099-03 (550-75871-3). The matrix was changed at some point and the status was not set correctly when the sample arrived, so the extraction group backlog did not indicate that the sample was available for extraction. Analysis cancelled per client request.

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

General Chemistry
Method(s) 9012A, 9012B, SM 4500 CN E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Cyanide, Total preparation batch 280-359104 and analytical batch 280-359144 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 9034: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 440-383250 and analytical batch 440-383299 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS/LCSD) recoveries was within acceptance limits.

Method(s) 9034: The following sample was analyzed outside of holding time due to the matrix changed at some point and the status was not set correctly when the sample arrived, 1701099-03 (550-75871-3). Analysis cancelled per client request.

Method(s) 9012B: The distilled continuing calibration blank (CCV) for preparation batch 490-403961 and analytical batch 490-404236 recovered outside control limits for the following analytes: Cyanide, Total. These analytes were biased high in the CCV and were not detected in the associated samples; therefore, the data has been reported.

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

Organic Prep

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

Sample Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-75871-1	1701099-03	Water	01/13/17 06:00	01/13/17 16:55
550-75871-2	1701100-02	Solid	01/13/17 06:00	01/13/17 16:55
550-75871-3	1701099-03	Solid	01/13/17 06:00	01/13/17 16:55

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Detection Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Client Sample ID: 1701099-03 — Lab Sample ID: 550-75871-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>201		72.0	72.0	Degrees F	1		1020B	Total/NA

Client Sample ID: 1701100-02 — Lab Sample ID: 550-75871-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ignitability	Non-Ignitable				NONE	1		1030	Total/NA
Cyanide, Total	2.0	E4	3.5	0.72	mg/Kg	1	☼	9012B	Total/NA
Sulfide	720	M2	280	280	mg/Kg	1	☼	9034	Total/NA
pH	7.0	H5	1.7	1.7	SU	1		9045D	Soluble

Client Sample ID: 1701099-03 — Lab Sample ID: 550-75871-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	6.9	H5	1.7	1.7	SU	1		9045D	Soluble

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

2/15/2017

Client Sample Results

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Client Sample ID: 1701099-03

Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>201		72.0	72.0	Degrees F			01/24/17 16:01	1

Client Sample ID: 1701100-02

Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-2
Matrix: Solid

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Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND	E8 R4	40	2.1	ug/L		01/19/17 16:25	01/25/17 00:04	1
Silvex (2,4,5-TP)	ND	E8 R4	10	1.7	ug/L		01/19/17 16:25	01/25/17 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*63*		*10 - 131*	*01/19/17 16:25*	*01/25/17 00:04*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ignitability	Non-Ignitable				NONE			01/16/17 18:00	1
Percent Moisture	85.5		0.1	0.1	%			01/16/17 14:38	1
Percent Solids	14.5		0.1	0.1	%			01/16/17 14:38	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0	H5	1.7	1.7	SU			01/19/17 17:05	1

Client Sample ID: 1701100-02

Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-2
Matrix: Solid
Percent Solids: 14.5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	2.0	E4	3.5	0.72	mg/Kg	☼	01/17/17 17:22	01/17/17 22:44	1
Sulfide	720	M2	280	280	mg/Kg	☼	01/19/17 15:39	01/19/17 19:13	1

Client Sample ID: 1701099-03

Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-3
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	98.6		0.1	0.1	%			01/19/17 10:28	1
Percent Solids	1.4		0.1	0.1	%			01/19/17 10:28	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.9	H5	1.7	1.7	SU			01/19/17 17:05	1

Client Sample Results

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Client Sample ID: 1701099-03
Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-3
Matrix: Solid
Percent Solids: 1.4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8 V1	140	72	mg/Kg	☼	01/27/17 10:47	01/27/17 18:29	1

Surrogate Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**DCPA2 (10-131)**
550-75871-2	1701100-02	63
550-75871-2 MS	1701100-02	36
550-75871-2 MSD	1701100-02	69
LB2 280-359222/1-B	Method Blank	59
LCS 280-359222/2-B	Lab Control Sample	68

Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

8

TestAmerica Phoenix

QC Sample Results

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Method: 8151A - Herbicides (GC)

Lab Sample ID: LB2 280-359222/1-B
Matrix: Solid
Analysis Batch: 359876

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 359395

Analyte	LB2 Result	LB2 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND	E8	40	2.1	ug/L		01/19/17 16:25	01/24/17 23:19	1
Silvex (2,4,5-TP)	ND	E8	10	1.7	ug/L		01/19/17 16:25	01/24/17 23:19	1

Surrogate	*LB2 %Recovery*	*LB2 Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*59*		*10 - 131*	*01/19/17 16:25*	*01/24/17 23:19*	*1*

Lab Sample ID: LCS 280-359222/2-B
Matrix: Solid
Analysis Batch: 359876

Client Sample ID: Lab Control Sample
Prep Type: TCLP
Prep Batch: 359395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D	50.0	41.2		ug/L		82	13 - 115
Silvex (2,4,5-TP)	50.0	39.3		ug/L		79	10 - 158

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*68*		*10 - 131*

Lab Sample ID: 550-75871-2 MS
Matrix: Solid
Analysis Batch: 359876

Client Sample ID: 1701100-02
Prep Type: TCLP
Prep Batch: 359395

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D	ND	E8 R4	50.0	23.3	E4	ug/L		47	13 - 115
Silvex (2,4,5-TP)	ND	E8 R4	50.0	23.2		ug/L		46	10 - 158

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*36*		*10 - 131*

Lab Sample ID: 550-75871-2 MSD
Matrix: Solid
Analysis Batch: 359876

Client Sample ID: 1701100-02
Prep Type: TCLP
Prep Batch: 359395

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-D	ND	E8 R4	50.0	44.1	R4	ug/L		88	13 - 115	62	30
Silvex (2,4,5-TP)	ND	E8 R4	50.0	42.4	R4	ug/L		85	10 - 158	59	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*69*		*10 - 131*

Method: 1020B - Ignitability, Small Scale Closed-Cup Method

Lab Sample ID: LCS 440-384148/1
Matrix: Water
Analysis Batch: 384148

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Flashpoint	84.0	82.00		Degrees F		98	95 - 105

TestAmerica Phoenix

QC Sample Results

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Method: 2540G - SM 2540G

Lab Sample ID: MB 550-107934/1
Matrix: Solid
Analysis Batch: 107934

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.003		0.1	0.1	%			01/16/17 14:38	1
Percent Solids	100		0.1	0.1	%			01/16/17 14:38	1

Lab Sample ID: 550-75871-2 DU
Matrix: Solid
Analysis Batch: 107934

Client Sample ID: 1701100-02
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	85.5		85.1		%		0.5	10
Percent Solids	14.5		14.9		%		3	10

9

Lab Sample ID: MB 550-108196/1
Matrix: Solid
Analysis Batch: 108196

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.004		0.1	0.1	%			01/19/17 10:28	1
Percent Solids	100		0.1	0.1	%			01/19/17 10:28	1

Lab Sample ID: 550-74185-B-22 DU
Matrix: Solid
Analysis Batch: 108196

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	29.1		28.7		%		1	10
Percent Solids	70.9	B1	71.3		%		0.5	10

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 280-359104/4-A
Matrix: Solid
Analysis Batch: 359144

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 359104

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	0.52	0.11	mg/Kg		01/17/17 17:22	01/17/17 22:35	1

Lab Sample ID: HLCS 280-359104/1-A
Matrix: Solid
Analysis Batch: 359144

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 359104

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	19.4	18.6		mg/Kg		96	90 - 110

Lab Sample ID: LCS 280-359104/3-A
Matrix: Solid
Analysis Batch: 359144

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 359104

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	4.74	4.95		mg/Kg		105	90 - 110

TestAmerica Phoenix

QC Sample Results

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Method: 9012B - Cyanide, Total andor Amenable (Continued)

Lab Sample ID: LLCS 280-359104/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 359144 — **Prep Batch: 359104**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	4.88	5.02		mg/Kg		103	51 - 150

Lab Sample ID: 280-93000-D-19-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 359144 — **Prep Batch: 359104**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	2.5	M2	22.8	17.4	M2	mg/Kg	☼	66	90 - 110

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Lab Sample ID: 280-93000-D-19-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 359144 — **Prep Batch: 359104**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	2.5	M2	24.3	16.2	M2	mg/Kg	☼	56	90 - 110	7	10

Lab Sample ID: MB 490-403961/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 404236 — **Prep Batch: 403961**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8 V1	2.0	1.0	mg/Kg		01/27/17 10:47	01/27/17 18:26	1

Lab Sample ID: LCS 490-403961/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 404236 — **Prep Batch: 403961**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	5.00	4.21	V1	mg/Kg		84	80 - 120

Lab Sample ID: 550-75871-3 MS — **Client Sample ID: 1701099-03**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 404236 — **Prep Batch: 403961**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND	E8 V1	340	381	V1	mg/Kg	☼	112	69 - 135

Lab Sample ID: 550-75871-3 MSD — **Client Sample ID: 1701099-03**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 404236 — **Prep Batch: 403961**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND	E8 V1	367	386	V1	mg/Kg	☼	105	69 - 135	1	50

Lab Sample ID: 550-75871-3 DU — **Client Sample ID: 1701099-03**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 404236 — **Prep Batch: 403961**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cyanide, Total	ND	E8 V1	ND	E8 V1	mg/Kg	☼	NC	20

TestAmerica Phoenix

QC Sample Results

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 440-383250/1-A
Matrix: Solid
Analysis Batch: 383299

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383250

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND	E8	40	40	mg/Kg		01/19/17 15:39	01/19/17 19:13	1

Lab Sample ID: LCS 440-383250/2-A
Matrix: Solid
Analysis Batch: 383299

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383250

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	96.0	88.0		mg/Kg		92	80 - 120

Lab Sample ID: LCSD 440-383250/3-A
Matrix: Solid
Analysis Batch: 383299

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383250

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	95.8	83.8		mg/Kg		88	80 - 120	5	20

Lab Sample ID: 550-75871-2 MS
Matrix: Solid
Analysis Batch: 383299

Client Sample ID: 1701100-02
Prep Type: Total/NA
Prep Batch: 383250

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	720	M2	667	945	M2	mg/Kg	☼	34	70 - 130

Lab Sample ID: 550-75871-2 MSD
Matrix: Solid
Analysis Batch: 383299

Client Sample ID: 1701100-02
Prep Type: Total/NA
Prep Batch: 383250

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	720	M2	662	993	M2	mg/Kg	☼	42	70 - 130	5	30

Method: 9045D - pH

Lab Sample ID: LCSSRM 550-108281/1
Matrix: Solid
Analysis Batch: 108281

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

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: LCSSRM 550-108281/5
Matrix: Solid
Analysis Batch: 108281

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

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.1	98.5 - 101.5

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TestAmerica Phoenix

QC Sample Results

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Method: 9045D - pH (Continued)

Lab Sample ID: 550-75871-3 DU
Matrix: Solid
Analysis Batch: 108281

Client Sample ID: 1701099-03
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	6.9	H5		6.9	H5	SU				0.1	5

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QC Association Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

GC Semi VOA

Leach Batch: 359222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-2	1701100-02	TCLP	Solid	1311	
LB2 280-359222/1-B	Method Blank	TCLP	Solid	1311	
LCS 280-359222/2-B	Lab Control Sample	TCLP	Solid	1311	
550-75871-2 MS	1701100-02	TCLP	Solid	1311	
550-75871-2 MSD	1701100-02	TCLP	Solid	1311	

Prep Batch: 359395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-2	1701100-02	TCLP	Solid	8151A	359222
LB2 280-359222/1-B	Method Blank	TCLP	Solid	8151A	359222
LCS 280-359222/2-B	Lab Control Sample	TCLP	Solid	8151A	359222
550-75871-2 MS	1701100-02	TCLP	Solid	8151A	359222
550-75871-2 MSD	1701100-02	TCLP	Solid	8151A	359222

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Analysis Batch: 359876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-2	1701100-02	TCLP	Solid	8151A	359395
LB2 280-359222/1-B	Method Blank	TCLP	Solid	8151A	359395
LCS 280-359222/2-B	Lab Control Sample	TCLP	Solid	8151A	359395
550-75871-2 MS	1701100-02	TCLP	Solid	8151A	359395
550-75871-2 MSD	1701100-02	TCLP	Solid	8151A	359395

General Chemistry

Analysis Batch: 107934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-2	1701100-02	Total/NA	Solid	2540G	
MB 550-107934/1	Method Blank	Total/NA	Solid	2540G	
550-75871-2 DU	1701100-02	Total/NA	Solid	2540G	

Analysis Batch: 107960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-2	1701100-02	Total/NA	Solid	1030	

Analysis Batch: 108196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-3	1701099-03	Total/NA	Solid	2540G	
MB 550-108196/1	Method Blank	Total/NA	Solid	2540G	
550-74185-B-22 DU	Duplicate	Total/NA	Solid	2540G	

Leach Batch: 108259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-2	1701100-02	Soluble	Solid	DI Leach	
550-75871-3	1701099-03	Soluble	Solid	DI Leach	
550-75871-3 DU	1701099-03	Soluble	Solid	DI Leach	

Analysis Batch: 108281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-2	1701100-02	Soluble	Solid	9045D	108259
550-75871-3	1701099-03	Soluble	Solid	9045D	108259

TestAmerica Phoenix

QC Association Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

General Chemistry (Continued)

Analysis Batch: 108281 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSSRM 550-108281/1	Lab Control Sample	Total/NA	Solid	9045D	
LCSSRM 550-108281/5	Lab Control Sample	Total/NA	Solid	9045D	
550-75871-3 DU	1701099-03	Soluble	Solid	9045D	108259

Prep Batch: 359104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-2	1701100-02	Total/NA	Solid	9012B	
MB 280-359104/4-A	Method Blank	Total/NA	Solid	9012B	
HLCS 280-359104/1-A	Lab Control Sample	Total/NA	Solid	9012B	
LCS 280-359104/3-A	Lab Control Sample	Total/NA	Solid	9012B	
LLCS 280-359104/2-A	Lab Control Sample	Total/NA	Solid	9012B	
280-93000-D-19-F MS	Matrix Spike	Total/NA	Solid	9012B	
280-93000-D-19-G MSD	Matrix Spike Duplicate	Total/NA	Solid	9012B	

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Analysis Batch: 359144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-2	1701100-02	Total/NA	Solid	9012B	359104
MB 280-359104/4-A	Method Blank	Total/NA	Solid	9012B	359104
HLCS 280-359104/1-A	Lab Control Sample	Total/NA	Solid	9012B	359104
LCS 280-359104/3-A	Lab Control Sample	Total/NA	Solid	9012B	359104
LLCS 280-359104/2-A	Lab Control Sample	Total/NA	Solid	9012B	359104
280-93000-D-19-F MS	Matrix Spike	Total/NA	Solid	9012B	359104
280-93000-D-19-G MSD	Matrix Spike Duplicate	Total/NA	Solid	9012B	359104

Prep Batch: 383250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-2	1701100-02	Total/NA	Solid	9030B	
MB 440-383250/1-A	Method Blank	Total/NA	Solid	9030B	
LCS 440-383250/2-A	Lab Control Sample	Total/NA	Solid	9030B	
LCSD 440-383250/3-A	Lab Control Sample Dup	Total/NA	Solid	9030B	
550-75871-2 MS	1701100-02	Total/NA	Solid	9030B	
550-75871-2 MSD	1701100-02	Total/NA	Solid	9030B	

Analysis Batch: 383299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-2	1701100-02	Total/NA	Solid	9034	383250
MB 440-383250/1-A	Method Blank	Total/NA	Solid	9034	383250
LCS 440-383250/2-A	Lab Control Sample	Total/NA	Solid	9034	383250
LCSD 440-383250/3-A	Lab Control Sample Dup	Total/NA	Solid	9034	383250
550-75871-2 MS	1701100-02	Total/NA	Solid	9034	383250
550-75871-2 MSD	1701100-02	Total/NA	Solid	9034	383250

Analysis Batch: 384148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-1	1701099-03	Total/NA	Water	1020B	
LCS 440-384148/1	Lab Control Sample	Total/NA	Water	1020B	

Prep Batch: 403961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-3	1701099-03	Total/NA	Solid	9012B	
MB 490-403961/1-A	Method Blank	Total/NA	Solid	9012B	

QC Association Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

General Chemistry (Continued)

Prep Batch: 403961 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 490-403961/2-A	Lab Control Sample	Total/NA	Solid	9012B	
550-75871-3 MS	1701099-03	Total/NA	Solid	9012B	
550-75871-3 MSD	1701099-03	Total/NA	Solid	9012B	
550-75871-3 DU	1701099-03	Total/NA	Solid	9012B	

Analysis Batch: 404236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-75871-3	1701099-03	Total/NA	Solid	9012B	403961
MB 490-403961/1-A	Method Blank	Total/NA	Solid	9012B	403961
LCS 490-403961/2-A	Lab Control Sample	Total/NA	Solid	9012B	403961
550-75871-3 MS	1701099-03	Total/NA	Solid	9012B	403961
550-75871-3 MSD	1701099-03	Total/NA	Solid	9012B	403961
550-75871-3 DU	1701099-03	Total/NA	Solid	9012B	403961

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Lab Chronicle

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Client Sample ID: 1701099-03
Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1020B		1	384148	01/24/17 16:01	AP	TAL IRV

Client Sample ID: 1701100-02
Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			359222	01/18/16 15:30	DLW	TAL DEN
TCLP	Prep	8151A			359395	01/19/17 16:25	RPC	TAL DEN
TCLP	Analysis	8151A		1	359876	01/25/17 00:04	AMB1	TAL DEN
Total/NA	Analysis	1030		1	107960	01/16/17 18:00	BCB	TAL PHX
Total/NA	Analysis	2540G		1	107934		YET	TAL PHX
					(Start)	01/16/17 14:38		
					(End)	01/17/17 09:25		
Soluble	Leach	DI Leach			108259	01/19/17 15:59	JCB	TAL PHX
Soluble	Analysis	9045D		1	108281	01/19/17 17:05	JCB	TAL PHX

Client Sample ID: 1701100-02
Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-2
Matrix: Solid
Percent Solids: 14.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9012B			359104	01/17/17 17:22	ALS	TAL DEN
Total/NA	Analysis	9012B		1	359144	01/17/17 22:44	ALS	TAL DEN
Total/NA	Prep	9030B			383250	01/19/17 15:39	HTL	TAL IRV
Total/NA	Analysis	9034		1	383299	01/19/17 19:13	HTL	TAL IRV

Client Sample ID: 1701099-03
Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	108196		YET	TAL PHX
					(Start)	01/19/17 10:28		
					(End)	01/20/17 10:10		
Soluble	Leach	DI Leach			108259	01/19/17 15:59	JCB	TAL PHX
Soluble	Analysis	9045D		1	108281	01/19/17 17:05	JCB	TAL PHX

TestAmerica Phoenix

Lab Chronicle

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Client Sample ID: 1701099-03
Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-3
Matrix: Solid
Percent Solids: 1.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9012B			403961	01/27/17 10:47	LDT	TAL NSH
Total/NA	Analysis	9012B		1	404236	01/27/17 18:29	SDL	TAL NSH

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022
TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177
TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Certification Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Laboratory: TestAmerica Phoenix

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arizona	State Program	9	AZ0728	06-09-17

Analysis Method	Prep Method	Matrix	Analyte

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-20-17
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16 *
Connecticut	State Program	1	PH-0686	09-30-18
Florida	NELAP	4	E87667	06-30-17
Georgia	State Program	4	N/A	01-08-18
Illinois	NELAP	5	200017	04-30-17
Iowa	State Program	7	370	11-30-16 *
Kansas	NELAP	7	E-10166	04-30-17
Louisiana	NELAP	6	02096	06-30-17
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-17 *
Nevada	State Program	9	CO0026	07-31-17
New Hampshire	NELAP	1	205310	04-28-17
New Jersey	NELAP	2	CO004	06-30-17
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-17
North Dakota	State Program	8	R-034	01-09-17 *
Oklahoma	State Program	6	8614	08-31-17
Oregon	NELAP	10	4025	01-08-18
Pennsylvania	NELAP	3	68-00664	07-31-17
South Carolina	State Program	4	72002001	01-09-17 *
Texas	NELAP	6	T104704183-16-12	09-30-17
USDA	Federal		P330-16-00397	12-15-19
Utah	NELAP	8	CO00026	07-31-17
Virginia	NELAP	3	460232	06-14-17
Washington	State Program	10	C583	08-02-17
West Virginia DEP	State Program	3	354	11-30-17
Wisconsin	State Program	5	999615430	08-31-17
Wyoming (UST)	A2LA	8	2907.01	10-31-17

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-14-17

* Certification renewal pending - certification considered valid.

TestAmerica Phoenix

Certification Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Laboratory: TestAmerica Irvine (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
California	LA Cty Sanitation Districts	9	10256	06-30-18
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 16-001r	01-23-17 *
Hawaii	State Program	9	N/A	01-29-17 *
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312016-2	07-31-17
New Mexico	State Program	6	N/A	01-29-17 *
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-17 *
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-17
A2LA	ISO/IEC 17025		0453.07	12-31-17
Alaska (UST)	State Program	10	UST-087	07-24-17
Arizona	State Program	9	AZ0473	05-05-17
Arkansas DEQ	State Program	6	88-0737	04-25-17
California	State Program	9	2938	10-31-18
Connecticut	State Program	1	PH-0220	12-31-17
Florida	NELAP	4	E87358	06-30-17
Georgia	State Program	4	N/A	12-31-17
Illinois	NELAP	5	200010	12-09-17
Iowa	State Program	7	131	04-01-18
Kansas	NELAP	7	E-10229	10-31-17
Kentucky (UST)	State Program	4	19	06-30-17
Kentucky (WW)	State Program	4	90038	12-31-17
Louisiana	NELAP	6	30613	06-30-17
Maine	State Program	1	TN00032	11-03-17
Maryland	State Program	3	316	03-31-18
Massachusetts	State Program	1	M-TN032	06-30-17
Minnesota	NELAP	5	047-999-345	12-31-17
Mississippi	State Program	4	N/A	06-30-17
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-17
New Hampshire	NELAP	1	2963	10-09-17
New Jersey	NELAP	2	TN965	06-30-17
New York	NELAP	2	11342	03-31-17
North Carolina (WW/SW)	State Program	4	387	12-31-17
North Dakota	State Program	8	R-146	06-30-17
Ohio VAP	State Program	5	CL0033	07-10-17
Oklahoma	State Program	6	9412	08-31-17
Oregon	NELAP	10	TN200001	04-27-17
Pennsylvania	NELAP	3	68-00585	06-30-17
Rhode Island	State Program	1	LAO00268	12-30-17
South Carolina	State Program	4	84009 (001)	02-18-17 *
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17

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* Certification renewal pending - certification considered valid.

TestAmerica Phoenix

Certification Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Laboratory: TestAmerica Nashville (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Tennessee	State Program	4	2008	02-23-17 *
Texas	NELAP	6	T104704077	08-31-17
USDA	Federal		P330-13-00306	12-01-19
Utah	NELAP	8	TN00032	07-31-17
Virginia	NELAP	3	460152	06-14-17
Washington	State Program	10	C789	07-19-17
West Virginia DEP	State Program	3	219	02-28-18
Wisconsin	State Program	5	998020430	08-31-17
Wyoming (UST)	A2LA	8	453.07	12-31-17

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* Certification renewal pending - certification considered valid.

TestAmerica Phoenix

Method Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Method	Method Description	Protocol	Laboratory
8151A	Herbicides (GC)	SW846	TAL DEN
1020B	Ignitability, Small Scale Closed-Cup Method	SW846	TAL IRV
1030	Ignitability, Solids	SW846	TAL PHX
2540G	SM 2540G	SM22	TAL PHX
9012B	Cyanide, Total andor Amenable	SW846	TAL NSH
9012B	Cyanide, Total andor Amenable	SW846	TAL DEN
9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL IRV
9045D	pH	SW846	TAL PHX

Protocol References:

SM22 = SM22

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

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TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

75871

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Biosolids	☐ 1 week			
Site: TR and AN	☐ 2 days			Job / SDG No.:
P O # 17-20362	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry	pH/corrosivity	Ignitability	TCLP herbicides	Sulfide mg/kg	Sample Specific Notes:
Agua Nueva WRF - thickened sludge 26107-0600														
1701099-03	1/13/2017	0600	Comp	BS	5	N		1	1	1	1	1		-01 BS - biosolids
Tres Rios WRF - dewatered cake 20001-5703														
1701100-02	1/13/17	0600	Comp	BS	5	N		1	1	1	1	1		-02

550-75871 Chain of Custody

Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☐Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

0.4°C on ice

Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Relinquished by:	Company: PC CRAO	Date/Time: 01-13-17/1331	Received by:	Company: PC CRAO	Date/Time: 01-13-17 / 1331
Relinquished by:	Company: PC CRAO	Date/Time: 1528	Received by:	Company: TAL	Date/Time: 1/13/17 1528
Relinquished by:	Company: TAL	Date/Time: 1/13/17 16:55	Received in Laboratory by:	Company: TA	Date/Time: 1/13/17 16:55

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler	Lab PM: Eshelman, Linda	Carrier Tracking No(s)	COC No: 550-15886.1
Client Contact: Shipping/Receiving	Phone	E-Mail: linda.eshelman@testamericainc.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-75871-1
Address: 4955 Yarrow Street,	Due Date Requested: 1/20/2017			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #			
Email	WO #			
Project Name: Biosolids	Project #: 55001656			
Site	SSOW#			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8151A/1311_TTCLP 8151	9012B/9012B_Prep	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
1701100-02 (550-75871-2)	1/13/17	06:00 Arizona		Solid			X	X	1	, AZ

550-75871 Chain of Custody

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: 01-16-17 12:00 PM	Date/Time	Company: LAB	Received by:	Date/Time: 1-17-17 0955	Company: TAD
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.		Cooler Temperature(s) °C and Other Remarks: 3.4 IRS Ct-0.C transferred SPiers 1-17-17		

TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Eshelman, Linda	Carrier Tracking No(s):	COC No. 550-15888.1
Client Contact: Shipping/Receiving	Phone	E-Mail: linda.eshelman@testamericainc.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-75871-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 1/23/2017			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Biosolids	Project #: 55001656			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1020B	SM4500_S2_DI Sulfide, Total	9034_Calc/9030B	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
1701099-03 (550-75871-1)	1/13/17	06:00 Arizona		Water			X	X		2	
1701100-02 (550-75871-2)	1/13/17	06:00 Arizona		Solid					X	1	AZ spl please manually qualify source spls when needed (M & R).

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment: Fed: 6715 9621 8544		
Relinquished by: [illegible]	Date/Time: 1/16-17 17:00	Company: TAB	Received by: [illegible]	Date/Time: 1/17/17 9:30	Company: TAI	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by	Date/Time:	Company	Received by:	Date/Time:	Company	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: (CS) 4.7/4.4 IR-77			

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 08/11/2017
Laboratory License: AZO159

Sample Analysis Report

Tres Rios WRF

April 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Arnatt

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

10.2.17
Date

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704128-01	D	BTU	04/18/17 7:25	SM 2720C	4/18/17 13:30	**607**	BTU				CAB
1704128-01	D	Carbon dioxide	04/18/17 7:25	SM 2720C	4/18/17 13:30	**38.5**	%				CAB
1704128-01	D	Hydrogen Sulfide	04/18/17 7:25	SM 2720C	4/18/17 13:30	**0.14**	%				CAB
1704128-01	D	Methane	04/18/17 7:25	SM 2720C	4/18/17 13:30	**59.9**	%				CAB
1704128-01	D	Nitrogen	04/18/17 7:25	SM 2720C	4/18/17 13:30	**1.40**	%				CAB
Sludge Gas-Building #60 (20001-3660)											
1704033-02	D	BTU	04/05/17 3:15	SM 2720C	4/5/17 09:43	**598**	BTU				CAB
1704033-02	D	Carbon dioxide	04/05/17 3:15	SM 2720C	4/5/17 09:43	**39.4**	%				CAB
1704033-02	D	Hydrogen Sulfide	04/05/17 3:15	SM 2720C	4/5/17 09:43	**0.34**	%				CAB
1704033-02	D	Methane	04/05/17 3:15	SM 2720C	4/5/17 09:43	**59.0**	%				CAB
1704033-02	D	Nitrogen	04/05/17 3:15	SM 2720C	4/5/17 09:43	**1.20**	%				CAB
1704097-02	D	BTU	04/13/17 3:15	SM 2720C	4/13/17 12:20	**594**	BTU				JRP
1704097-02	D	Carbon dioxide	04/13/17 3:15	SM 2720C	4/13/17 12:20	**40.2**	%				JRP
1704097-02	D	Hydrogen Sulfide	04/13/17 3:15	SM 2720C	4/13/17 12:20	**0.00**	%				JRP
1704097-02	D	Methane	04/13/17 3:15	SM 2720C	4/13/17 12:20	**58.6**	%				JRP
1704097-02	D	Nitrogen	04/13/17 3:15	SM 2720C	4/13/17 12:20	**1.06**	%				JRP
1704137-02	D	BTU	04/19/17 3:15	SM 2720C	4/19/17 10:12	**600**	BTU				CAB
1704137-02	D	Carbon dioxide	04/19/17 3:15	SM 2720C	4/19/17 10:12	**39.9**	%				CAB
1704137-02	D	Hydrogen Sulfide	04/19/17 3:15	SM 2720C	4/19/17 10:12	**0.35**	%				CAB
1704137-02	D	Methane	04/19/17 3:15	SM 2720C	4/19/17 10:12	**59.2**	%				CAB
1704137-02	D	Nitrogen	04/19/17 3:15	SM 2720C	4/19/17 10:12	**0.54**	%				CAB
1704199-02	D	BTU	04/26/17 3:15	SM 2720C	4/26/17 10:45	**589**	BTU				JRP
1704199-02	D	Carbon dioxide	04/26/17 3:15	SM 2720C	4/26/17 10:45	**40.4**	%				JRP
1704199-02	D	Hydrogen Sulfide	04/26/17 3:15	SM 2720C	4/26/17 10:45	**0.26**	%				JRP
1704199-02	D	Methane	04/26/17 3:15	SM 2720C	4/26/17 10:45	**58.2**	%				JRP
1704199-02	D	Nitrogen	04/26/17 3:15	SM 2720C	4/26/17 10:45	**1.19**	%				JRP
Digester #4 (20001-4000)											
1704046-01	D	% Solids	04/06/17 1:20	SM 2540G	4/6/17 12:36	**0.67**	%		0.01		ADP
1704046-01	D	% Solids, Total Volatile	04/06/17 1:20	SM 2540G	4/6/17 15:20	**70.6**	%		0.01		ADP
Dewatered Cake Biosolids (20001-5703)											
1704055-01	C	Antimony	04/07/17 6:00	EPA 6010D	4/27/17 13:47	**ND**	mg/kg dry		8.12		MLB
1704055-01	C	Arsenic	04/07/17 6:00	EPA 6010D	4/21/17 14:14	**ND**	mg/kg dry		8.12		MLB
1704055-01	C	Beryllium	04/07/17 6:00	EPA 6010D	4/21/17 14:14	**2.00**	mg/kg dry		1.62		MLB
1704055-01	C	Cadmium	04/07/17 6:00	EPA 6010D	4/21/17 14:14	**ND**	mg/kg dry		3.25		MLB
1704055-01	C	Chromium	04/07/17 6:00	EPA 6010D	4/21/17 14:14	**28.5**	mg/kg dry		8.12		MLB
1704055-01	C	Copper	04/07/17 6:00	EPA 6010D	4/27/17 13:47	**357**	mg/kg dry		8.12		MLB
1704055-01	C	Lead	04/07/17 6:00	EPA 6010D	4/27/17 15:23	**12.9**	mg/kg dry		8.12		MLB
1704055-01	C	Mercury	04/07/17 6:00	EPA 7471B	4/25/17 10:11	**1.02**	mg/kg dry		0.09		DML
1704055-01	C	Molybdenum	04/07/17 6:00	EPA 6010D	4/21/17 14:14	**11.5**	mg/kg dry		3.25		MLB
1704055-01	C	Nickel	04/07/17 6:00	EPA 6010D	4/21/17 14:14	**20.7**	mg/kg dry		8.12		MLB
1704055-01	C	Selenium	04/07/17 6:00	EPA 6010D	4/21/17 14:14	**ND**	mg/kg dry		16.25		MLB
1704055-01	C	Silver	04/07/17 6:00	EPA 6010D	4/21/17 14:14	**4.34**	mg/kg dry		0.81		MLB
1704055-01	C	Thallium	04/07/17 6:00	EPA 6010D	4/27/17 13:47	**ND**	mg/kg dry		8.12		MLB
1704055-01	C	Zinc	04/07/17 6:00	EPA 6010D	4/21/17 14:14	**685**	mg/kg dry		8.12		MLB
1704055-01	C	% Solids	04/07/17 6:00	SM 2540G	4/12/17 07:39	**13.78**	%		0.01		JEL
1704055-01	C	Acrolein	04/07/17 6:00	EPA 624	4/10/17 17:49	**ND**	mg/kg dry	0.00111	1.44		JOB
1704055-01	C	Acrylonitrile	04/07/17 6:00	EPA 624	4/10/17 17:49	**ND**	mg/kg dry	0.00116	1.44		JOB
1704055-01	C	4,4-DDD	04/07/17 6:00	EPA 625	4/18/17 18:40	**ND**	mg/kg dry	0.00006	0.00020	D1, D7, E6	KLH
1704055-01	C	4,4-DDE	04/07/17 6:00	EPA 625	4/18/17 18:40	**ND**	mg/kg dry	0.00003	0.00020	D1, D7, E6	KLH
1704055-01	C	4,4-DDT	04/07/17 6:00	EPA 625	4/18/17 18:40	**ND**	mg/kg dry	0.00006	0.00020	D1, D7, E6	KLH
1704055-01	C	Aldrin	04/07/17 6:00	EPA 625	4/18/17 18:40	**ND**	mg/kg dry	0.00006	0.00020	D1, D7, E6	KLH
1704055-01	C	alpha-BHC	04/07/17 6:00	EPA 625	4/18/17 18:40	**ND**	mg/kg dry	0.00004	0.00020	D1, D7, E6	KLH
1704055-01	C	beta-BHC	04/07/17 6:00	EPA 625	4/18/17 18:40	**ND**	mg/kg dry	0.00009	0.00020	D1, D7, E6	KLH
1704055-01	C	Chlordane	04/07/17 6:00	EPA 625	4/18/17 18:40	**ND**	mg/kg dry	0.00025	0.00156	D1, D7, E6	KLH

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704055-01	C	delta-BHC	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00007	0.00020	D1, D7, E6	KLH
1704055-01	C	Dieldrin	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00015	0.00039	D1, D7, E6	KLH
1704055-01	C	Endosulfan I	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00004	0.00020	D1, D7, E6	KLH
1704055-01	C	Endosulfan II	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00003	0.00020	D1, D7, E6	KLH
1704055-01	C	Endosulfan sulfate	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00004	0.00020	D1, D7, E6	KLH
1704055-01	C	Endrin	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00010	0.00020	D1, D7, E6	KLH
1704055-01	C	Endrin aldehyde	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00011	0.00020	D1, D7, E6, N1	KLH
1704055-01	C	gamma-BHC (Lindane)	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00007	0.00020	D1, D7, E6	KLH
1704055-01	C	Heptachlor	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00005	0.00020	D1, D7, E6	KLH
1704055-01	C	Heptachlor Epoxide	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00004	0.00020	D1, D7, E6	KLH
1704055-01	C	PCB 1016	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00006	0.00039	D1, D7, E6	KLH
1704055-01	C	PCB 1221	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00017	0.00117	D1, D7, E6	KLH
1704055-01	C	PCB 1232	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00007	0.00117	D1, D7, E6	KLH
1704055-01	C	PCB 1242	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00013	0.00117	D1, D7, E6	KLH
1704055-01	C	PCB 1248	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00010	0.00117	D1, D7, E6	KLH
1704055-01	C	PCB 1254	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00019	0.00117	D1, D7, E6	KLH
1704055-01	C	PCB 1260	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00007	0.00039	D1, D7, E6	KLH
1704055-01	C	Total PCBs	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00016	0.00117	D1, D7	KLH
1704055-01	C	Toxaphene	04/07/17 6:00	EPA 625	4/18/17 18:40	ND	mg/kg dry	0.00094	0.00312	D1, D7, E6	KLH
1704055-01	C	Methoxychlor	04/07/17 6:00	EPA 8270C	4/18/17 18:40	ND	mg/kg dry		0.00020	D1, D7, E6	KLH
1704055-01	C	1,1,1-Trichloroethane	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0002	0.00007		SRM
1704055-01	C	1,1,2,2-Tetrachloroethane	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.00006	0.00007		SRM
1704055-01	C	1,1,2-Trichloroethane	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.00009	0.00007		SRM
1704055-01	C	1,1-Dichloroethane	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0002	0.00007	V1	SRM
1704055-01	C	1,1-Dichloroethene	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0001	0.00007		SRM
1704055-01	C	1,2-Dichlorobenzene	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.00008	0.00007		SRM
1704055-01	C	1,2-Dichloroethane	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.00009	0.00007		SRM
1704055-01	C	1,2-Dichloropropane	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0001	0.00007		SRM
1704055-01	C	1,3-Dichlorobenzene	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.00008	0.00007		SRM
1704055-01	C	1,4-Dichlorobenzene	04/07/17 6:00	EPA 624	4/10/17 17:29	**0.074**	mg/kg dry	0.0002	0.00007		SRM
1704055-01	C	2-Chloroethyl vinyl ether	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0003	0.00015		SRM
1704055-01	C	Benzene	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0001	0.00007		SRM
1704055-01	C	Bromodichloromethane	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0002	0.00007		SRM
1704055-01	C	Bromoform	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0003	0.00007		SRM
1704055-01	C	Bromomethane	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0001	0.00007		SRM
1704055-01	C	Carbon Tetrachloride	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0004	0.00007		SRM
1704055-01	C	Chlorobenzene	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.00006	0.00007		SRM
1704055-01	C	Chloroethane	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0002	0.00007		SRM
1704055-01	C	Chloroform	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0001	0.00007		SRM
1704055-01	C	Chloromethane	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0002	0.00007		SRM
1704055-01	C	cis-1,3-Dichloropropene	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.00009	0.00007		SRM
1704055-01	C	Dibromochloromethane	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.00006	0.00007		SRM
1704055-01	C	Ethyl Benzene	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.00009	0.00007		SRM
1704055-01	C	Methylene Chloride	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0002	0.00007		SRM
1704055-01	C	Tetrachloroethene	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0002	0.00007		SRM
1704055-01	C	Toluene	04/07/17 6:00	EPA 624	4/10/17 17:29	**0.110**	mg/kg dry	0.0001	0.00007		SRM
1704055-01	C	Total Trihalomethanes	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0003	0.00007		SRM
1704055-01	C	trans-1,2-Dichloroethene	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0001	0.00007		SRM
1704055-01	C	trans-1,3-Dichloropropene	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0001	0.00007		SRM
1704055-01	C	Trichloroethene	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0001	0.00007		SRM
1704055-01	C	Trichlorofluoromethane	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0003	0.00007		SRM
1704055-01	C	Vinyl chloride	04/07/17 6:00	EPA 624	4/10/17 17:29	ND	mg/kg dry	0.0002	0.00007		SRM
1704055-01	C	1,2,4-Trichlorobenzene	04/07/17 6:00	EPA 8260	4/10/17 17:29	ND	mg/kg dry		0.00050		SRM
1704055-01	C	1,2-Dibromo-3-chloropropane	04/07/17 6:00	EPA 8260	4/10/17 17:29	ND	mg/kg dry		0.00100		SRM
1704055-01	C	1,2-Dibromoethane	04/07/17 6:00	EPA 8260	4/10/17 17:29	ND	mg/kg dry		0.00050		SRM
1704055-01	C	cis-1,2-Dichloroethene	04/07/17 6:00	EPA 8260	4/10/17 17:29	ND	mg/kg dry		0.00050		SRM
1704055-01	C	m,p-Xylenes	04/07/17 6:00	EPA 8260	4/10/17 17:29	ND	mg/kg dry		0.00100		SRM
1704055-01	C	o-Xylene	04/07/17 6:00	EPA 8260	4/10/17 17:29	ND	mg/kg dry		0.00050		SRM
1704055-01	C	Styrene	04/07/17 6:00	EPA 8260	4/10/17 17:29	ND	mg/kg dry		0.00050		SRM
1704055-01	C	Xylenes, total	04/07/17 6:00	EPA 8260	4/10/17 17:29	ND	mg/kg dry		0.00100		SRM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704055-01	C	2,3,7,8-TCDD - Dioxin Scan	04/07/17 6:00	EPA 625	4/19/17 14:09	ND	ug/kg dry		0.18		SJM
1704055-01	C	1,2,4-Trichlorobenzene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	2,3-Dichloroaniline	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704055-01	C	2,4,6-Trichlorophenol	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704055-01	C	2,4-Dichlorophenol	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	2,4-Dimethylphenol	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.004	0.01	D1, D7	SJM
1704055-01	C	2,4-Dinitrophenol	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.009	0.02	D1, D7	SJM
1704055-01	C	2,4-Dinitrotoluene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704055-01	C	2,6-Dinitrotoluene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704055-01	C	2-Chloronaphthalene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704055-01	C	2-Chlorophenol	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704055-01	C	2-Methyl-4,6-dinitrophenol	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.005	0.01	D1, D7	SJM
1704055-01	C	2-Methylphenol	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704055-01	C	2-Nitrophenol	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1704055-01	C	3,3-Dichlorobenzidine	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704055-01	C	4-Bromophenyl phenyl ether	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704055-01	C	4-Chloro-3-methylphenol	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704055-01	C	4-Chlorophenyl phenyl ether	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704055-01	C	4-Methylphenol	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	4-Nitrophenol	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.005	0.01	D1, D7	SJM
1704055-01	C	Acenaphthene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	Acenaphthylene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	Anthracene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	Benzidine	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.007	0.01	D1, D7	SJM
1704055-01	C	Benzo[a]anthracene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704055-01	C	Benzo[a]pyrene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	Benzo[b]fluoranthene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	Benzo[ghi]perylene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1704055-01	C	Benzo[k]fluoranthene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704055-01	C	bis(2-chloroethoxy)methane	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	bis(2-chloroethyl)ether	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704055-01	C	bis(2-chloroisopropyl)ether	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	bis(2-ethylhexyl)phthalate	04/07/17 6:00	EPA 625	4/17/17 21:39	16.55	mg/kg dry	0.003	0.01	D1, D7	SJM
1704055-01	C	Butylbenzylphthalate	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	Carbazole	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1704055-01	C	Chrysene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704055-01	C	Dibenzo(a,h)anthracene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1704055-01	C	Diethyl phthalate	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704055-01	C	Dimethyl phthalate	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1704055-01	C	Di-n-butyl phthalate	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704055-01	C	Di-n-octyl phthalate	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1704055-01	C	Fluoranthene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704055-01	C	Fluorene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	Hexachlorobenzene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1704055-01	C	Hexachlorobutadiene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704055-01	C	Hexachlorocyclopentadiene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.004	0.01	D1, D7	SJM
1704055-01	C	Hexachloroethane	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704055-01	C	Indeno(1,2,3-cd)pyrene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1704055-01	C	Isophorone	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	Naphthalene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	n-Decane	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	Nitrobenzene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704055-01	C	N-Nitrosodimethylamine	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1704055-01	C	N-Nitrosodi-n-propylamine	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704055-01	C	N-Nitrosodiphenylamine	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.006	0.01	D1, D7	SJM
1704055-01	C	n-Octadecane	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704055-01	C	Pentachlorophenol	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.004	0.01	D1, D7	SJM
1704055-01	C	Phenanthrene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704055-01	C	Phenol	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1704055-01	C	Pyrene	04/07/17 6:00	EPA 625	4/17/17 21:39	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704055-01	C	1,2-Diphenylhydrazine	04/07/17 6:00	EPA 8270C	4/17/17 21:39	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704055-01	C	Cyanide, Total	04/07/17 6:00	9014	4/10/17 14:39	**3.0**	mg/Kg dry	1.3	3.4	E4	JCB *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1704055-01	C	Percent Solids	04/07/17 6:00	2540G	4/10/17 09:07	**13.7**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1704055-01	C	Percent Moisture	04/07/17 6:00	2540G	4/10/17 09:07	**86.3**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											

Final Effluent #3 (20001-7030)

CL Ceriodaphnia dubia Reproduction											
1704016-01	C	LOEC % Effluent	04/03/17 8:00	EPA 1002	4/4/17 11:32	**NC**	N/A	1.0	1.0		OTHER
1704016-01	C	NOEC % Effluent	04/03/17 8:00	EPA 1002	4/4/17 11:32	**100**	N/A	1.0	1.0		OTHER
1704016-01	C	TUc (IC25 Based)	04/03/17 8:00	EPA 1002	4/4/17 11:32	**NC**	N/A	1.0	1.0		OTHER
1704016-01	C	TUc (NOEC Based)	04/03/17 8:00	EPA 1002	4/4/17 11:32	**1.0**	N/A	1.0	1.0		OTHER
* Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
CL Ceriodaphnia dubia Survival											
1704016-01	C	LOEC % Effluent	04/03/17 8:00	EPA 1002	4/4/17 11:32	**NC**	N/A	1.0	1.0		OTHER
1704016-01	C	NOEC % Effluent	04/03/17 8:00	EPA 1002	4/4/17 11:32	**100**	N/A	1.0	1.0		OTHER
1704016-01	C	TUc (IC25 Based)	04/03/17 8:00	EPA 1002	4/4/17 11:32	**NC**	N/A	1.0	1.0		OTHER
1704016-01	C	TUc (NOEC Based)	04/03/17 8:00	EPA 1002	4/4/17 11:32	**1.0**	N/A	1.0	1.0		OTHER
* Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
CL Pimephales promelas Growth											
1704016-01	C	LOEC % Effluent	04/03/17 8:00	EPA 1000	4/4/17 15:35	**NC**	N/A	1.0	1.0		OTHER
1704016-01	C	NOEC % Effluent	04/03/17 8:00	EPA 1000	4/4/17 15:35	**100**	N/A	1.0	1.0		OTHER
1704016-01	C	TUc (IC25 Based)	04/03/17 8:00	EPA 1000	4/4/17 15:35	**NC**	N/A	1.0	1.0		OTHER
1704016-01	C	TUc (NOEC Based)	04/03/17 8:00	EPA 1000	4/4/17 15:35	**1.0**	N/A	1.0	1.0		OTHER
* Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
CL Pimephales promelas Survival											
1704016-01	C	LOEC % Effluent	04/03/17 8:00	EPA 1000	4/4/17 15:35	**NC**	N/A	1.0	1.0		OTHER
1704016-01	C	NOEC % Effluent	04/03/17 8:00	EPA 1000	4/4/17 15:35	**100**	N/A	1.0	1.0		OTHER
1704016-01	C	TUc (IC25 Based)	04/03/17 8:00	EPA 1000	4/4/17 15:35	**NC**	N/A	1.0	1.0		OTHER
1704016-01	C	TUc (NOEC Based)	04/03/17 8:00	EPA 1000	4/4/17 15:35	**1.0**	N/A	1.0	1.0		OTHER
* Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
CL Selenastrum capricornutum											
1704016-02	C	LOEC % Effluent	04/05/17 8:00	EPA 1003	4/6/17 17:38	**NC**	N/A	1.0	1.0		OTHER
1704016-02	C	NOEC % Effluent	04/05/17 8:00	EPA 1003	4/6/17 17:38	**100**	N/A	1.0	1.0		OTHER
1704016-02	C	TUc (IC25 Based)	04/05/17 8:00	EPA 1003	4/6/17 17:38	**NC**	N/A	1.0	1.0		OTHER
1704016-02	C	TUc (NOEC Based)	04/05/17 8:00	EPA 1003	4/6/17 17:38	**1.0**	N/A	1.0	1.0		OTHER
* Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
1704025-01	D	Temperature	04/04/17 10:20	SM2550B	4/4/17 10:20	**25.9**	°C		0.10		SMPLR
1704025-01	D	pH	04/04/17 10:20	SM4500 H B	4/4/17 10:20	**7.2**	pH Units				SMPLR
1704025-01	D	Temp at time of pH, °C	04/04/17 10:20	SM4500 H B	4/4/17 10:20	**25.3**	°C				SMPLR
1704025-01	D	Ammonia	04/04/17 10:20	SM4500-NH3-D	4/7/17 14:08	**0.47**	mg/L	0.04	0.50	J	KMT
1704025-01	D	Antimony	04/04/17 10:20	EPA 200.8	7/11/17 12:20	**0.55**	ug/L	0.21	1.00	J	JB
1704025-01	D	Arsenic	04/04/17 10:20	EPA 200.8	7/11/17 12:20	**2.69**	ug/L	0.07	1.00		JB
1704025-01	D	Barium	04/04/17 10:20	EPA 200.8	7/11/17 12:20	**37.2**	ug/L	0.19	1.00		JB
1704025-01	D	Beryllium	04/04/17 10:20	EPA 200.8	7/11/17 12:20	**ND**	ug/L	0.30	1.00		JB
1704025-01	D	Cadmium	04/04/17 10:20	EPA 200.8	7/11/17 12:20	**ND**	ug/L	0.07	1.00		JB
1704025-01	D	Chromium, Hexavalent	04/04/17 10:20	EPA 200.8	4/4/17 10:20	**NA**	ug/L		1.00	N7	
1704025-01	D	Chromium	04/04/17 10:20	EPA 200.8	7/11/17 12:20	**0.63**	ug/L	0.03	1.00	J	JB
1704025-01	D	Copper	04/04/17 10:20	EPA 200.8	7/11/17 12:20	**2.93**	ug/L	0.36	1.00		JB
1704025-01	D	Cyanide	04/04/17 10:20	SM4500-CN-E	4/8/17 12:26	**5.41**	ug/L	1.75	5.00	M5	MGA
1704025-01	D	Cyanide Amenable	04/04/17 10:20	SM 4500-CN-G	4/8/17 12:26	**NA**	ug/L	1.75	5.00	N7	MGA
1704025-01	D	Fluoride	04/04/17 10:20	SM4500-F-C	4/20/17 11:32	**0.50**	mg/L	0.02	0.10		KMT
1704025-01	D	Lead	04/04/17 10:20	EPA 200.8	7/11/17 12:20	**0.25**	ug/L	0.01	1.00	J	JB
1704025-01	D	Mercury	04/04/17 10:20	EPA 245.1	4/13/17 14:43	**ND**	ug/L	0.10	0.20		KKH
1704025-01	D	Mercury	04/04/17 10:20	EPA 245.7	4/10/17 12:18	**1.60**	ng/L	0.640	5.00	J	KMT
1704025-01	D	Nickel	04/04/17 10:20	EPA 200.8	7/11/17 12:20	**1.24**	ug/L	0.24	1.00		JB

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

NUMBER OF BOTTLES: 1

PROJECT: **Tres Rios WRF**

PROJECT NUMBER: **20001** WRF 4/10/17 MH

SAMPLES START DATE: _____ MM/DD/YY or MM/DD/YYYY

CLIENT: **Tres Rios Operations**

SAMPLES END DATE: **04/06/2017** MM/DD/YY or MM/DD/YYYY

SAMPLER(S): Sanchez (Print Last Name(s) Only)

COMMENTS:

Work Order ID: 1704046

Sample #	Location Description Location Number	D	C	Composite Sample Start Time (Military time)	Microbiology: Alkalinity	BOD	COD	E. coli	pH	Solids, Total	Solids, Total Grams	Solids, Total Dissolved	Solids, Total Suspended	Solids, Total Volatile	Solids, Volatile Suspended	Soluble BOD	Soluble COD	Specific Conductance	Inorganic: Air Filter Be or Pb	Ammonia	Chloride	Cyanide, Total	Cyanide, Amenable	Fluoride	Hardness	Metals *	Nitrate	Nitrite	Nitrate/Nitrite	Nitrogen, Total Kjeldahl	Nitrogen, Total	Orthophosphate	Phosphorus, Total	Sulfate	Organic: Digester Gas	Oil and Grease	TTHM	VOA			Field: Field Ammonia Probe Result (mg/L)	Field Nitrate Probe Result (mg/L)	Sample End Time (Military time)	Initials
-01	Digester 4 4000	■								■				■																														01 20	CS

* Please indicate specific metals request here:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Refrigerator @ 52	Refrigerator @ 52	04/06/2017	0625
Refrigerator @ 52	Diana E Bersa	04/06/2017	0623

Lab Use Only

	Yes	No	NA
Chain of Custody Record completed appropriately?	✓		
Sample Labels match Chain of Custody?	✓		
Correct number of sample bottles were delivered?	✓		
Custody seals intact?			✓
Within holding time?	✓		
Sufficient sample volume for analysis?	✓		
Samples are in properly preserved containers?	✓		
Sample containers damaged/leaking/frozen?		✓	
40 ml vials headspace, > pea-sized air bubble?			✓
Received from a refrigerator?	✓		

Temperature: 5.8 °C Initials: DGB

COC-Multiple-Revision 2

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1704055-01

PROJECT & LOCATION: Tres Rios WRF - Dewatered Cake Biosolids (Quarterly)

PROJECT-LOCATION NUMBER: 20001-5703 (XXXXX-XXXX)

SAMPLE START DATE: 04-06-2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0600 (Military time)

CLIENT: IWC

SAMPLE END DATE: 04-07-2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0600 (Military time)

SAMPLER(S): Silva, Carpenter, Riccaboni, Preston (Print Last Name(s) Only)

Permit Type: ☐ APP ■ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	×		☐	■
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	×		☐	■
TCLP Metals			☐	☐
503 Metals **			☐	■
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total (contract)	☐	■
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	☐
Dioxin GC/SIM/MS Scan	☐	■
Organochlorine Pesticides & PCBs	☐	■
Purgeable Organics (GCMS)	■	☐
Semivolatile Organics (GCMS)	☐	■
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @° C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
The Lab shall composite the Purgeable Organic and Acrolein/Acrylonitrile samples. Cyanide and 1 of 2 T%S sent to Test America COS
04-07-17 DO#17-29472

Septum Blank Prep Date & Initials: 03-22-2017 Tej

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	4-6-17	1500
Relinquished by: [signature]	Received by: Refrigerator	Date: 4-7-17	Time: (Military time) 0100
Relinquished by: Refrigerator	Received by: [signature]	Date: 4-7-17	Time: (Military time) 0600
Relinquished by: [signature]	Received by: [signature]	Date: 04-07-17	Time: (Military time) 0940
Relinquished by: [signature]	Received by: [signature]	Date: 4/7/17	Time: (Military time) 1200

Sample Integrity/Preservation:

# of Bottles Delivered: 9 COS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 4 °C

Initials: COS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☒	☐	☐
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
WATER QUALITY
SAMPLE COLLECTION REPORT

SAMPLE LOCATION: Tres Rios WRF – Dewatered Cake Biosolids LIMS: 1704055-01
LOCATION ID: 20001 – 5703 SAMPLERS: Silva, Carpenter SAMPLE DATE: 4-7-17
Last names only, primary sampler first
Riccaboni, Preston

Sample D or C	Parameter	Frequency	AUTO MAN	Volume Submitted	Bottle/Preservation
C	Semivolatile Organics	Hand Composite 4 Aliquots for the duration of the discharge	Man	1000 ml	Amber Glass/None/Ice
C	Organochlorine Pest & PCB's		Man	1000 ml	Amber Glass/None/Ice
C	Dioxin		Man	1000 ml	Amber Glass/None/Ice
C	Priority Pollutant & 503 Metals		Man	1000 ml	Dissolved Metals/None/Ice
C	Cyanide (T)		Man	1000 ml	Dissolved Metals/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
			Man	1	
			Man		
To be Composited by the Laboratory					
D	Purgeable Organics	Hand Composite 4 Aliquots for the duration of the discharge	Man	4 X 40	None/Ice
D	Acrolein/Acrylonitrile		Man	4 X 40	None/Ice
To be Submitted to an outside Laboratory					

Fill one Amber Jar for each aliquot

@ 4-6-17

		Time
Aliquot #1	4-6-17	~~0750~~ 0655
Aliquot #2	4-6-17	1240
Aliquot #3	4.~~16~~.17	1845
Aliquot #4	4.7.17	0030

Comments:	Dewatered Cake Biosolids samples are not preserved.
	All Composites including Cyanide can be poured off at the end of the sampling event

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: AN & TR quarterlies	☐ 1 week			
Site: AN & TR	☐ 2 days			Job / SDG No.:
P O # 17-29472	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry	Sample Specific Notes:
Agua Nueva WRF thickened sludge pump 26107-0600										
1704053-01	4/7/2017	0600	Comp	BS	2	N		1	1	BS - biosolids
Tres Rios WRF dewatered cake biosolids 20001-5703										
1704055-01	4/7/17	0600	Comp	BS	2	N		1	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	PC CRAO	04-07-17/0940	[signature]	PC CRAO	04-07-17 / 0940
Relinquished by: [signature]	Company: PC CRAO	Date/Time: 04-07-17/1200	Received by: [signature]	Company: TA	Date/Time: 4/7/17 1200
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY

WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1704053-01, 1704055-01**	**DO**	**17-29472**
CONTRACT LAB	**TestAmerica PHX**	**SAMPLE GROUP**	**AN & TR quarterlies**
ANALYSES	**%TS, Total CN**	**REPORT ID**	**550-80645-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	NA
DO received in Pima Core?	NA
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	NA
If so, were they qualified due to matrix interference?	NA
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	NA
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	Y
Was Belinda Gamboa-Felix notified of any exceedences?	NA
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	NA
Report states if zeolite treatment was utilized?	NA
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	NA
Chemistry data included?	NA
Reference Toxicant Test Results and Control Chart within limits?	NA

PMSD Determination included and within acceptable range? (minimum acceptable= 13)				NA
End Points include TUc, NOEC, LOEC, and IC25?				NA
Statistics verify endpoints				NA
Control Charts Updated to include month of analysis				NA
Reviewer Initials:	**SN**	**Review Date:**	**4-13-17**	

PEER/FINAL REVIEW:			PR	FR
LIMS/Excel data matches printed CL report?			✓	✓
Analysis dates are correct?			✓	✓
Correct Data Qualifiers included if necessary.			✓	✓
CRAO report shows result is from Contract Lab?			✓	✓
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?			✓	✓
DO received in Pima Core			✓	
Analysis set to Reported?				✓
Peer Reviewer Initials:	TB	**Review Date:**	4-17-17	
Biomonitor Supervisor Initials:	NA	**Review Date:**	NA	
Final Reviewer Initials:	BAE	**Review Date:**	04/17/17	

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-80645-1
TestAmerica Sample Delivery Group: AN & TR
Client Project/Site: AN & TR quarterlies

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Nancy Powell

Authorized for release by:
4/12/2017 2:57:07 PM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Qualifiers

General Chemistry

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Job ID: 550-80645-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-80645-1

Comments
No additional comments.

Receipt
The samples were received on 4/7/2017 3:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.3° C.

General Chemistry

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

Sample Summary

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-80645-1	1704053-01	Solid	04/07/17 06:00	04/07/17 15:45
550-80645-2	1704055-01	Solid	04/07/17 06:00	04/07/17 15:45

Detection Summary

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Client Sample ID: 1704053-01 — Lab Sample ID: 550-80645-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	51	E4	120	47	mg/Kg	1	☼	9014	Total/NA

Client Sample ID: 1704055-01 — Lab Sample ID: 550-80645-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	3.0	E4	3.4	1.3	mg/Kg	1	☼	9014	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Client Sample ID: 1704053-01

Date Collected: 04/07/17 06:00
Date Received: 04/07/17 15:45

Lab Sample ID: 550-80645-1
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	99.0		0.1	0.1	%			04/10/17 09:07	1
Percent Solids	1		0.1	0.1	%			04/10/17 09:07	1

Client Sample ID: 1704053-01

Date Collected: 04/07/17 06:00
Date Received: 04/07/17 15:45

Lab Sample ID: 550-80645-1
Matrix: Solid
Percent Solids: 0.3

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	51	E4	120	47	mg/Kg	☼	04/10/17 12:00	04/10/17 14:39	1

Client Sample ID: 1704055-01

Date Collected: 04/07/17 06:00
Date Received: 04/07/17 15:45

Lab Sample ID: 550-80645-2
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	86.3		0.1	0.1	%			04/10/17 09:07	1
Percent Solids	13.7		0.1	0.1	%			04/10/17 09:07	1

Client Sample ID: 1704055-01

Date Collected: 04/07/17 06:00
Date Received: 04/07/17 15:45

Lab Sample ID: 550-80645-2
Matrix: Solid
Percent Solids: 11.8

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	3.0	E4	3.4	1.3	mg/Kg	☼	04/10/17 12:00	04/10/17 14:39	1

QC Sample Results

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Method: 2540G - SM 2540G

Lab Sample ID: MB 550-114443/1
Matrix: Solid
Analysis Batch: 114443

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.03		0.1	0.1	%			04/10/17 09:07	1
Percent Solids	100		0.1	0.1	%			04/10/17 09:07	1

Lab Sample ID: 550-80400-A-4 DU
Matrix: Solid
Analysis Batch: 114443

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	13.2		13.5		%		2	10
Percent Solids	86.8		86.5		%		0.3	10

Method: 9014 - Cyanide

Lab Sample ID: MB 550-114470/2-B
Matrix: Solid
Analysis Batch: 114510

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 114470

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.183	E4	0.40	0.16	mg/Kg		04/10/17 12:00	04/10/17 14:39	1

Lab Sample ID: LCS 550-114470/1-B
Matrix: Solid
Analysis Batch: 114510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 114470

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	7.43	6.69		mg/Kg		90	90 - 110

Lab Sample ID: LCSD 550-114470/8-B
Matrix: Solid
Analysis Batch: 114510

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 114470

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	7.50	7.08		mg/Kg		94	90 - 110	6	20

Lab Sample ID: 550-80645-1 MS
Matrix: Solid
Analysis Batch: 114510

Client Sample ID: 1704053-01
Prep Type: Total/NA
Prep Batch: 114470

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	51	E4	1520	1280		mg/Kg	☼	81	80 - 120

Lab Sample ID: 550-80645-1 MSD
Matrix: Solid
Analysis Batch: 114510

Client Sample ID: 1704053-01
Prep Type: Total/NA
Prep Batch: 114470

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	51	E4	1500	1290		mg/Kg	☼	82	80 - 120	1	20

TestAmerica Phoenix

QC Association Summary

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

General Chemistry

Analysis Batch: 114443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-80645-1	1704053-01	Total/NA	Solid	2540G	
550-80645-2	1704055-01	Total/NA	Solid	2540G	
MB 550-114443/1	Method Blank	Total/NA	Solid	2540G	
550-80400-A-4 DU	Duplicate	Total/NA	Solid	2540G	

Prep Batch: 114470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-80645-1	1704053-01	Total/NA	Solid	9013A	
550-80645-2	1704055-01	Total/NA	Solid	9013A	
MB 550-114470/2-B	Method Blank	Total/NA	Solid	9013A	
LCS 550-114470/1-B	Lab Control Sample	Total/NA	Solid	9013A	
LCSD 550-114470/8-B	Lab Control Sample Dup	Total/NA	Solid	9013A	
550-80645-1 MS	1704053-01	Total/NA	Solid	9013A	
550-80645-1 MSD	1704053-01	Total/NA	Solid	9013A	

Prep Batch: 114505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-80645-1	1704053-01	Total/NA	Solid	9010C	114470
550-80645-2	1704055-01	Total/NA	Solid	9010C	114470
MB 550-114470/2-B	Method Blank	Total/NA	Solid	9010C	114470
LCS 550-114470/1-B	Lab Control Sample	Total/NA	Solid	9010C	114470
LCSD 550-114470/8-B	Lab Control Sample Dup	Total/NA	Solid	9010C	114470
550-80645-1 MS	1704053-01	Total/NA	Solid	9010C	114470
550-80645-1 MSD	1704053-01	Total/NA	Solid	9010C	114470

Analysis Batch: 114510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-80645-1	1704053-01	Total/NA	Solid	9014	114505
550-80645-2	1704055-01	Total/NA	Solid	9014	114505
MB 550-114470/2-B	Method Blank	Total/NA	Solid	9014	114505
LCS 550-114470/1-B	Lab Control Sample	Total/NA	Solid	9014	114505
LCSD 550-114470/8-B	Lab Control Sample Dup	Total/NA	Solid	9014	114505
550-80645-1 MS	1704053-01	Total/NA	Solid	9014	114505
550-80645-1 MSD	1704053-01	Total/NA	Solid	9014	114505

Lab Chronicle

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Client Sample ID: 1704053-01
Date Collected: 04/07/17 06:00
Date Received: 04/07/17 15:45

Lab Sample ID: 550-80645-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	114443	04/10/17 09:07	YET	TAL PHX

Client Sample ID: 1704053-01
Date Collected: 04/07/17 06:00
Date Received: 04/07/17 15:45

Lab Sample ID: 550-80645-1
Matrix: Solid
Percent Solids: 0.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9013A			114470	04/10/17 12:00	JCB	TAL PHX
Total/NA	Prep	9010C			114505	04/10/17 12:15	JCB	TAL PHX
Total/NA	Analysis	9014		1	114510	04/10/17 14:39	JCB	TAL PHX

Client Sample ID: 1704055-01
Date Collected: 04/07/17 06:00
Date Received: 04/07/17 15:45

Lab Sample ID: 550-80645-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	114443	04/10/17 09:07	YET	TAL PHX

Client Sample ID: 1704055-01
Date Collected: 04/07/17 06:00
Date Received: 04/07/17 15:45

Lab Sample ID: 550-80645-2
Matrix: Solid
Percent Solids: 11.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9013A			114470	04/10/17 12:00	JCB	TAL PHX
Total/NA	Prep	9010C			114505	04/10/17 12:15	JCB	TAL PHX
Total/NA	Analysis	9014		1	114510	04/10/17 14:39	JCB	TAL PHX

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Laboratory: TestAmerica Phoenix

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Arizona	State Program	9	AZ0728	06-09-17

Analysis Method	Prep Method	Matrix	Analyte

Method Summary

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Method	Method Description	Protocol	Laboratory
2540G	SM 2540G	SM22	TAL PHX
9014	Cyanide	SW846	TAL PHX

Protocol References:

SM22 = SM22

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

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

80645

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: AN & TR quarterlies	☐ 1 week			
Site: AN & TR	☐ 2 days			Job / SDG No.:
P O # 17-29472	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry	Sample Specific Notes:
Agua Nueva WRF thickened sludge pump 26107-0600										
1704053-01 -01	4/7/2017	0600	Comp	BS	2	N		1	1	BS - biosolids
Tres Rios WRF dewatered cake biosolids 20001-5703										
1704055-01 -02	4/7/17	0600	Comp	BS	2	N		1	1	

550-80645 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☐Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:
3.3° on ice

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	PC CRAO	04-07-17/0940	[signature]	PC CRAO	04-07-17 / 0940
[signature]	PC CRAO	04-07-17/1200	[signature]	TA	4/7/17 1200
[signature]	TA	4/7/17 1545	Received in Laboratory by: [signature]	TA	4/7/17 1545

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 11/21/2017
Laboratory License: AZO159

Sample Analysis Report

Tres Rios WRF

July 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

12-18-17
Date

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707184-01	D	Methane	07/26/17 3:00	SM 2720C	7/26/17 10:52	**0.00**	%				CAB
1707184-01	D	Nitrogen	07/26/17 3:00	SM 2720C	7/26/17 10:52	**99.2**	%				CAB
Sludge Gas Digester #1 (20001-3651)											
1707148-01	D	BTU	07/21/17 8:00	SM 2720C	7/21/17 08:49	**556**	BTU				CAB
1707148-01	D	Carbon dioxide	07/21/17 8:00	SM 2720C	7/21/17 08:49	**36.9**	%				CAB
1707148-01	D	Hydrogen Sulfide	07/21/17 8:00	SM 2720C	7/21/17 08:49	**0.06**	%				CAB
1707148-01	D	Methane	07/21/17 8:00	SM 2720C	7/21/17 08:49	**54.9**	%				CAB
1707148-01	D	Nitrogen	07/21/17 8:00	SM 2720C	7/21/17 08:49	**8.14**	%				CAB
Sludge Gas-Building #60 (20001-3660)											
1707028-02	D	BTU	07/05/17 3:15	SM 2720C	7/5/17 11:02	**588**	BTU				CAB
1707028-02	D	Carbon dioxide	07/05/17 3:15	SM 2720C	7/5/17 11:02	**38.9**	%				CAB
1707028-02	D	Hydrogen Sulfide	07/05/17 3:15	SM 2720C	7/5/17 11:02	**0.06**	%				CAB
1707028-02	D	Methane	07/05/17 3:15	SM 2720C	7/5/17 11:02	**58.0**	%				CAB
1707028-02	D	Nitrogen	07/05/17 3:15	SM 2720C	7/5/17 11:02	**2.96**	%				CAB
1707080-02	D	BTU	07/12/17 3:15	SM 2720C	7/12/17 10:28	**564**	BTU				JRP
1707080-02	D	Carbon dioxide	07/12/17 3:15	SM 2720C	7/12/17 10:28	**41.6**	%				JRP
1707080-02	D	Hydrogen Sulfide	07/12/17 3:15	SM 2720C	7/12/17 10:28	**0.04**	%				JRP
1707080-02	D	Methane	07/12/17 3:15	SM 2720C	7/12/17 10:28	**55.7**	%				JRP
1707080-02	D	Nitrogen	07/12/17 3:15	SM 2720C	7/12/17 10:28	**2.64**	%				JRP
1707129-02	D	BTU	07/19/17 3:15	SM 2720C	7/19/17 12:39	**578**	BTU				CAB
1707129-02	D	Carbon dioxide	07/19/17 3:15	SM 2720C	7/19/17 12:39	**39.3**	%				CAB
1707129-02	D	Hydrogen Sulfide	07/19/17 3:15	SM 2720C	7/19/17 12:39	**0.09**	%				CAB
1707129-02	D	Methane	07/19/17 3:15	SM 2720C	7/19/17 12:39	**57.1**	%				CAB
1707129-02	D	Nitrogen	07/19/17 3:15	SM 2720C	7/19/17 12:39	**3.50**	%				CAB
1707184-02	D	BTU	07/26/17 3:15	SM 2720C	7/26/17 11:08	**583**	BTU				CAB
1707184-02	D	Carbon dioxide	07/26/17 3:15	SM 2720C	7/26/17 11:08	**39.3**	%				CAB
1707184-02	D	Hydrogen Sulfide	07/26/17 3:15	SM 2720C	7/26/17 11:08	**0.38**	%				CAB
1707184-02	D	Methane	07/26/17 3:15	SM 2720C	7/26/17 11:08	**57.5**	%				CAB
1707184-02	D	Nitrogen	07/26/17 3:15	SM 2720C	7/26/17 11:08	**2.77**	%				CAB
Dewatered Cake Biosolids (20001-5703)											
1707100-04	C	Antimony	07/14/17 6:00	EPA 6010D	7/27/17 13:11	**ND**	mg/kg dry		10.03		MLB
1707100-04	C	Arsenic	07/14/17 6:00	EPA 6010D	7/27/17 10:39	**ND**	mg/kg dry		10.03		MLB
1707100-04	C	Beryllium	07/14/17 6:00	EPA 6010D	7/27/17 10:39	**ND**	mg/kg dry		2.01		MLB
1707100-04	C	Cadmium	07/14/17 6:00	EPA 6010D	7/27/17 10:39	**ND**	mg/kg dry		4.01		MLB
1707100-04	C	Chromium	07/14/17 6:00	EPA 6010D	7/27/17 10:39	**28.8**	mg/kg dry		10.03		MLB
1707100-04	C	Copper	07/14/17 6:00	EPA 6010D	7/27/17 10:39	**440**	mg/kg dry		10.03		MLB
1707100-04	C	Lead	07/14/17 6:00	EPA 6010D	7/27/17 12:03	**13.3**	mg/kg dry		10.03		MLB
1707100-04	C	Molybdenum	07/14/17 6:00	EPA 6010D	7/27/17 10:39	**11.5**	mg/kg dry		4.01		MLB
1707100-04	C	Nickel	07/14/17 6:00	EPA 6010D	7/27/17 10:39	**20.4**	mg/kg dry		10.03		MLB
1707100-04	C	Selenium	07/14/17 6:00	EPA 6010D	7/27/17 10:39	**ND**	mg/kg dry		20.05		MLB
1707100-04	C	Silver	07/14/17 6:00	EPA 6010D	7/27/17 13:11	**3.00**	mg/kg dry		1.00		MLB
1707100-04	C	Thallium	07/14/17 6:00	EPA 6010D	7/27/17 10:39	**ND**	mg/kg dry		10.03		MLB
1707100-04	C	Zinc	07/14/17 6:00	EPA 6010D	7/27/17 10:39	**705**	mg/kg dry		10.03		MLB
1707100-04	C	% Solids	07/14/17 6:00	SM 2540G	7/16/17 09:43	**13.35**	%		0.01		JEL
1707100-04	C	Acrolein	07/14/17 6:00	EPA 624	7/19/17 13:57	**ND**	mg/kg dry	0.00103	0.00075		JOB
1707100-04	C	Acrylonitrile	07/14/17 6:00	EPA 624	7/19/17 13:57	**ND**	mg/kg dry	0.00206	0.00075		JOB
1707100-04	C	4,4-DDD	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00006	0.00025	D1, D7	KLH
1707100-04	C	4,4-DDE	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00003	0.00025	D1, D7	KLH
1707100-04	C	4,4-DDT	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00006	0.00025	D1, D7	KLH
1707100-04	C	Aldrin	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00006	0.00025	D1, D7	KLH
1707100-04	C	alpha-BHC	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00004	0.00025	D1, D7	KLH
1707100-04	C	beta-BHC	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00009	0.00025	D1, D7	KLH
1707100-04	C	Chlordane	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00025	0.00196	D1, D7	KLH
1707100-04	C	delta-BHC	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00007	0.00025	D1, D7	KLH

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707100-04	C	Dieldrin	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00015	0.00049	D1, D7	KLH
1707100-04	C	Endosulfan I	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00004	0.00025	D1, D7	KLH
1707100-04	C	Endosulfan II	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00003	0.00025	D1, D7	KLH
1707100-04	C	Endosulfan sulfate	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00004	0.00025	D1, D7	KLH
1707100-04	C	Endrin	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00010	0.00025	D1, D7	KLH
1707100-04	C	Endrin aldehyde	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00011	0.00025	D1, D7	KLH
1707100-04	C	gamma-BHC (Lindane)	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00007	0.00025	D1, D7	KLH
1707100-04	C	Heptachlor	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00005	0.00025	D1, D7	KLH
1707100-04	C	Heptachlor Epoxide	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00004	0.00025	D1, D7	KLH
1707100-04	C	PCB 1016	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00006	0.00049	D1, D7	KLH
1707100-04	C	PCB 1221	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00017	0.00147	D1, D7	KLH
1707100-04	C	PCB 1232	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00007	0.00147	D1, D7	KLH
1707100-04	C	PCB 1242	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00013	0.00147	D1, D7	KLH
1707100-04	C	PCB 1248	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00010	0.00147	D1, D7	KLH
1707100-04	C	PCB 1254	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00019	0.00147	D1, D7	KLH
1707100-04	C	PCB 1260	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00007	0.00049	D1, D7, L5	KLH
1707100-04	C	Total PCBs	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00016	0.00147	D1, D7	KLH
1707100-04	C	Toxaphene	07/14/17 6:00	EPA 625	8/8/17 18:41	**ND**	mg/kg dry	0.00094	0.00392	D1, D7	KLH
1707100-04	C	Methoxychlor	07/14/17 6:00	EPA 8270C	8/8/17 18:41	**ND**	mg/kg dry		0.00025	D1, D7	KLH
1707100-04	C	1,1,1-Trichloroethane	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0002	0.00007		SRM
1707100-04	C	1,1,2,2-Tetrachloroethane	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.00006	0.00007		SRM
1707100-04	C	1,1,2-Trichloroethane	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.00009	0.00007		SRM
1707100-04	C	1,1-Dichloroethane	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0002	0.00007		SRM
1707100-04	C	1,1-Dichloroethene	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0001	0.00007		SRM
1707100-04	C	1,2-Dichlorobenzene	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.00008	0.00007		SRM
1707100-04	C	1,2-Dichloroethane	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.00009	0.00007		SRM
1707100-04	C	1,2-Dichloropropane	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0001	0.00007		SRM
1707100-04	C	1,3-Dichlorobenzene	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.00008	0.00007		SRM
1707100-04	C	1,4-Dichlorobenzene	07/14/17 6:00	EPA 624	7/18/17 18:37	**0.05**	mg/kg dry	0.0002	0.00007		SRM
1707100-04	C	2-Chloroethyl vinyl ether	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0003	0.00015		SRM
1707100-04	C	Benzene	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0001	0.00007		SRM
1707100-04	C	Bromodichloromethane	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0002	0.00007		SRM
1707100-04	C	Bromoform	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0003	0.00007		SRM
1707100-04	C	Bromomethane	07/14/17 6:00	EPA 624	7/18/17 18:37	**0.05**	mg/kg dry	0.0001	0.00007		SRM
1707100-04	C	Carbon Tetrachloride	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0004	0.00007		SRM
1707100-04	C	Chlorobenzene	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.00006	0.00007		SRM
1707100-04	C	Chloroethane	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0002	0.00007		SRM
1707100-04	C	Chloroform	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0001	0.00007		SRM
1707100-04	C	Chloromethane	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0002	0.00007		SRM
1707100-04	C	cis-1,3-Dichloropropene	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.00009	0.00007		SRM
1707100-04	C	Dibromochloromethane	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.00006	0.00007		SRM
1707100-04	C	Ethyl Benzene	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.00009	0.00007		SRM
1707100-04	C	Methylene Chloride	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0002	0.00007		SRM
1707100-04	C	Tetrachloroethene	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0002	0.00007		SRM
1707100-04	C	Toluene	07/14/17 6:00	EPA 624	7/18/17 18:37	**0.06**	mg/kg dry	0.0001	0.00007		SRM
1707100-04	C	Total Trihalomethanes	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0003	0.00007		SRM
1707100-04	C	trans-1,2-Dichloroethene	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0001	0.00007		SRM
1707100-04	C	trans-1,3-Dichloropropene	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0001	0.00007		SRM
1707100-04	C	Trichloroethene	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0001	0.00007		SRM
1707100-04	C	Trichlorofluoromethane	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0003	0.00007		SRM
1707100-04	C	Vinyl chloride	07/14/17 6:00	EPA 624	7/18/17 18:37	**ND**	mg/kg dry	0.0002	0.00007		SRM
1707100-04	C	1,2,4-Trichlorobenzene	07/14/17 6:00	EPA 8260	7/18/17 18:37	**ND**	mg/kg dry		0.00050		SRM
1707100-04	C	1,2-Dibromo-3-chloropropane	07/14/17 6:00	EPA 8260	7/18/17 18:37	**ND**	mg/kg dry		0.00100		SRM
1707100-04	C	1,2-Dibromoethane	07/14/17 6:00	EPA 8260	7/18/17 18:37	**ND**	mg/kg dry		0.00050		SRM
1707100-04	C	cis-1,2-Dichloroethene	07/14/17 6:00	EPA 8260	7/18/17 18:37	**ND**	mg/kg dry		0.00050		SRM
1707100-04	C	m,p-Xylenes	07/14/17 6:00	EPA 8260	7/18/17 18:37	**ND**	mg/kg dry		0.00100		SRM
1707100-04	C	o-Xylene	07/14/17 6:00	EPA 8260	7/18/17 18:37	**ND**	mg/kg dry		0.00050		SRM
1707100-04	C	Styrene	07/14/17 6:00	EPA 8260	7/18/17 18:37	**ND**	mg/kg dry		0.00050		SRM
1707100-04	C	Xylenes, total	07/14/17 6:00	EPA 8260	7/18/17 18:37	**ND**	mg/kg dry		0.00100		SRM
1707100-04	C	2,3,7,8-TCDD - Dioxin Scan	07/14/17 6:00	EPA 625	8/2/17 15:07	**ND**	ug/kg dry		0.19		SJM

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707100-04	C	1,2,4-Trichlorobenzene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	2,3-Dichloroaniline	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707100-04	C	2,4,6-Trichlorophenol	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707100-04	C	2,4-Dichlorophenol	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707100-04	C	2,4-Dimethylphenol	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1707100-04	C	2,4-Dinitrophenol	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.009	0.02	D1, D7	SJM
1707100-04	C	2,4-Dinitrotoluene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707100-04	C	2,6-Dinitrotoluene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707100-04	C	2-Chloronaphthalene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707100-04	C	2-Chlorophenol	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707100-04	C	2-Methyl-4,6-dinitrophenol	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1707100-04	C	2-Methylphenol	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707100-04	C	2-Nitrophenol	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707100-04	C	3,3-Dichlorobenzidine	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707100-04	C	4-Bromophenyl phenyl ether	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707100-04	C	4-Chloro-3-methylphenol	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707100-04	C	4-Chlorophenyl phenyl ether	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707100-04	C	4-Methylphenol	07/14/17 6:00	EPA 625	8/1/17 21:02	**29.90**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	4-Nitrophenol	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1707100-04	C	Acenaphthene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	Acenaphthylene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	Anthracene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	Benzidine	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.007	0.01	D1, D7	SJM
1707100-04	C	Benzo[a]anthracene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707100-04	C	Benzo[a]pyrene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	Benzo[b]fluoranthene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	Benzo[ghi]perylene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707100-04	C	Benzo[k]fluoranthene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707100-04	C	bis(2-chloroethoxy)methane	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	bis(2-chloroethyl)ether	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707100-04	C	bis(2-chloroisopropyl)ether	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	bis(2-ethylhexyl)phthalate	07/14/17 6:00	EPA 625	8/1/17 21:02	**2.30**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707100-04	C	Butylbenzylphthalate	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	Carbazole	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707100-04	C	Chrysene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707100-04	C	Dibenzo(a,h)anthracene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707100-04	C	Diethyl phthalate	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707100-04	C	Dimethyl phthalate	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1707100-04	C	Di-n-butyl phthalate	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707100-04	C	Di-n-octyl phthalate	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707100-04	C	Fluoranthene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707100-04	C	Fluorene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	Hexachlorobenzene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1707100-04	C	Hexachlorobutadiene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707100-04	C	Hexachlorocyclopentadiene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1707100-04	C	Hexachloroethane	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707100-04	C	Indeno(1,2,3-cd)pyrene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707100-04	C	Isophorone	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	Naphthalene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	n-Decane	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	Nitrobenzene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707100-04	C	N-Nitrosodimethylamine	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1707100-04	C	N-Nitrosodi-n-propylamine	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707100-04	C	N-Nitrosodiphenylamine	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.006	0.01	D1, D7	SJM
1707100-04	C	n-Octadecane	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707100-04	C	Pentachlorophenol	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1707100-04	C	Phenanthrene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707100-04	C	Phenol	07/14/17 6:00	EPA 625	8/1/17 21:02	**5.47**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707100-04	C	Pyrene	07/14/17 6:00	EPA 625	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707100-04	C	1,2-Diphenylhydrazine	07/14/17 6:00	EPA 8270C	8/1/17 21:02	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707100-04	C	Cyanide, Total	07/14/17 6:00	9014	7/25/17 09:07	**1.2**	mg/Kg dry	1.2	3.0	E4	YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707100-04	C	Mercury	07/14/17 6:00	7471B	7/26/17 12:50	**0.87**	mg/Kg dry	0.43	0.43		JTG *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707100-04	C	Percent Solids	07/14/17 6:00	2540G	7/19/17 09:34	**13.1**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707100-04	C	Percent Moisture	07/14/17 6:00	2540G	7/19/17 09:34	**86.9**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
Final Effluent #3 (20001-7030)											
1707060-01	C	C.dubia Reproduction % LOEC	07/10/17 6:00	EPA 1002	7/18/17 10:45	**NC**	N/A			T5, T6	JVR
1707060-01	C	C.dubia Reproduction % NOEC	07/10/17 6:00	EPA 1002	7/18/17 10:45	**100**	N/A			T5, T6	JVR
1707060-01	C	C.dubia Reproduction TUc IC25	07/10/17 6:00	EPA 1002	7/18/17 10:45	**NC**	N/A			T5, T6	JVR
1707060-01	C	C.dubia Reproduction TUc NOEC	07/10/17 6:00	EPA 1002	7/18/17 10:45	**1.00**	N/A			T5, T6	JVR
1707060-01	C	C.dubia Survival % LOEC	07/10/17 6:00	EPA 1002	7/18/17 10:45	**NC**	N/A			T5, T6	JVR
1707060-01	C	C.dubia Survival % NOEC	07/10/17 6:00	EPA 1002	7/18/17 10:45	**100**	N/A			T5, T6	JVR
1707060-01	C	C.dubia Survival TUc IC25	07/10/17 6:00	EPA 1002	7/18/17 10:45	**NC**	N/A			T5, T6	JVR
1707060-01	C	C.dubia Survival TUc NOEC	07/10/17 6:00	EPA 1002	7/18/17 10:45	**1.00**	N/A			T5, T6	JVR
1707060-01	C	Pimephalas Growth % LOEC	07/10/17 6:00	EPA 1000	7/17/17 12:30	**NC**	N/A			T5, T6	JVR
1707060-01	C	Pimephalas Growth % NOEC	07/10/17 6:00	EPA 1000	7/17/17 12:30	**100**	N/A			T5, T6	JVR
1707060-01	C	Pimephalas Growth TUc IC25	07/10/17 6:00	EPA 1000	7/17/17 12:30	**NC**	N/A			T5, T6	JVR
1707060-01	C	Pimephalas Growth TUc NOEC	07/10/17 6:00	EPA 1000	7/17/17 12:30	**1.00**	N/A			T5, T6	JVR
1707060-01	C	Pimephalas Survival % LOEC	07/10/17 6:00	EPA 1000	7/17/17 12:30	**75.0**	N/A			T5, T6	JVR
1707060-01	C	Pimephalas Survival % NOEC	07/10/17 6:00	EPA 1000	7/17/17 12:30	**50.0**	N/A			T5, T6	JVR
1707060-01	C	Pimephalas Survival TUc IC25	07/10/17 6:00	EPA 1000	7/17/17 12:30	**1.19**	N/A			T5, T6	JVR
1707060-01	C	Pimephalas Survival TUc NOEC	07/10/17 6:00	EPA 1000	7/17/17 12:30	**2.00**	N/A			T5, T6	JVR
1707060-02	C	Selenastrum Growth % LOEC	07/12/17 6:00	EPA 1003	7/14/17 15:15	**NC**	N/A			T5, T6	JVR
1707060-02	C	Selenastrum Growth % NOEC	07/12/17 6:00	EPA 1003	7/14/17 15:15	**100**	N/A			T5, T6	JVR
1707060-02	C	Selenastrum Growth TUc IC25	07/12/17 6:00	EPA 1003	7/14/17 15:15	**NC**	N/A			T5, T6	JVR
1707060-02	C	Selenastrum Growth TUc NOEC	07/12/17 6:00	EPA 1003	7/14/17 15:15	**1.00**	N/A			T5, T6	JVR
CL Ceriodaphnia dubia Reproduction											
1707062-01	C	LOEC % Effluent	07/10/17 6:00	EPA 1002	7/11/17 13:00	**NC**	N/A	1.0	1.0		OTHER
1707062-01	C	NOEC % Effluent	07/10/17 6:00	EPA 1002	7/11/17 13:00	**100**	N/A	1.0	1.0		OTHER
1707062-01	C	TUc (IC25 Based)	07/10/17 6:00	EPA 1002	7/11/17 13:00	**NC**	N/A	1.0	1.0		OTHER
1707062-01	C	TUc (NOEC Based)	07/10/17 6:00	EPA 1002	7/11/17 13:00	**1.0**	N/A	1.0	1.0		OTHER
* Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
CL Ceriodaphnia dubia Survival											
1707062-01	C	LOEC % Effluent	07/10/17 6:00	EPA 1002	7/11/17 13:00	**NC**	N/A	1.0	1.0		OTHER
1707062-01	C	NOEC % Effluent	07/10/17 6:00	EPA 1002	7/11/17 13:00	**100**	N/A	1.0	1.0		OTHER
1707062-01	C	TUc (IC25 Based)	07/10/17 6:00	EPA 1002	7/11/17 13:00	**NC**	N/A	1.0	1.0		OTHER
1707062-01	C	TUc (NOEC Based)	07/10/17 6:00	EPA 1002	7/11/17 13:00	**1.0**	N/A	1.0	1.0		OTHER
* Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
CL Pimephales promelas Growth											
1707062-01	C	LOEC % Effluent	07/10/17 6:00	EPA 1000	7/11/17 13:07	**NC**	N/A	1.0	1.0		OTHER
1707062-01	C	NOEC % Effluent	07/10/17 6:00	EPA 1000	7/11/17 13:07	**100**	N/A	1.0	1.0		OTHER
1707062-01	C	TUc (IC25 Based)	07/10/17 6:00	EPA 1000	7/11/17 13:07	**NC**	N/A	1.0	1.0		OTHER
1707062-01	C	TUc (NOEC Based)	07/10/17 6:00	EPA 1000	7/11/17 13:07	**1.0**	N/A	1.0	1.0		OTHER
* Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
CL Pimephales promelas Survival											
1707062-01	C	LOEC % Effluent	07/10/17 6:00	EPA 1000	7/11/17 13:07	**NC**	N/A	1.0	1.0		OTHER
1707062-01	C	NOEC % Effluent	07/10/17 6:00	EPA 1000	7/11/17 13:07	**100**	N/A	1.0	1.0		OTHER
1707062-01	C	TUc (IC25 Based)	07/10/17 6:00	EPA 1000	7/11/17 13:07	**NC**	N/A	1.0	1.0		OTHER
1707062-01	C	TUc (NOEC Based)	07/10/17 6:00	EPA 1000	7/11/17 13:07	**1.0**	N/A	1.0	1.0		OTHER
* Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
CL Selenastrum capricornutum											
1707062-02	C	LOEC % Effluent	07/12/17 6:00	EPA 1003	7/13/17 16:46	**NC**	N/A	1.0	1.0		OTHER
1707062-02	C	NOEC % Effluent	07/12/17 6:00	EPA 1003	7/13/17 16:46	**100**	N/A	1.0	1.0		OTHER

RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

1707072-01
EPA Method 625 Semi-volatiles: Matrix spike and blank spike both fail recovery for 4-Methylphenol. CVS passes QC criteria for this analyte. SJM 08/11/17

1707100-03
Contract lab results are for dissolved mercury; the sample was filtered by the CRAO lab before delivery to contract lab. SN 8/1/17

Semi-Quantitation
Method: 625
1707100-01

Compound Name	Concentration-ug/L
2-Butoxyethanol	99
N,N-Dimethyl-1-dodecanamine	572
Palmitic Acid	34530
Oleic Acid	42700
Stearic Acid	11510

SJM 08/21/17

Semi-Quantitation
Method: 625
1707100-04

Compound Name	Concentration-mg/Kg
Benzeneacetic Acid	49
Palmitic Acid	1103
Oleic Acid	288

SJM 08/21/17

1707141-01, 02
SM5310 TOC: Target analyte flagged with N1 failed the Matrix Spike from the same analysis batch, but the spike was performed on a different sample. JOB 07/2717.

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	2 of 3 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☒ 2 weeks			Lab Sampling:
Project Name: Mercury group #3	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-01544	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Mercury	Dissolved mercury	Cyanide mg/kg	Mercury mg/kg	Total % solids for mg/kg	Sample Specific Notes:
Tres Rios WRF final effluent #3 20001-7030													Wastewater
1707100-03	7/14/17	0600	Comp	WW	1	Y			1				
Tres Rios WRF dewatered cake 20001-5703													Biosolids mg/kg dry weight
1707100-04	7/14/17	0600	Comp	~~WW~~ BS CO 07-14-17	3	N				1	1	1	
Agua Nueva WRF plant influent 26107-0100													Wastewater
1707102-01	7/14/17	0600	Comp	WW	1	N		1					
Agua Nueva WRF plant effluent 26107-7100													Wastewater
1707102-02	7/14/17	0600	Comp	WW	1	N		1					

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by: Greg Spence for samplers	Company: PC CRAO Lab	Date/Time: 07-18-17 1308	Received by:	Company:	Date/Time: 7/18/17 1308
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY
WASTEWATER RECLAMATION
COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1707083-01; 1707086-02; 1707100-01,-02,-03,-04; 1707102-01,-02,-03,-04 1707116-01**	**DO**	**18-01544**
CONTRACT LAB	**TestAmerica PHX**	**SAMPLE GROUP**	**Mercury group #3**
ANALYSES	**TS, Cn, Hg Dissolved, Hg**	**REPORT ID**	**550-86287-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	NA
DO received in Pima Core?	NA
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	NA
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	NA
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	Y
Was Belinda Gamboa-Felix notified of any exceedences?	NA
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	NA
Report states if zeolite treatment was utilized?	NA
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	NA

Chemistry data included?			NA
Reference Toxicant Test Results and Control Chart within limits?			NA
PMSD Determination included and within acceptable range? (minimum acceptable= 13)			NA
End Points include TUc, NOEC, LOEC, and IC25?			NA
Statistics verify endpoints			NA
Control Charts Updated to include month of analysis			NA
Reviewer Initials:	**SN**	**Review Date:**	**8-1-17**

PEER/FINAL REVIEW:				PR	FR
LIMS/Excel data matches printed CL report?				✓	
Analysis dates are correct?				✓	
Correct Data Qualifiers included if necessary.				✓	
CRAO report shows result is from Contract Lab?				✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?				✓	
DO received in Pima Core				✓	
Analysis set to Reported?					✓
Peer Reviewer Initials:	JP	**Review Date:**	8-04-17		
Biomonitor Supervisor Initials:	N/A	**Review Date:**	8-04-17		
Final Reviewer Initials:	JEC	**Review Date:**	8.17.17		

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-86287-1
Client Project/Site: Mercury group #3

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Nancy Powell

Authorized for release by:
7/31/2017 12:27:53 PM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Qualifiers

Metals

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
R13	MS/MSD RPD exceeded the method acceptance limit. Matrix spike recovery was outside acceptance criteria. Batch precision and accuracy were demonstrated.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.

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)

Case Narrative

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Job ID: 550-86287-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-86287-1

Comments
No additional comments.

Receipt
The samples were received on 7/18/2017 4:26 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

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

General Chemistry
Method(s) 9014: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 550-123106 were outside control limits. Sample matrix interference was suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) recoveries and precision were within acceptance limits. As such, the data has been reported and qualified with M1, M2 and R13 flags.

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

Sample Summary

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-86287-1	1707086-02	Water	07/12/17 06:40	07/18/17 16:26
550-86287-2	1707083-01	Water	07/12/17 06:00	07/18/17 16:26
550-86287-3	1707100-01	Water	07/14/17 06:00	07/18/17 16:26
550-86287-4	1707100-02	Water	07/14/17 06:00	07/18/17 16:26
550-86287-5	1707100-03	Water	07/14/17 06:00	07/18/17 16:26
550-86287-6	1707100-04	Solid	07/14/17 06:00	07/18/17 16:26
550-86287-7	1707102-01	Water	07/14/17 06:00	07/18/17 16:26
550-86287-8	1707102-02	Water	07/14/17 06:00	07/18/17 16:26
550-86287-9	1707102-03	Water	07/14/17 06:00	07/18/17 16:26
550-86287-10	1707102-04	Solid	07/14/17 06:00	07/18/17 16:26
550-86287-12	1707116-01	Water	07/17/17 09:40	07/18/17 16:26

Detection Summary

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Client Sample ID: 1707086-02 — Lab Sample ID: 550-86287-1

No Detections.

Client Sample ID: 1707083-01 — Lab Sample ID: 550-86287-2

No Detections.

Client Sample ID: 1707100-01 — Lab Sample ID: 550-86287-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hg	0.11	E4	0.20	0.080	ug/L	1		245.1	Total/NA

Client Sample ID: 1707100-02 — Lab Sample ID: 550-86287-4

No Detections.

Client Sample ID: 1707100-03 — Lab Sample ID: 550-86287-5

No Detections.

Client Sample ID: 1707100-04 — Lab Sample ID: 550-86287-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.87		0.43	0.43	mg/Kg	1	☼	7471B	Total/NA
Cyanide, Total	1.2	E4	3.0	1.2	mg/Kg	1	☼	9014	Total/NA

Client Sample ID: 1707102-01 — Lab Sample ID: 550-86287-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hg	0.16	E4	0.20	0.080	ug/L	1		245.1	Total/NA

Client Sample ID: 1707102-02 — Lab Sample ID: 550-86287-8

No Detections.

Client Sample ID: 1707102-03 — Lab Sample ID: 550-86287-9

No Detections.

Client Sample ID: 1707102-04 — Lab Sample ID: 550-86287-10

No Detections.

Client Sample ID: 1707116-01 — Lab Sample ID: 550-86287-12

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Client Sample ID: 1707086-02 — **Lab Sample ID: 550-86287-1**
Date Collected: 07/12/17 06:40 — Matrix: Water
Date Received: 07/18/17 16:26

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:37	1

Client Sample ID: 1707083-01 — **Lab Sample ID: 550-86287-2**
Date Collected: 07/12/17 06:00 — Matrix: Water
Date Received: 07/18/17 16:26

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:38	1

Client Sample ID: 1707100-01 — **Lab Sample ID: 550-86287-3**
Date Collected: 07/14/17 06:00 — Matrix: Water
Date Received: 07/18/17 16:26

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.11	E4	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:40	1

Client Sample ID: 1707100-02 — **Lab Sample ID: 550-86287-4**
Date Collected: 07/14/17 06:00 — Matrix: Water
Date Received: 07/18/17 16:26

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:41	1

Client Sample ID: 1707100-03 — **Lab Sample ID: 550-86287-5**
Date Collected: 07/14/17 06:00 — Matrix: Water
Date Received: 07/18/17 16:26

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.080	ug/L		07/18/17 21:34	07/19/17 17:10	1

Client Sample ID: 1707100-04 — **Lab Sample ID: 550-86287-6**
Date Collected: 07/14/17 06:00 — Matrix: Solid
Date Received: 07/18/17 16:26

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	86.9		0.1	0.1	%			07/19/17 09:34	1
Percent Solids	13.1		0.1	0.1	%			07/19/17 09:34	1

Client Sample ID: 1707100-04 — **Lab Sample ID: 550-86287-6**
Date Collected: 07/14/17 06:00 — Matrix: Solid
Date Received: 07/18/17 16:26 — Percent Solids: 13.1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.87		0.43	0.43	mg/Kg	☼	07/18/17 20:34	07/26/17 12:50	1

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Client Sample ID: 1707100-04

Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-6
Matrix: Solid
Percent Solids: 13.1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	1.2	E4	3.0	1.2	mg/Kg	☼	07/21/17 12:12	07/25/17 09:07	1

Client Sample ID: 1707102-01

Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-7
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.16	E4	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:43	1

Client Sample ID: 1707102-02

Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-8
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:44	1

Client Sample ID: 1707102-03

Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-9
Matrix: Water

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.080	ug/L		07/18/17 21:34	07/19/17 17:11	1

Client Sample ID: 1707102-04

Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-10
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	98.7		0.1	0.1	%			07/19/17 09:34	1
Percent Solids	1.3		0.1	0.1	%			07/19/17 09:34	1

Client Sample ID: 1707102-04

Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-10
Matrix: Solid
Percent Solids: 1.3

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	4.4	4.4	mg/Kg	☼	07/18/17 20:34	07/26/17 12:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	29	11	mg/Kg	☼	07/26/17 13:30	07/27/17 07:55	1

Client Sample Results

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Client Sample ID: 1707116-01
Date Collected: 07/17/17 09:40
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-12
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:48	1

QC Sample Results

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-122623/1-A
Matrix: Water
Analysis Batch: 122848

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 122623

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:29	1

Lab Sample ID: LCS 550-122623/2-A
Matrix: Water
Analysis Batch: 122848

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 122623

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	10.0	10.6		ug/L		106	85 - 115

Lab Sample ID: LCSD 550-122623/3-A
Matrix: Water
Analysis Batch: 122848

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 122623

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	10.0	10.2		ug/L		102	85 - 115	3	20

Lab Sample ID: 550-86287-1 MS
Matrix: Water
Analysis Batch: 122848

Client Sample ID: 1707086-02
Prep Type: Total/NA
Prep Batch: 122623

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	10.0	10.3		ug/L		103	70 - 130

Lab Sample ID: 550-86287-1 MSD
Matrix: Water
Analysis Batch: 122848

Client Sample ID: 1707086-02
Prep Type: Total/NA
Prep Batch: 122623

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	10.0	10.7		ug/L		107	70 - 130	3	20

Lab Sample ID: MB 550-122624/1-A
Matrix: Water
Analysis Batch: 122845

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 122624

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.080	ug/L		07/18/17 21:34	07/19/17 17:00	1

Lab Sample ID: LCS 550-122624/2-A
Matrix: Water
Analysis Batch: 122845

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 122624

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	10.0	10.6		ug/L		106	85 - 115

Lab Sample ID: LCSD 550-122624/3-A
Matrix: Water
Analysis Batch: 122845

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 122624

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	10.0	10.4		ug/L		104	85 - 115	2	20

TestAmerica Phoenix

QC Sample Results

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Lab Sample ID: 550-85893-A-2-A MS
Matrix: Water
Analysis Batch: 122845

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 122624

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	E8	10.0	10.3		ug/L		103	70 - 130

Lab Sample ID: 550-85893-A-2-B MSD
Matrix: Water
Analysis Batch: 122845

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 122624

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	E8	10.0	10.4		ug/L		104	70 - 130	1	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 550-122619/1-A
Matrix: Solid
Analysis Batch: 123261

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 122619

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.060	0.060	mg/Kg		07/18/17 20:34	07/26/17 12:43	1

Lab Sample ID: LCS 550-122619/2-A
Matrix: Solid
Analysis Batch: 123261

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 122619

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.995	1.06		mg/Kg		106	80 - 120

Lab Sample ID: LCSD 550-122619/3-A
Matrix: Solid
Analysis Batch: 123261

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 122619

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.977	1.04		mg/Kg		106	80 - 120	2	20

Lab Sample ID: 550-86287-6 MS
Matrix: Solid
Analysis Batch: 123261

Client Sample ID: 1707100-04
Prep Type: Total/NA
Prep Batch: 122619

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.87		7.47	7.92		mg/Kg	☼	94	80 - 120

Lab Sample ID: 550-86287-6 MSD
Matrix: Solid
Analysis Batch: 123261

Client Sample ID: 1707100-04
Prep Type: Total/NA
Prep Batch: 122619

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.87		7.38	8.10		mg/Kg	☼	98	80 - 120	2	20

QC Sample Results

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Method: 2540G - SM 2540G

Lab Sample ID: MB 550-122655/1
Matrix: Solid
Analysis Batch: 122655

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.005		0.1	0.1	%			07/19/17 09:34	1
Percent Solids	100		0.1	0.1	%			07/19/17 09:34	1

Lab Sample ID: 550-86216-A-2 DU
Matrix: Solid
Analysis Batch: 122655

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	96.6		96.7		%		0.07	10
Percent Solids	3.4		3.3		%		2	10

Method: 9014 - Cyanide

Lab Sample ID: MB 550-122899/1-B
Matrix: Solid
Analysis Batch: 123106

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 122899

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	0.40	0.15	mg/Kg		07/21/17 12:12	07/25/17 09:07	1

Lab Sample ID: LCS 550-122899/2-B
Matrix: Solid
Analysis Batch: 123106

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 122899

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	7.35	7.12		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 550-122899/9-B
Matrix: Solid
Analysis Batch: 123106

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 122899

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	7.35	7.10		mg/Kg		96	90 - 110	0	20

Lab Sample ID: 550-86406-A-1-E MS
Matrix: Solid
Analysis Batch: 123106

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 122899

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	6.8	M1 M2 R13	4.90	13.2	M1 R13	mg/Kg		130	80 - 120

Lab Sample ID: 550-86406-A-1-F MSD
Matrix: Solid
Analysis Batch: 123106

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 122899

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	6.8	M1 M2 R13	4.90	10.2	M2 R13	mg/Kg		67	80 - 120	26	20

QC Sample Results

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Method: 9014 - Cyanide (Continued)

Lab Sample ID: MB 550-123062/2-B
Matrix: Solid
Analysis Batch: 123326

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 123062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	0.39	0.15	mg/Kg		07/26/17 12:00	07/27/17 07:55	1

Lab Sample ID: LCS 550-123062/1-B
Matrix: Solid
Analysis Batch: 123326

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 123062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	7.43	7.37		mg/Kg		99	90 - 110

Lab Sample ID: 550-86675-A-1-F MS
Matrix: Solid
Analysis Batch: 123326

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 123062

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND	E8	7.21	7.22		mg/Kg		100	80 - 120

Lab Sample ID: 550-86675-A-1-G MSD
Matrix: Solid
Analysis Batch: 123326

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 123062

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND	E8	7.35	7.48		mg/Kg		102	80 - 120	4	20

Lab Sample ID: LCSD 550-123062/11-C
Matrix: Solid
Analysis Batch: 123326

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 123325

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	7.43	8.02		mg/Kg		108	90 - 110	9	20

QC Association Summary

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Metals

Prep Batch: 122619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-6	1707100-04	Total/NA	Solid	7471B	
550-86287-10	1707102-04	Total/NA	Solid	7471B	
MB 550-122619/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 550-122619/2-A	Lab Control Sample	Total/NA	Solid	7471B	
LCSD 550-122619/3-A	Lab Control Sample Dup	Total/NA	Solid	7471B	
550-86287-6 MS	1707100-04	Total/NA	Solid	7471B	
550-86287-6 MSD	1707100-04	Total/NA	Solid	7471B	

Prep Batch: 122623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-1	1707086-02	Total/NA	Water	245.1	
550-86287-2	1707083-01	Total/NA	Water	245.1	
550-86287-3	1707100-01	Total/NA	Water	245.1	
550-86287-4	1707100-02	Total/NA	Water	245.1	
550-86287-7	1707102-01	Total/NA	Water	245.1	
550-86287-8	1707102-02	Total/NA	Water	245.1	
550-86287-12	1707116-01	Total/NA	Water	245.1	
MB 550-122623/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-122623/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-122623/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-86287-1 MS	1707086-02	Total/NA	Water	245.1	
550-86287-1 MSD	1707086-02	Total/NA	Water	245.1	

Prep Batch: 122624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-5	1707100-03	Dissolved	Water	245.1	
550-86287-9	1707102-03	Dissolved	Water	245.1	
MB 550-122624/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-122624/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-122624/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-85893-A-2-A MS	Matrix Spike	Dissolved	Water	245.1	
550-85893-A-2-B MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	

Analysis Batch: 122845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-5	1707100-03	Dissolved	Water	245.1	122624
550-86287-9	1707102-03	Dissolved	Water	245.1	122624
MB 550-122624/1-A	Method Blank	Total/NA	Water	245.1	122624
LCS 550-122624/2-A	Lab Control Sample	Total/NA	Water	245.1	122624
LCSD 550-122624/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	122624
550-85893-A-2-A MS	Matrix Spike	Dissolved	Water	245.1	122624
550-85893-A-2-B MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	122624

Analysis Batch: 122848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-1	1707086-02	Total/NA	Water	245.1	122623
550-86287-2	1707083-01	Total/NA	Water	245.1	122623
550-86287-3	1707100-01	Total/NA	Water	245.1	122623
550-86287-4	1707100-02	Total/NA	Water	245.1	122623
550-86287-7	1707102-01	Total/NA	Water	245.1	122623
550-86287-8	1707102-02	Total/NA	Water	245.1	122623

QC Association Summary

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Metals (Continued)

Analysis Batch: 122848 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-12	1707116-01	Total/NA	Water	245.1	122623
MB 550-122623/1-A	Method Blank	Total/NA	Water	245.1	122623
LCS 550-122623/2-A	Lab Control Sample	Total/NA	Water	245.1	122623
LCSD 550-122623/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	122623
550-86287-1 MS	1707086-02	Total/NA	Water	245.1	122623
550-86287-1 MSD	1707086-02	Total/NA	Water	245.1	122623

Analysis Batch: 123261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-6	1707100-04	Total/NA	Solid	7471B	122619
550-86287-10	1707102-04	Total/NA	Solid	7471B	122619
MB 550-122619/1-A	Method Blank	Total/NA	Solid	7471B	122619
LCS 550-122619/2-A	Lab Control Sample	Total/NA	Solid	7471B	122619
LCSD 550-122619/3-A	Lab Control Sample Dup	Total/NA	Solid	7471B	122619
550-86287-6 MS	1707100-04	Total/NA	Solid	7471B	122619
550-86287-6 MSD	1707100-04	Total/NA	Solid	7471B	122619

General Chemistry

Analysis Batch: 122655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-6	1707100-04	Total/NA	Solid	2540G	
550-86287-10	1707102-04	Total/NA	Solid	2540G	
MB 550-122655/1	Method Blank	Total/NA	Solid	2540G	
550-86216-A-2 DU	Duplicate	Total/NA	Solid	2540G	

Prep Batch: 122899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-6	1707100-04	Total/NA	Solid	9013A	
MB 550-122899/1-B	Method Blank	Total/NA	Solid	9013A	
LCS 550-122899/2-B	Lab Control Sample	Total/NA	Solid	9013A	
LCSD 550-122899/9-B	Lab Control Sample Dup	Total/NA	Solid	9013A	
550-86406-A-1-E MS	Matrix Spike	Total/NA	Solid	9013A	
550-86406-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	9013A	

Prep Batch: 123062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-10	1707102-04	Total/NA	Solid	9013A	
MB 550-123062/2-B	Method Blank	Total/NA	Solid	9013A	
LCS 550-123062/1-B	Lab Control Sample	Total/NA	Solid	9013A	
LCSD 550-123062/11-C	Lab Control Sample Dup	Total/NA	Solid	9013A	
550-86675-A-1-F MS	Matrix Spike	Total/NA	Solid	9013A	
550-86675-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	9013A	

Prep Batch: 123101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-6	1707100-04	Total/NA	Solid	9010C	122899
MB 550-122899/1-B	Method Blank	Total/NA	Solid	9010C	122899
LCS 550-122899/2-B	Lab Control Sample	Total/NA	Solid	9010C	122899
LCSD 550-122899/9-B	Lab Control Sample Dup	Total/NA	Solid	9010C	122899

QC Association Summary

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

General Chemistry (Continued)

Prep Batch: 123101 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86406-A-1-E MS	Matrix Spike	Total/NA	Solid	9010C	122899
550-86406-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	9010C	122899

Analysis Batch: 123106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-6	1707100-04	Total/NA	Solid	9014	123101
MB 550-122899/1-B	Method Blank	Total/NA	Solid	9014	123101
LCS 550-122899/2-B	Lab Control Sample	Total/NA	Solid	9014	123101
LCSD 550-122899/9-B	Lab Control Sample Dup	Total/NA	Solid	9014	123101
550-86406-A-1-E MS	Matrix Spike	Total/NA	Solid	9014	123101
550-86406-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	9014	123101

Prep Batch: 123325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-10	1707102-04	Total/NA	Solid	9010C	123062
MB 550-123062/2-B	Method Blank	Total/NA	Solid	9010C	123062
LCS 550-123062/1-B	Lab Control Sample	Total/NA	Solid	9010C	123062
LCSD 550-123062/11-C	Lab Control Sample Dup	Total/NA	Solid	9010C	123062
550-86675-A-1-F MS	Matrix Spike	Total/NA	Solid	9010C	123062
550-86675-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	9010C	123062

Analysis Batch: 123326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-86287-10	1707102-04	Total/NA	Solid	9014	123325
MB 550-123062/2-B	Method Blank	Total/NA	Solid	9014	123325
LCS 550-123062/1-B	Lab Control Sample	Total/NA	Solid	9014	123325
LCSD 550-123062/11-C	Lab Control Sample Dup	Total/NA	Solid	9014	123325
550-86675-A-1-F MS	Matrix Spike	Total/NA	Solid	9014	123325
550-86675-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	9014	123325

Lab Chronicle

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Client Sample ID: 1707086-02
Date Collected: 07/12/17 06:40
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			122623	07/18/17 21:30	EXZ	TAL PHX
Total/NA	Analysis	245.1		1	122848	07/19/17 19:37	EXZ	TAL PHX

Client Sample ID: 1707083-01
Date Collected: 07/12/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			122623	07/18/17 21:30	EXZ	TAL PHX
Total/NA	Analysis	245.1		1	122848	07/19/17 19:38	EXZ	TAL PHX

Client Sample ID: 1707100-01
Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			122623	07/18/17 21:30	EXZ	TAL PHX
Total/NA	Analysis	245.1		1	122848	07/19/17 19:40	EXZ	TAL PHX

Client Sample ID: 1707100-02
Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			122623	07/18/17 21:30	EXZ	TAL PHX
Total/NA	Analysis	245.1		1	122848	07/19/17 19:41	EXZ	TAL PHX

Client Sample ID: 1707100-03
Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	245.1			122624	07/18/17 21:34	EXZ	TAL PHX
Dissolved	Analysis	245.1		1	122845	07/19/17 17:10	EXZ	TAL PHX

Client Sample ID: 1707100-04
Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	122655	07/19/17 09:34	YET	TAL PHX

Lab Chronicle

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Client Sample ID: 1707100-04

Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-6
Matrix: Solid
Percent Solids: 13.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471B			122619	07/18/17 20:34	EXZ	TAL PHX
Total/NA	Analysis	7471B		1	123261	07/26/17 12:50	JTG	TAL PHX
Total/NA	Prep	9013A			122899	07/21/17 12:12	NEL	TAL PHX
Total/NA	Prep	9010C			123101	07/21/17 12:30	YET	TAL PHX
Total/NA	Analysis	9014		1	123106	07/25/17 09:07	YET	TAL PHX

Client Sample ID: 1707102-01

Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			122623	07/18/17 21:30	EXZ	TAL PHX
Total/NA	Analysis	245.1		1	122848	07/19/17 19:43	EXZ	TAL PHX

Client Sample ID: 1707102-02

Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			122623	07/18/17 21:30	EXZ	TAL PHX
Total/NA	Analysis	245.1		1	122848	07/19/17 19:44	EXZ	TAL PHX

Client Sample ID: 1707102-03

Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	245.1			122624	07/18/17 21:34	EXZ	TAL PHX
Dissolved	Analysis	245.1		1	122845	07/19/17 17:11	EXZ	TAL PHX

Client Sample ID: 1707102-04

Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	122655	07/19/17 09:34	YET	TAL PHX

Client Sample ID: 1707102-04

Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-10
Matrix: Solid
Percent Solids: 1.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471B			122619	07/18/17 20:34	EXZ	TAL PHX

TestAmerica Phoenix

Lab Chronicle

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Client Sample ID: 1707102-04

Date Collected: 07/14/17 06:00
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-10
Matrix: Solid
Percent Solids: 1.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7471B		1	123261	07/26/17 12:52	JTG	TAL PHX
Total/NA	Prep	9013A			123062	07/26/17 12:00	NEL	TAL PHX
Total/NA	Prep	9010C			123325	07/26/17 13:30	NEL	TAL PHX
Total/NA	Analysis	9014		1	123326	07/27/17 07:55	YET	TAL PHX

Client Sample ID: 1707116-01

Date Collected: 07/17/17 09:40
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			122623	07/18/17 21:30	EXZ	TAL PHX
Total/NA	Analysis	245.1		1	122848	07/19/17 19:48	EXZ	TAL PHX

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Laboratory: TestAmerica Phoenix

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Arizona	State Program	9	AZ0728	06-09-18

Analysis Method	Prep Method	Matrix	Analyte

Method Summary

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Method	Method Description	Protocol	Laboratory
245.1	Mercury (CVAA)	EPA	TAL PHX
7471B	Mercury (CVAA)	SW846	TAL PHX
2540G	SM 2540G	SM22	TAL PHX
9014	Cyanide	SW846	TAL PHX

Protocol References:

EPA = US Environmental Protection Agency

SM22 = SM22

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

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

86281

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 3 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☑ 2 weeks			Lab Sampling:
Project Name: Mercury group #3	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-01544	☐ 1 day			

550-86287 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Mercury	Sample Specific Notes:
Green Valley WRF effluent 25000-0960									
-01 1707086-02	7/12/17	0640	Grab	WW	1	N		1	Wastewater
Agua Nueva WRF plant effluent 26107-7100									
-02 1707083-01	7/12/17	0600	Comp	WW	1	N		1	Wastewater
Tres Rios WRF raw influent 20001-0130									
-03 1707100-01	7/14/17	0600	Comp	WW	1	N		1	Wastewater
Tres Rios WRF final effluent #3 20001-7030									
-04 1707100-02	7/14/17	0600	Comp	WW	1	N		1	Wastewater

Preservative Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☑Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

3.6°C on ice

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by: Greg Spence for samplers	Company: PC CRAO Lab	Date/Time: 07-18-17 1308	Received by: Michael Boat	Company:	Date/Time: 7/18/17 1308
Relinquished by: Michael Boat	Company:	Date/Time: 7/18/17 1620	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA	Date/Time: 7/18/17 16:26

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

86287

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	2 of 3 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☑ 2 weeks			Lab Sampling:
Project Name: Mercury group #3	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-01544	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Mercury	Dissolved mercury	Cyanide mg/kg	Mercury mg/kg	Total % solids for mg/kg	Sample Specific Notes:
Tres Rios WRF final effluent #3 20001-7030													Wastewater
-05 1707100-03	7/14/17	0600	Comp	WW	1	Y			1				
Tres Rios WRF dewatered cake 20001-5703													Biosolids mg/kg dry weight
-06 1707100-04	7/14/17	0600	Comp	~~WW~~ BS	3	N				1	1	1	
				7/14/17									
Agua Nueva WRF plant influent 26107-0100													Wastewater
-07 1707102-01	7/14/17	0600	Comp	WW	1	N		1					
Agua Nueva WRF plant effluent 26107-7100													Wastewater
-08 1707102-02	7/14/17	0600	Comp	WW	1	N		1					

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☑Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

3.6 on ice

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____	Therm ID No.: _____
Relinquished by: Greg Spence for samplers	Company: PC CRAO Lab	Date/Time: 07-18-17 1308	Received by:	Company:	Date/Time: 7/18/17 1308
Relinquished by:	Company:	Date/Time: 7/18/17 1620	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA	Date/Time: 7/18/17 16:20

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

86287

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	3 of 3 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☑ 2 weeks			Lab Sampling:
Project Name: Mercury group #3	☑ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-01544	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Mercury	Dissolved mercury	Cyanide mg/kg	Mercury mg/kg	Total % solids for mg/kg	Sample Specific Notes:
Agua Nueva WRF plant effluent 26107-7100													Wastewater
—09 1707102-03	7/14/17	0600	Comp	WW	1	Y			1				2 week TAT
Agua Nueva thickened sludge pump 26107-0600													Biosolids mg/kg dry weight
—10 1707102-04	7/14/17	0600	Comp	BS	3	N				1	1	1	2 week TAT
Water Innovation Challenge S12 65811-0112													Drinking water
—11 1707094-01	7/13/17	1015	Grab	DW	1	N		1					1 WEEK TAT PLEASE
Agua Nueva WRF well SC-01R 26107-9009													Groundwater
—12 1707116-01	7/17/17	0940	Grab	W	1	N		1					

Preservation Used: 1= Ice, 2=HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
3.6° on ice

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	07-13-17 1308	Michael Rost		7/18/17 1308
Michael Rost	7/18/17 1620				
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				TA	7/18/17 16:20

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1707100-04

PROJECT & LOCATION: Tres Rios WRF - Dewatered Cake Biosolids (Quarterly)

PROJECT-LOCATION NUMBER: 20001-5703 (XXXXX-XXXX)

SAMPLE START DATE: 07-13-17 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0600 (Military time)

CLIENT: IWC

SAMPLE END DATE: 07-14-17 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0600 (Military time)

SAMPLER(S): Silva, Valencia, Riccaboni, Wichert (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ■ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Hardness				
Iron				
Lead				
Magnesium				
Manganese				
Mercury contract	×			■
Mercury LL				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Thallium				
Tin				

METALS	Tot	Diss	D	C
Titanium				
Vanadium				
Zinc				
PPMs *	×			■
TCLP Metals				
503 Metals **				■
Dissolved Cr+6				

WET METHODS	D	C
Ammonia as N		
Chloride		
Cyanide, Total contract		■
Cyanide, Amenable		
Fluoride		
Ignitability		
Nitrate as N		
Nitrite as N		
Nitrate/Nitrite as N		
Nitrogen, Total Kjeldahl		
Nitrogen, Total as N		
Orthophosphate as P		
Phosphorus, Total as P		
Sulfate		
Sulfide		
Other		
Other		

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	
Dioxin GC/SIM/MS Scan		■
Organochlorine Pesticides & PCBs		■
Purgeable Organics (GCMS)	■	
Semivolatile Organics (GCMS)		■
Bis(2-ethylhexyl) phthalate		
Digester Gas		
Oil and Grease		
Organic Carbon, Total		
Organic Carbon, Dissolved		
TCLP Herbicides (Contract Lab)		
TCLP Pesticides		
TCLP Semivolatile Organics		
TCLP Volatile Organics		
TTHM		
Total Petroleum Hydrocarbons		
Volatile Acids		
Other		
Other		

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*		
Chronic *C. dubia*		
Chronic *Selenastrum capricornutum*		
Other		

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity		
BOD		
COD		
Coliform, Fecal		
Coliform, Total		
Specific Conductance		
E. coli		
Oxygen, Dissolved		
pH		
Solids, Total 1 of 2 contract		■
Solids, Total Dissolved		
Solids, Total Suspended		
Solids, Total Volatile		
Solids, Volatile Suspended		
Other		

OTHER	D	C
Paint Filter		

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions: The Lab shall composite the Purgeable Organic and Acrolein/Acrylonitrile samples. Cyanide and mercury sent to Test America. 603 07-14-17 DO#18-01544

Septum Blank Prep Date & Initials: 06-06-17 LEJ

Sample Integrity/Preservation:

# of Bottles Delivered: 10 603

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 3 °C

Initials: 603

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒		
Sample labels match Chain of Custody?	☒		
Correct number of sample bottles were delivered?	☒		
Custody seals intact?			☒
Within holding time?	☒		
Sufficient sample volume for analysis?	☒		
Samples are in properly preserved containers?	☒		
Sample containers damaged/leaking/frozen?		☒	
40 ml vials headspace. > pea-sized air bubble?	☒		
Received from a refrigerator?		☒	

Chain of Custody Record (Signatures Only)

Relinquished by Sampler	Received by	Date	Time (Military time)
[signature]	[signature]	7-13-17	1500
Relinquished by	Received by	Date	Time (Military time)
[signature]	Refrigerator	7-14-17	0130
Relinquished by	Received by	Date	Time (Military time)
Refrigerator	[signature]	7-14-17	0600
Relinquished by	Received by	Date	Time (Military time)
[signature]	[signature]	07-14-17	0836
Relinquished by	Received by	Date	Time (Military time)
[signature]	[signature]	07-14-17	1308

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)

** As, Ba, Cr, Pb, Mercury, Mo, Ni, Se, Tl, Zn

COC-Single Revision 2

Revised: 03/12/2015

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
WATER QUALITY
SAMPLE COLLECTION REPORT

SAMPLE LOCATION: Tres Rios WRF – Dewatered Cake Biosolids LIMS: 1707100-04
LOCATION ID: 20001 – 5703 SAMPLERS: _____ SAMPLE DATE: _____
Last names only, primary sampler first

Sample D or C	Parameter	Frequency	AUTO MAN	Volume Submitted	Bottle/Preservation
C	Semivolatile Organics	Hand Composite	Man	1000 ml	Amber Glass/None/Ice
C	Organochlorine Pest & PCB's		Man	1000 ml	Amber Glass/None/Ice
C	Dioxin		Man	1000 ml	Amber Glass/None/Ice
C	Priority Pollutant & 503 Metals		Man	1000 ml	Dissolved Metals/None/Ice
C	Total Solids	4 Aliquots for the duration of the discharge	Man	1000 ml	General Purpose/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
C	Cyanide		Man	1000 ml	Dissolved Metals/None/Ice
			Man	1000 ml	Amber Glass/None/Ice
			Man	1000 ml	Amber Glass/None/Ice
To be Composited by the Laboratory					
D	Purgeable Organics	Hand Composite	Man	4 X 40	None/Ice
D	Acrolein/Acrylonitrile		Man	4 X 40	None/Ice
		4 Aliquots for the duration of the discharge			
To be Submitted to an outside Laboratory					

	Time
Aliquot #1	0730
Aliquot #2	1305
Aliquot #3	1905
Aliquot #4	0030

Comments:	Dewatered Cake Biosolids samples are not preserved.
	All Composites including Cyanide can be poured off at the end of the sampling event

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 02/13/2018
Laboratory License: AZO159

Sample Analysis Report

Tres Rios WRF

4th Quarter 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By: Jenelle Pratt

2·13·18
Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
Dewatered Cake Biosolids (20001-5703)											
1710191-01	C	Antimony	10/27/17 6:00	EPA 6010D	11/3/17 15:16	**ND**	mg/kg dry		14.05		MLB
1710191-01	C	Arsenic	10/27/17 6:00	EPA 6010D	11/7/17 16:42	**ND**	mg/kg dry		14.05		MLB
1710191-01	C	Beryllium	10/27/17 6:00	EPA 6010D	11/3/17 15:16	**ND**	mg/kg dry		2.81		MLB
1710191-01	C	Cadmium	10/27/17 6:00	EPA 6010D	11/3/17 15:16	**ND**	mg/kg dry		5.62		MLB
1710191-01	C	Chromium	10/27/17 6:00	EPA 6010D	11/3/17 15:16	**29.9**	mg/kg dry		14.05		MLB
1710191-01	C	Copper	10/27/17 6:00	EPA 6010D	11/3/17 15:16	**426**	mg/kg dry		14.05		MLB
1710191-01	C	Lead	10/27/17 6:00	EPA 6010D	11/7/17 16:42	**ND**	mg/kg dry		14.05		MLB
1710191-01	C	Mercury	10/27/17 6:00	EPA 7471B	10/31/17 10:41	**1.13**	mg/kg dry		0.00331		DML
1710191-01	C	Molybdenum	10/27/17 6:00	EPA 6010D	11/3/17 15:16	**14.8**	mg/kg dry		5.62		MLB
1710191-01	C	Nickel	10/27/17 6:00	EPA 6010D	11/3/17 15:16	**22.7**	mg/kg dry		14.05		MLB
1710191-01	C	Selenium	10/27/17 6:00	EPA 6010D	11/3/17 15:16	**ND**	mg/kg dry		28.09		MLB
1710191-01	C	Silver	10/27/17 6:00	EPA 6010D	11/7/17 16:42	**3.81**	mg/kg dry		1.40		MLB
1710191-01	C	Thallium	10/27/17 6:00	EPA 6010D	11/3/17 15:16	**ND**	mg/kg dry		14.05		MLB
1710191-01	C	Zinc	10/27/17 6:00	EPA 6010D	11/3/17 15:16	**785**	mg/kg dry		14.05		MLB
1710191-01	C	% Solids	10/27/17 6:00	SM 2540G	10/28/17 07:59	**15.12**	%		0.01		DEB
1710191-01	C	Acrolein	10/27/17 6:00	EPA 624	11/1/17 12:30	**ND**	mg/kg dry	0.00299	0.66	M1, N1	JOB
1710191-01	C	Acrylonitrile	10/27/17 6:00	EPA 624	11/1/17 12:30	**ND**	mg/kg dry	0.000650	0.66	M1, N1	JOB
1710191-01	C	4,4-DDD	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00006	0.00017	D1, D7	KLH
1710191-01	C	4,4-DDE	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00003	0.00017	D1, D7	KLH
1710191-01	C	4,4-DDT	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00006	0.00017	D1, D7	KLH
1710191-01	C	Aldrin	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00006	0.00017	D1, D7	KLH
1710191-01	C	alpha-BHC	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00004	0.00125	D1, D7	KLH
1710191-01	C	beta-BHC	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00009	0.00017	D1, D7	KLH
1710191-01	C	Chlordane	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00025	0.00132	D1, D7	KLH
1710191-01	C	delta-BHC	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00007	0.00017	D1, D7, L5	KLH
1710191-01	C	Dieldrin	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00015	0.00033	D1, D7	KLH
1710191-01	C	Endosulfan I	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00004	0.00017	D1, D7, L5	KLH
1710191-01	C	Endosulfan II	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00003	0.00017	D1, D7, L5	KLH
1710191-01	C	Endosulfan sulfate	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00004	0.00017	D1, D7	KLH
1710191-01	C	Endrin	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00010	0.00017	D1, D7	KLH
1710191-01	C	Endrin aldehyde	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00011	0.00017	D1, D7	KLH
1710191-01	C	gamma-BHC (Lindane)	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00007	0.00017	D1, D7	KLH
1710191-01	C	Heptachlor	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00005	0.00017	D1, D7	KLH
1710191-01	C	Heptachlor Epoxide	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00004	0.00017	D1, D7	KLH
1710191-01	C	PCB 1016	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00006	0.00250	D1, D7	KLH
1710191-01	C	PCB 1221	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00017	0.01	D1, D7	KLH
1710191-01	C	PCB 1232	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00007	0.00099	D1, D7	KLH
1710191-01	C	PCB 1242	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00013	0.00099	D1, D7	KLH
1710191-01	C	PCB 1248	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00010	0.00099	D1, D7	KLH
1710191-01	C	PCB 1254	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00019	0.00099	D1, D7	KLH
1710191-01	C	PCB 1260	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00007	0.00033	D1, D7	KLH
1710191-01	C	Total PCBs	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00016	0.00099	D1, D7	KLH
1710191-01	C	Toxaphene	10/27/17 6:00	EPA 625	11/7/17 17:51	**ND**	mg/kg dry	0.00094	0.00264	D1, D7	KLH
1710191-01	C	Methoxychlor	10/27/17 6:00	EPA 8270C	11/7/17 17:51	**ND**	mg/kg dry		0.00017	D1, D7, L5	KLH
1710191-01	C	1,1,1-Trichloroethane	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0002	0.00007		SRM
1710191-01	C	1,1,2,2-Tetrachloroethane	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.00006	0.00007		SRM
1710191-01	C	1,1,2-Trichloroethane	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.00009	0.00007		SRM
1710191-01	C	1,1-Dichloroethane	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0002	0.00007		SRM
1710191-01	C	1,1-Dichloroethene	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0001	0.00007		SRM
1710191-01	C	1,2-Dichlorobenzene	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.00008	0.00007		SRM
1710191-01	C	1,2-Dichloroethane	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.00009	0.00007		SRM
1710191-01	C	1,2-Dichloropropane	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0001	0.00007		SRM
1710191-01	C	1,3-Dichlorobenzene	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.00008	0.00007		SRM
1710191-01	C	1,4-Dichlorobenzene	10/27/17 6:00	EPA 624	10/30/17 17:20	**0.002**	mg/kg dry	0.0002	0.00007		SRM
1710191-01	C	2-Chloroethyl vinyl ether	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0003	0.00013		SRM
1710191-01	C	Benzene	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0001	0.00007		SRM
1710191-01	C	Bromodichloromethane	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0002	0.00007		SRM
1710191-01	C	Bromoform	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0003	0.00007		SRM
1710191-01	C	Bromomethane	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0001	0.00007		SRM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1710191-01	C	Carbon Tetrachloride	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0004	0.00007		SRM
1710191-01	C	Chlorobenzene	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.00006	0.00007		SRM
1710191-01	C	Chloroethane	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0002	0.00007		SRM
1710191-01	C	Chloroform	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0001	0.00007		SRM
1710191-01	C	Chloromethane	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0002	0.00007		SRM
1710191-01	C	cis-1,3-Dichloropropene	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.00009	0.00007		SRM
1710191-01	C	Dibromochloromethane	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.00006	0.00007		SRM
1710191-01	C	Ethyl Benzene	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.00009	0.00007		SRM
1710191-01	C	Methylene Chloride	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0002	0.00007		SRM
1710191-01	C	Tetrachloroethene	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0002	0.00007		SRM
1710191-01	C	Toluene	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0001	0.00007		SRM
1710191-01	C	Total Trihalomethanes	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0003	0.00007		SRM
1710191-01	C	trans-1,2-Dichloroethene	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0001	0.00007		SRM
1710191-01	C	trans-1,3-Dichloropropene	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0001	0.00007		SRM
1710191-01	C	Trichloroethene	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0001	0.00007		SRM
1710191-01	C	Trichlorofluoromethane	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0003	0.00007		SRM
1710191-01	C	Vinyl chloride	10/27/17 6:00	EPA 624	10/30/17 17:20	**ND**	mg/kg dry	0.0002	0.00007		SRM
1710191-01	C	1,2,4-Trichlorobenzene	10/27/17 6:00	EPA 8260	10/30/17 17:20	**ND**	mg/kg dry		0.00007		SRM
1710191-01	C	1,2-Dibromo-3-chloropropane	10/27/17 6:00	EPA 8260	10/30/17 17:20	**ND**	mg/kg dry		0.00013		SRM
1710191-01	C	1,2-Dibromoethane	10/27/17 6:00	EPA 8260	10/30/17 17:20	**ND**	mg/kg dry		0.00007		SRM
1710191-01	C	cis-1,2-Dichloroethene	10/27/17 6:00	EPA 8260	10/30/17 17:20	**ND**	mg/kg dry		0.00007		SRM
1710191-01	C	m,p-Xylenes	10/27/17 6:00	EPA 8260	10/30/17 17:20	**ND**	mg/kg dry		0.00013		SRM
1710191-01	C	o-Xylene	10/27/17 6:00	EPA 8260	10/30/17 17:20	**ND**	mg/kg dry		0.00007		SRM
1710191-01	C	Styrene	10/27/17 6:00	EPA 8260	10/30/17 17:20	**ND**	mg/kg dry		0.00007		SRM
1710191-01	C	Xylenes, total	10/27/17 6:00	EPA 8260	10/30/17 17:20	**ND**	mg/kg dry		0.00013		SRM
1710191-01	C	2,3,7,8-TCDD - Dioxin Scan	10/27/17 6:00	EPA 625	11/3/17 14:15	**ND**	ug/kg dry		0.17		SJM
1710191-01	C	1,2,4-Trichlorobenzene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	2,3-Dichloroaniline	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710191-01	C	2,4,6-Trichlorophenol	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710191-01	C	2,4-Dichlorophenol	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	2,4-Dimethylphenol	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1710191-01	C	2,4-Dinitrophenol	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.009	0.01	D1, D7	SJM
1710191-01	C	2,4-Dinitrotoluene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710191-01	C	2,6-Dinitrotoluene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710191-01	C	2-Chloronaphthalene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710191-01	C	2-Chlorophenol	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710191-01	C	2-Methyl-4,6-dinitrophenol	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1710191-01	C	2-Methylphenol	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710191-01	C	2-Nitrophenol	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710191-01	C	3,3-Dichlorobenzidine	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710191-01	C	4-Bromophenyl phenyl ether	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7, S7	SJM
1710191-01	C	4-Chloro-3-methylphenol	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710191-01	C	4-Chlorophenyl phenyl ether	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710191-01	C	4-Methylphenol	10/27/17 6:00	EPA 625	11/7/17 17:55	**3.55**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	4-Nitrophenol	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1710191-01	C	Acenaphthene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	Acenaphthylene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	Anthracene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7, S7	SJM
1710191-01	C	Benzidine	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.007	0.01	D7, D1	SJM
1710191-01	C	Benzo[a]anthracene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710191-01	C	Benzo[a]pyrene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	Benzo[b]fluoranthene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	Benzo[ghi]perylene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710191-01	C	Benzo[k]fluoranthene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710191-01	C	bis(2-chloroethoxy)methane	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	bis(2-chloroethyl)ether	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710191-01	C	bis(2-chloroisopropyl)ether	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	bis(2-ethylhexyl)phthalate	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710191-01	C	Butylbenzylphthalate	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	Carbazole	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.003	0.01	D7, S7, D1	SJM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1710191-01	C	Chrysene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710191-01	C	Dibenzo(a,h)anthracene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710191-01	C	Diethyl phthalate	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710191-01	C	Dimethyl phthalate	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.0006	0.00200	D1, D7, PC3	SJM
1710191-01	C	Di-n-butyl phthalate	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.01	D1, D7, S7	SJM
1710191-01	C	Di-n-octyl phthalate	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710191-01	C	Fluoranthene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7, S7	SJM
1710191-01	C	Fluorene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	Hexachlorobenzene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.0006	0.00200	D7, S7, D1	SJM
1710191-01	C	Hexachlorobutadiene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710191-01	C	Hexachlorocyclopentadiene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1710191-01	C	Hexachloroethane	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710191-01	C	Indeno(1,2,3-cd)pyrene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710191-01	C	Isophorone	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	Naphthalene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	n-Decane	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710191-01	C	Nitrobenzene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710191-01	C	N-Nitrosodimethylamine	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710191-01	C	N-Nitrosodi-n-propylamine	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710191-01	C	N-Nitrosodiphenylamine	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.006	0.01	D1, D7	SJM
1710191-01	C	n-Octadecane	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.01	D1, D7, S7	SJM
1710191-01	C	Pentachlorophenol	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.004	0.01	D1, D7, S7	SJM
1710191-01	C	Phenanthrene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.002	0.00200	D1, D7, S7	SJM
1710191-01	C	Phenol	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710191-01	C	Pyrene	10/27/17 6:00	EPA 625	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710191-01	C	1,2-Diphenylhydrazine	10/27/17 6:00	EPA 8270C	11/7/17 17:55	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710191-01	C	Cyanide, Total	10/27/17 6:00	9014	11/2/17 16:54	**3.4**	mg/Kg dry	0.96	2.5		NEL *

* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.

1710191-01	C	Percent Solids	10/27/17 6:00	2540G	10/31/17 08:02	**15.2**	%	0.1	0.1		YET *

* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.

Qualifier Definitions

D1	Sample required dilution due to matrix.
D7	Minimum Reporting Limit adjusted to reflect sample dilution.
L5	The associated blank spike recovery was above laboratory/method acceptance limits. This analyte was not detected in the sample.
M1	Matrix spike recovery was high; the associated blank spike recovery was acceptable.
N1	See case narrative.
PC3	Semi-quantitation is included in the case narrative.
S7	Surrogate recovery was below laboratory and method acceptance limits. Unable to confirm matrix effect.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

1710191-01
EPA Method 624 Ac/Ac: Target analytes flagged with N1 failed the Matrix Spike from the same analysis batch but the spike was performed on a different sample. JOB 11/06/17

Semi-Quantitation
Method: 625
1710191-01

Compound Name	Concentration-mg/Kg
Palmitic Acid	1974
Oleic Acid	845
Stearic Acid	272

SJM 11/29/17

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Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1710191-01

PROJECT & LOCATION: Tres Rios WRF - Dewatered Cake Biosolids (Quarterly)

PROJECT-LOCATION NUMBER: 20001-5703 (XXXXX-XXXX)

SAMPLE START DATE: 10-26-2017 (MM/DD/YY OR MM/DD/YYYY) SAMPLE START TIME: 0600 (Military time)

CLIENT: IWC

SAMPLE END DATE: 10-27-2017 (MM/DD/YY OR MM/DD/YYYY) SAMPLE END TIME: 0600 (Military time)

SAMPLER(S): Silva, Valencia, Riccaboni, Martinez, Preston, Carpenter (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ■ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Hardness				
Iron				
Lead				
Magnesium				
Manganese				
Mercury	X			■
Mercury LL				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Thallium				
Tin				

METALS	Tot	Diss	D	C
Titanium				
Vanadium				
Zinc				
PPMs *	X			■
TCLP Metals				
503 Metals **				■
Dissolved Cr+6				

WET METHODS	D	C
Ammonia as N		
Chloride		
Cyanide, Total (Contract)		■
Cyanide, Amenable		
Fluoride		
Ignitability		
Nitrate as N		
Nitrite as N		
Nitrate/Nitrite as N		
Nitrogen, Total Kjeldahl		
Nitrogen, Total as N		
Orthophosphate as P		
Phosphorus, Total as P		
Sulfate		
Sulfide		
Other		
Other		

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	
Dioxin GC/SIM/MS Scan		■
Organochlorine Pesticides & PCBs		■
Purgeable Organics (GCMS)	■	
Semivolatile Organics (GCMS)		■
Bis(2-ethylhexyl) phthalate		
Digester Gas		
Oil and Grease		
Organic Carbon, Total		
Organic Carbon, Dissolved		
TCLP Herbicides (Contract Lab)		
TCLP Pesticides		
TCLP Semivolatile Organics		
TCLP Volatile Organics		
TTHM		
Total Petroleum Hydrocarbons		
Volatile Acids		
Other		
Other		

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*		
Chronic *C. dubia*		
Chronic *Selenastrum capricornutum*		
Other		

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity		
BOD		
COD		
Coliform, Fecal		
Coliform, Total		
Specific Conductance		
E. coli		
Oxygen, Dissolved		
pH		
Solids, Total (1 of 2 Contract)		■
Solids, Total Dissolved		
Solids, Total Suspended		
Solids, Total Volatile		
Solids, Volatile Suspended		
Other		

OTHER	D	C
Paint Filter		

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
The Lab shall composite the Purgeable Organic and Acrolein/Acrylonitrile samples.
Cyanide and 1 of 2 Total Solids
Sent to Test America, LLO 10-27-17
Air Bubble in Trip Blanks. LLO 10-27-17

Septum Blank Prep Date & Initials: 09-12-2017 | le

D.O. # 18-0116D

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	10-26-17	1500
Relinquished by:	Received by:	Date:	Time: (Military time)
[signature]	Refrigerator	10-27-17	0230
Relinquished by:	Received by:	Date:	Time: (Military time)
Refrigerator	[signature]	10-27-17	0600
Relinquished by:	Received by:	Date:	Time: (Military time)
[signature]	Joseph Dowski	10-27-17	0820
Relinquished by:	Received by:	Date:	Time: (Military time)
Joseph Dowski	Mike Root	10/30/17	1057

Sample Integrity/Preservation:
# of Bottles Delivered: 9
Transported on Ice: ☒ YES ☐ NO

Lab Receipt
Temperature: 4.6 °C
Initials: LLO
Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒		
Sample labels match Chain of Custody?	☒		
Correct number of sample bottles were delivered?	☒		
Custody seals intact?			☒
Within holding time?	☒		
Sufficient sample volume for analysis?	☒		
Samples are in properly preserved containers?	☒		
Sample containers damaged/leaking/frozen?		☒	
40 ml vials headspace, > pea-sized air bubble?	☒		
Received from a refrigerator?		☒	

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

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PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
WATER QUALITY
SAMPLE COLLECTION REPORT

SAMPLE LOCATION: Tres Rios WRF – Dewatered Cake Biosolids LIMS: 1710191-01
LOCATION ID: 20001 – 5703 SAMPLERS: Silva, Valencia, Riccaboni SAMPLE DATE: 10·27·17
Last names only, primary sampler first
Martinez, Carpenter, Preston

Sample D or C	Parameter	Frequency	AUTO MAN	Volume Submitted	Bottle/Preservation
C	Semivolatile Organics	Hand Composite	Man	1000 ml	Amber Glass/None/Ice
C	Organochlorine Pest & PCB's		Man	1000 ml	Amber Glass/None/Ice
C	Dioxin		Man	1000 ml	Amber Glass/None/Ice
C	Priority Pollutant & 503 Metals	4 Aliquots for the duration of the discharge	Man	1000 ml	Dissolved Metals/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
C	Cyanide		Man	1000 ml	Dissolved Metals/None/Ice
			Man	1000 ml	Amber Glass/None/Ice
			Man	1000 ml	Amber Glass/None/Ice
To be Composited by the Laboratory					
D	Purgeable Organics	Hand Composite	Man	4 X 40	None/Ice
D	Acrolein/Acrylonitrile		Man	4 X 40	None/Ice
		4 Aliquots for the duration of the discharge			
To be Submitted to an outside Laboratory					

	Time
Aliquot #1	0650 10/26/17
Aliquot #2	1130 10/26/17
Aliquot #3	FTR/1700 10·26·17
Aliquot #4	1100 10·26·17

Comments:	Dewatered Cake Biosolids samples are not preserved.
	All Composites including Cyanide can be poured off at the end of the sampling event

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Joe Doranski	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6032	Lab Contact:	Carrier:	___ of ___ COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6032 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☑ 2 weeks			Lab Sampling:
Project Name: TR sludge	☐ 1 week			
Site: Tres Rios WRF	☐ 2 days			Job / SDG No.:
P O # 18-011690	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total cyanide mg/kg dry	total % solids	Sample Specific Notes:
Tres Rios WRF Dewatered Cake 20001-5703										SL - sludge
1710191-01	10/27/17	0600	Comp	SL	2	N		1	1	mg/kg dry

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☑ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Joseph Doranski for Samplers	PC CRAO Lab	10-30-17 1057	Mike Root	1057 10	30 17
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

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PIMA COUNTY

WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1710191-01**	**DO**	**18-011690**
CONTRACT LAB	**TestAmerica PHX**	**SAMPLE GROUP**	**Tres Rios Sludge**
ANALYSES	**Total cyanide sludge, % total solids**	**REPORT ID**	**550-92308-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for the reported methods?	Y
Check that DO matches COC in types and number of tests?	N/A
DO received in Pima Core?	Y
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	N/A
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	N/A
Semivolatiles & Volatiles: Check that all analytes were delivered?	N/A
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	N/A
Was Belinda Gamboa-Felix notified of any exceedences?	N/A
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	N/A
Report states if zeolite treatment was utilized?	N/A
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	N/A
Chemistry data included?	N/A
Reference Toxicant Test Results and Control Chart within limits?	N/A

PMSD Determination included and within acceptable range? (minimum acceptable= 13)				N/A
End Points include TUc, NOEC, LOEC, and IC25?				N/A
Statistics verify endpoints				N/A
Control Charts Updated to include month of analysis				N/A
Reviewer Initials:	**JD**	**Review Date:**	**11-16-17**	

PEER/FINAL REVIEW:			PR	FR
LIMS/Excel data matches printed CL report?			✓	
Analysis dates are correct?			✓	
Correct Data Qualifiers included if necessary.			✓	
CRAO report shows result is from Contract Lab?			✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?			✓	
DO received in Pima Core			✓	
Analysis set to Reported?				✓
Peer Reviewer Initials:	JP	**Review Date:**	11-16-17	
Biomonitor Supervisor Initials:	N/A	**Review Date:**		
Final Reviewer Initials:	JEC	**Review Date:**	11·16·17	

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-92308-1
TestAmerica Sample Delivery Group: tres Rios WRF
Client Project/Site: TR Sludge

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Joseph Doranski

Authorized for release by:
11/9/2017 7:23:13 AM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: TR Sludge

TestAmerica Job ID: 550-92308-1
SDG: tres Rios WRF

Qualifiers

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

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)

Case Narrative

Client: Pima County WWTP
Project/Site: TR Sludge

TestAmerica Job ID: 550-92308-1
SDG: tres Rios WRF

Job ID: 550-92308-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-92308-1

Comments
No additional comments.

Receipt
The sample was received on 10/30/2017 2:10 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

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

Sample Summary

Client: Pima County WWTP
Project/Site: TR Sludge

TestAmerica Job ID: 550-92308-1
SDG: tres Rios WRF

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-92308-1	1710191-01	Waste	10/27/17 06:00	10/30/17 14:10

5

TestAmerica Phoenix

Detection Summary

Client: Pima County WWTP
Project/Site: TR Sludge

TestAmerica Job ID: 550-92308-1
SDG: tres Rios WRF

Client Sample ID: 1710191-01 **Lab Sample ID: 550-92308-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	3.4		2.5	0.96	mg/Kg	1	☼	9014	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: TR Sludge

TestAmerica Job ID: 550-92308-1
SDG: tres Rios WRF

Client Sample ID: 1710191-01
Date Collected: 10/27/17 06:00
Date Received: 10/30/17 14:10

Lab Sample ID: 550-92308-1
Matrix: Waste

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	15.2		0.1	0.1	%			10/31/17 08:02	1

Client Sample ID: 1710191-01
Date Collected: 10/27/17 06:00
Date Received: 10/30/17 14:10

Lab Sample ID: 550-92308-1
Matrix: Waste
Percent Solids: 15.2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	3.4		2.5	0.96	mg/Kg	☼	10/27/17 17:32	11/02/17 16:54	1

TestAmerica Phoenix

QC Sample Results

Client: Pima County WWTP
Project/Site: TR Sludge

TestAmerica Job ID: 550-92308-1
SDG: tres Rios WRF

Method: 2540G - SM 2540G

Lab Sample ID: MB 550-131316/1 — **Client Sample ID: Method Blank**
Matrix: Waste — **Prep Type: Total/NA**
Analysis Batch: 131316

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	100		0.1	0.1	%			10/31/17 08:02	1

Lab Sample ID: 550-92308-1 DU — **Client Sample ID: 1710191-01**
Matrix: Waste — **Prep Type: Total/NA**
Analysis Batch: 131316

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	15.2		15.0		%		1	10

Method: 9014 - Cyanide

Lab Sample ID: MB 550-131131/1-B — **Client Sample ID: Method Blank**
Matrix: Waste — **Prep Type: Total/NA**
Analysis Batch: 131653 — **Prep Batch: 131131**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	0.40	0.15	mg/Kg		10/27/17 17:32	11/02/17 16:54	1

Lab Sample ID: LCS 550-131131/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Waste — **Prep Type: Total/NA**
Analysis Batch: 131653 — **Prep Batch: 131131**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	7.28	7.44		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 550-131131/8-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Waste — **Prep Type: Total/NA**
Analysis Batch: 131653 — **Prep Batch: 131131**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	6.94	7.31		mg/Kg		105	90 - 110	2	20

Lab Sample ID: 550-92308-1 MS — **Client Sample ID: 1710191-01**
Matrix: Waste — **Prep Type: Total/NA**
Analysis Batch: 131653 — **Prep Batch: 131131**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	3.4		45.7	46.3		mg/Kg	☼	94	80 - 120

Lab Sample ID: 550-92308-1 MSD — **Client Sample ID: 1710191-01**
Matrix: Waste — **Prep Type: Total/NA**
Analysis Batch: 131653 — **Prep Batch: 131131**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	3.4		49.4	49.2		mg/Kg	☼	93	80 - 120	6	20

TestAmerica Phoenix

QC Association Summary

Client: Pima County WWTP
Project/Site: TR Sludge

TestAmerica Job ID: 550-92308-1
SDG: tres Rios WRF

General Chemistry

Prep Batch: 131131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-92308-1	1710191-01	Total/NA	Waste	9013A	
MB 550-131131/1-B	Method Blank	Total/NA	Waste	9013A	
LCS 550-131131/2-B	Lab Control Sample	Total/NA	Waste	9013A	
LCSD 550-131131/8-B	Lab Control Sample Dup	Total/NA	Waste	9013A	
550-92308-1 MS	1710191-01	Total/NA	Waste	9013A	
550-92308-1 MSD	1710191-01	Total/NA	Waste	9013A	

Analysis Batch: 131316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-92308-1	1710191-01	Total/NA	Waste	2540G	
MB 550-131316/1	Method Blank	Total/NA	Waste	2540G	
550-92308-1 DU	1710191-01	Total/NA	Waste	2540G	

Prep Batch: 131650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-92308-1	1710191-01	Total/NA	Waste	9010C	131131
MB 550-131131/1-B	Method Blank	Total/NA	Waste	9010C	131131
LCS 550-131131/2-B	Lab Control Sample	Total/NA	Waste	9010C	131131
LCSD 550-131131/8-B	Lab Control Sample Dup	Total/NA	Waste	9010C	131131
550-92308-1 MS	1710191-01	Total/NA	Waste	9010C	131131
550-92308-1 MSD	1710191-01	Total/NA	Waste	9010C	131131

Analysis Batch: 131653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-92308-1	1710191-01	Total/NA	Waste	9014	131650
MB 550-131131/1-B	Method Blank	Total/NA	Waste	9014	131650
LCS 550-131131/2-B	Lab Control Sample	Total/NA	Waste	9014	131650
LCSD 550-131131/8-B	Lab Control Sample Dup	Total/NA	Waste	9014	131650
550-92308-1 MS	1710191-01	Total/NA	Waste	9014	131650
550-92308-1 MSD	1710191-01	Total/NA	Waste	9014	131650

Lab Chronicle

Client: Pima County WWTP
Project/Site: TR Sludge

TestAmerica Job ID: 550-92308-1
SDG: tres Rios WRF

Client Sample ID: 1710191-01 **Lab Sample ID: 550-92308-1**
Date Collected: 10/27/17 06:00 **Matrix: Waste**
Date Received: 10/30/17 14:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	131316		YET	TAL PHX
					(Start)	10/31/17 08:02		
					(End)	11/01/17 08:10		

Client Sample ID: 1710191-01 **Lab Sample ID: 550-92308-1**
Date Collected: 10/27/17 06:00 **Matrix: Waste**
Date Received: 10/30/17 14:10 **Percent Solids: 15.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9013A			131131	10/27/17 17:32	NEL	TAL PHX
Total/NA	Prep	9010C			131650	10/27/17 17:40	NEL	TAL PHX
Total/NA	Analysis	9014		1	131653	11/02/17 16:54	NEL	TAL PHX

Laboratory References:
TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Pima County WWTP
Project/Site: TR Sludge

TestAmerica Job ID: 550-92308-1
SDG: tres Rios WRF

Laboratory: TestAmerica Phoenix

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Arizona	State Program	9	AZ0728	06-09-18

Analysis Method	Prep Method	Matrix	Analyte

TestAmerica Phoenix

Method Summary

Client: Pima County WWTP
Project/Site: TR Sludge

TestAmerica Job ID: 550-92308-1
SDG: tres Rios WRF

Method	Method Description	Protocol	Laboratory
2540G	SM 2540G	SM22	TAL PHX
9014	Cyanide	SW846	TAL PHX

Protocol References:

SM22 = SM22

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

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

92308

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

11/9/2017

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Joe Doranski	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6032	Lab Contact:	Carrier:	___ of ___ COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6032 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☑ 2 weeks			Lab Sampling:
Project Name: TR sludge	☐ 1 week			
Site: Tres Rios WRF	☐ 2 days			Job / SDG No.:
P O # 18-011690	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total cyanide mg/kg dry	total % solids	Sample Specific Notes:
Tres Rios WRF Dewatered Cake 20001-5703										SL - sludge
1710191-01	10/27/17	0600	Comp	SL	2	N		1	1	mg/kg dry

550-92308 Chain of Custody

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=NaOH, 5=NaOH+ZnAc, 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

1.1°C PC

Custody Seals Intact: ☐ Yes ☑ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Joseph Doranski for Samplers	PC CRAO Lab		Mike Root	1057 10	30 17
Mike Root 1410 10	30 17				
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
					10-30-17 1410

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Page 13 of 14

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-92308-1
SDG Number: tres Rios WRF

Login Number: 92308
List Number: 1
Creator: Vilaboy, Monica

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

SECTION 4

LAND APPLICATION EVENTS LABORATORY ANALYSES

Crop Plant and Harvest Schedule

AVRAGRO SYSTEMS, INC.
LAND APPLICATION CONTRACTOR
2017

PIMA COUNTY
REGIONAL BIOSOLIDS MANAGEMENT FACILITY
TRES RIOS WRF
AZPDES NO. AZ0020001

ANNUAL BIOSOLIDS REPORT 2017

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ANNUAL BIOSOLIDS REPORT 2017

REGIONAL WATER
RECLAMATION DEPARTMENT

TREATMENT DIVISION

PIMA COUNTY
TUCSON, ARIZONA

PIMA COUNTY
WASTEWATER RECLAMATION

Plant and Harvest Dates 2017

Field ID	Crop	Plant Date	Harvest date
JK-7	Barley	2/5/17	6/10/17
JK-9	Pasture	every 2 months	every 2 months
JK-13	Cotton	5/20/17	1/5/18
JK-14	Cotton	5/13/17	12/26/17
JK-15	Cotton	5/15/17	12/28/17
JK-16	Wheat/ Cotton	2/5/17, 5/10/2017	6/6/17, 12/22/2017
JK-26	Cotton	5/12/17	12/20/17
JK-27	Cotton	5/14/17	12/22/17
JK-28	Cotton	5/16/17	12/24/17
JK-29	Cotton	5/18/17	12/27/17
JK-30	Cotton	5/20/17	12/29/17
JK-41	Wheat/ Cotton	2/1/2017, 6/5/2017	6/2/2017,1/15/2018
JK-42	Wheat/ Cotton	2/1/2017, 6/7/2017	6/2/2017,1/18/2018
GL-1	Cotton	5/10/17	12/18/17
LIM-1	Cotton	5/15/17	12/28/17
LIM-2	Alfalfa	1/28/18	every 28 days
Pima-1	Pasture	every 2 months	every 2 months
LDS-9d	Barley	2/10/18	6/15/18

CERTIFICATION

"I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in §503.14 and the site restrictions in §503.32(b)(5) was prepared for each site on which bulk sewage sludge was applied under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s):

Pima County, AZ Liquid

Reporting Period: January 2017 - December 2017

Name: Rob Fehrmann Avragro Systems Inc.

Signature: Rob Fehrmann Date: 2/15/2018

The management practices were met as follows:

(a) Sites currently in agricultural production or drastically disturbed lands are not potential habitat for endangered species. Sites which are in a natural state and are converted to agricultural use are evaluated case by case.

(b), (c) Biosolids are applied under management conditions to prevent the movement of biosolids into wetlands or other waters of the United States. These management practices include adherence to slope restrictions, seasonal water table restrictions, floodplain restrictions, frozen and snow covered soils restrictions, and maintaining buffer zones to surface waters (including the 10 meter set back to waters of the United States unless a reduced buffer zone requirement has been approved by the permitting authority) as required by state and internal operating standards.

(d) Biosolids are applied at agronomic rates based on regional, state, and local crop nitrogen requirements. Reclamation rates are established directly with the permitting authority.

The site restrictions were met through written agreements with the landowner and/or farm operator (leaseholder) specifying their obligation to comply with the site restrictions.

Report Number: 17-046-0202
Account Number: 16010

Waypoint ANALYTICAL

7621 Whitepine Road, Richmond, VA 23237
Main 804-743-9401 ° Fax 804-271-6446
www.waypointanalytical.com

Send To: Avra Gro Systems Inc
Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 1/28/2017
AZ Cert #0629

REPORT OF ANALYSIS

Date Sampled: 1/28/2017 00:00:00
Date Received: 02/15/2017 00:00
Date Reported: 02/23/2017

Lab Number : 62343
Sample Id : Pima Co 1/28/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	14.61	146100	100.0	JM	02/15/2017 15:30	SM-2540G
Moisture *	85.38		100.0	JM	02/15/2017 15:30	SM-2540G
Total Kjeldahl Nitrogen	8.07	80700	50.0	JM	02/16/2017 09:45	SM-4500-NH3C-TKN
Total Phosphorus	2.89	28900	100	JTR	02/17/2017 17:29	SW-6010B
Total Potassium	0.28	2790	100	JTR	02/17/2017 17:29	SW-6010B
Total Sulfur	1.08	10800	100	JTR	02/17/2017 17:29	SW-6010B
Total Calcium	3.28	32800	100	JTR	02/17/2017 17:29	SW-6010B
Total Magnesium	0.72	7210	100	JTR	02/17/2017 17:29	SW-6010B
Total Sodium	0.11	1130	100	JTR	02/17/2017 17:29	SW-6010B
Total Iron		20900	100	JTR	02/17/2017 17:29	SW-6010B
Total Aluminum		3820	100	JTR	02/17/2017 17:29	SW-6010B
Total Manganese		170	5	JTR	02/17/2017 17:29	SW-6010B
Total Copper		368	5	JTR	02/17/2017 17:29	SW-6010B
Total Zinc		663	5	JTR	02/17/2017 17:29	SW-6010B
Ammonia Nitrogen	2.31	23100	50.0	JM	02/17/2017 09:40	SM-4500-NH3C
Organic N	5.76	57600	50.0		02/16/2017 09:45	CALCULATION
Nitrate+Nitrite-N		15.4	2.09	SJB	02/16/2017 13:44	4500NO3F-2011

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt
Laboratory Supervisor

Report Number: 17-046-0202
Account Number: 16010

Waypoint ANALYTICAL

7621 Whitepine Road, Richmond, VA 23237
Main 804-743-9401 ° Fax 804-271-6446
www.waypointanalytical.com

Send To: Avra Gro Systems Inc
Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 1/28/2017
AZ Cert #0629

REPORT OF ANALYSIS

Lab Number : 62343
Sample Id : Pima Co 1/28/2017

Date Sampled: 1/28/2017 00:00:00
Date Received: 02/15/2017 00:00
Date Reported: 02/23/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		2.0	2.0	JTR	02/17/2017 17:29	SW-6010B
Total Chromium		31	5	JTR	02/17/2017 17:29	SW-6010B
Total Nickel		21	5	JTR	02/17/2017 17:29	SW-6010B
Total Lead		12	5	JTR	02/17/2017 17:29	SW-6010B
Total Arsenic		9.0	3.0	JTR	02/17/2017 17:29	SW-6010B
Total Mercury		0.406	0.400	SJB	02/16/2017 11:30	SW-7471B
Total Selenium		7.0	5.0	JTR	02/17/2017 17:29	SW-6010B
pH (Standard Units) *	8.43		1.00	JM	02/16/2017 09:45	SW-9045D
Total Molybdenum		12	5	JTR	02/17/2017 17:29	SW-6010B
Chloride		10900	200	R D	02/16/2017 10:30	SM-4500Cl-D
Total Boron		60	3	JTR	02/17/2017 17:29	SW-6010B

Comments:
pH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Debbie Holt
Laboratory Supervisor

Report Number: 17-046-0201
Account Number: 16010

Waypoint ANALYTICAL

7621 Whitepine Road, Richmond, VA 23237
Main 804-743-9401 ° Fax 804-271-6446
www.waypointanalytical.com

Send To: Avra Gro Systems Inc
Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 1/16/2017
AZ Cert #0629

REPORT OF ANALYSIS

Lab Number : 62342
Sample Id : Pima Co 1/16/2017

Date Sampled: 1/16/2017 14:30:00
Date Received: 02/15/2017 00:00
Date Reported: 02/23/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	14.12	141200	100.0	JM	02/15/2017 15:30	SM-2540G
Moisture *	85.87		100.0	JM	02/15/2017 15:30	SM-2540G
Total Kjeldahl Nitrogen	7.29	72900	50.0	JM	02/16/2017 09:45	SM-4500-NH3C-TKN
Total Phosphorus	2.82	28200	100	JTR	02/17/2017 17:29	SW-6010B
Total Potassium	0.27	2730	100	JTR	02/17/2017 17:29	SW-6010B
Total Sulfur	1.04	10400	100	JTR	02/17/2017 17:29	SW-6010B
Total Calcium	3.15	31500	100	JTR	02/17/2017 17:29	SW-6010B
Total Magnesium	0.70	6980	100	JTR	02/17/2017 17:29	SW-6010B
Total Sodium	0.10	1040	100	JTR	02/17/2017 17:29	SW-6010B
Total Iron		21300	100	JTR	02/17/2017 17:29	SW-6010B
Total Aluminum		3540	100	JTR	02/17/2017 17:29	SW-6010B
Total Manganese		169	5	JTR	02/17/2017 17:29	SW-6010B
Total Copper		373	5	JTR	02/17/2017 17:29	SW-6010B
Total Zinc		667	5	JTM	02/17/2017 17:29	SW-6010B
Ammonia Nitrogen	2.31	23100	50.0	JM	02/17/2017 09:40	SM-4500-NH3C
Organic N	4.98	49800	50.0		02/16/2017 09:45	CALCULATION
Nitrate+Nitrite-N		<2.00	2.00	SJB	02/16/2017 13:41	4500NO3F-2011

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Debbie Holt
Laboratory Supervisor

Report Number: 17-046-0201
Account Number: 16010

Waypoint ANALYTICAL

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Send To: Avra Gro Systems Inc
Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 1/16/2017
AZ Cert #0629

REPORT OF ANALYSIS

Lab Number : 62342
Sample Id : Pima Co 1/16/2017

Date Sampled: 1/16/2017 14:30:00
Date Received: 02/15/2017 00:00
Date Reported: 02/23/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.0	2.0	JTR	02/17/2017 17:29	SW-6010B
Total Chromium		28	5	JTR	02/17/2017 17:29	SW-6010B
Total Nickel		20	5	JTR	02/17/2017 17:29	SW-6010B
Total Lead		12	5	JTR	02/17/2017 17:29	SW-6010B
Total Arsenic		9.0	3.0	JTR	02/17/2017 17:29	SW-6010B
Total Mercury		0.401	0.400	SJB	02/16/2017 11:30	SW-7471B
Total Selenium		7.0	5.0	JTR	02/17/2017 17:29	SW-6010B
pH (Standard Units) *	8.28		1.00	JM	02/16/2017 09:45	SW-9045D
Total Molybdenum		12	5	JTR	02/17/2017 17:29	SW-6010B
Chloride		10800	200	R D	02/16/2017 10:30	SM-4500Cl-D
Total Boron		58	3	JTR	02/17/2017 17:29	SW-6010B

Comments:
pH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Debbie Holt
Laboratory Supervisor

Report Number: 17-074-0201
Account Number: 16010

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Send To: Avra Gro Systems Inc
Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 2/14/17
AZ#0629

REPORT OF ANALYSIS

Lab Number : 62874
Sample Id : Pima Co

Date Sampled: 2/28/2017 16:00:00
Date Received: 03/15/2017 00:00
Date Reported: 03/23/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	13.52	135200	100.0	BW1	03/15/2017 16:00	SM-2540G
Moisture *	86.47		100.0	BW1	03/15/2017 16:00	SM-2540G
Total Kjeldahl Nitrogen	7.46	74600	50.0	JM	03/16/2017 10:00	SM-4500-NH3C-TKN
Total Phosphorus	2.97	29700	100	JTR	03/17/2017 09:14	SW-6010B
Total Potassium	0.30	2970	100	JTR	03/17/2017 09:14	SW-6010B
Total Sulfur	1.06	10600	100	JTR	03/17/2017 09:14	SW-6010B
Total Calcium	3.49	34900	100	JTR	03/17/2017 09:14	SW-6010B
Total Magnesium	0.72	7180	100	JTR	03/17/2017 09:14	SW-6010B
Total Sodium	0.11	1130	100	JTR	03/17/2017 09:14	SW-6010B
Total Iron		23600	100	JTR	03/17/2017 09:14	SW-6010B
Total Aluminum		2660	100	JTR	03/17/2017 09:14	SW-6010B
Total Manganese		181	5	JTR	03/17/2017 09:14	SW-6010B
Total Copper		387	5	JTR	03/17/2017 09:14	SW-6010B
Total Zinc		702	5	JTR	03/17/2017 09:14	SW-6010B
Ammonia Nitrogen	2.19	21900	50.0	JM	03/16/2017 08:30	SM-4500-NH3C
Organic N	5.27	52700	50.0		03/16/2017 08:30	CALCULATION
Nitrate+Nitrite-N		<1.87	1.87	SJB	03/22/2017 11:27	4500NO3F-2011

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Debbie Holt
Laboratory Supervisor

Page: 2 of 2

Report Number: 17-074-0201
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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 2/14/17
AZ#0629

REPORT OF ANALYSIS

Lab Number : 62874
Sample Id : Pima Co

Date Sampled: 2/28/2017 16:00:00
Date Received: 03/15/2017 00:00
Date Reported: 03/23/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		2.0	2.0	JTR	03/17/2017 09:14	SW-6010B
Total Chromium		24	5	JTR	03/17/2017 09:14	SW-6010B
Total Nickel		26	5	JTR	03/17/2017 09:14	SW-6010B
Total Lead		11	5	JTR	03/17/2017 09:14	SW-6010B
Total Arsenic		8.0	3.0	JTR	03/17/2017 09:14	SW-6010B
Total Mercury		0.534	0.400	SJB	03/22/2017 11:00	SW-7471B
Total Selenium		11.0	5.0	JTR	03/17/2017 09:14	SW-6010B
pH (Standard Units) *	8.48		1.00	JM	03/16/2017 10:00	SW-9045D
Total Molybdenum		12	5	JTR	03/17/2017 09:14	SW-6010B
Chloride		9560	200	JM	03/16/2017 12:25	SM-4500Cl-D
Total Boron		59	3	JTR	03/17/2017 09:14	SW-6010B

Comments:
pH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
Ag to follow

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Laboratory Supervisor

Report Number: 17-074-0202
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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 2/14/17
AZ#0629

REPORT OF ANALYSIS

Lab Number : 62875
Sample Id : Pima Co

Date Sampled: 2/14/2017 15:00:00
Date Received: 03/15/2017 00:00
Date Reported: 03/23/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	14.54	145400	100.0	BW1	03/15/2017 16:00	SM-2540G
Moisture *	85.45		100.0	BW1	03/15/2017 16:00	SM-2540G
Total Kjeldahl Nitrogen	7.15	71500	50.0	JM	03/16/2017 10:00	SM-4500-NH3C-TKN
Total Phosphorus	2.95	29500	100	JTR	03/17/2017 09:14	SW-6010B
Total Potassium	0.25	2520	100	JTR	03/17/2017 09:14	SW-6010B
Total Sulfur	1.05	10500	100	JTR	03/17/2017 09:14	SW-6010B
Total Calcium	3.36	33600	100	JTR	03/17/2017 09:14	SW-6010B
Total Magnesium	0.81	8130	100	JTR	03/17/2017 09:14	SW-6010B
Total Sodium	0.11	1070	100	JTR	03/17/2017 09:14	SW-6010B
Total Iron		20200	100	JTR	03/17/2017 09:14	SW-6010B
Total Aluminum		2470	100	JTR	03/17/2017 09:14	SW-6010B
Total Manganese		166	5	JTR	03/17/2017 09:14	SW-6010B
Total Copper		383	5	JTR	03/17/2017 09:14	SW-6010B
Total Zinc		688	5	JTR	03/17/2017 09:14	SW-6010B
Ammonia Nitrogen	2.14	21400	50.0	JM	03/16/2017 08:30	SM-4500-NH3C
Organic N	5.01	50100	50.0		03/16/2017 08:30	CALCULATION
Nitrate+Nitrite-N		48.2	1.86	SJB	03/22/2017 11:30	4500NO3F-2011

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Report Number: 17-074-0202
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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 2/14/17
AZ#0629

REPORT OF ANALYSIS

Lab Number : 62875
Sample Id : Pima Co

Date Sampled: 2/14/2017 15:00:00
Date Received: 03/15/2017 00:00
Date Reported: 03/23/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		2.0	2.0	JTR	03/17/2017 09:14	SW-6010B
Total Chromium		22	5	JTR	03/17/2017 09:14	SW-6010B
Total Nickel		23	5	JTR	03/17/2017 09:14	SW-6010B
Total Lead		11	5	JTR	03/17/2017 09:14	SW-6010B
Total Arsenic		8.0	3.0	JTR	03/17/2017 09:14	SW-6010B
Total Mercury		0.792	0.400	SJB	03/22/2017 11:00	SW-7471B
Total Selenium		10.0	5.0	JTR	03/17/2017 09:14	SW-6010B
pH (Standard Units) *	8.48		1.00	JM	03/16/2017 10:00	SW-9045D
Total Molybdenum		12	5	JTR	03/17/2017 09:14	SW-6010B
Chloride		9660	200	JM	03/16/2017 12:25	SM-4500Cl-D
Total Boron		59	3	JTR	03/17/2017 09:14	SW-6010B

Comments:
pH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
Ag to follow

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Laboratory Supervisor

Report Number: 17-097-0208
Account Number: 16010

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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 3/14/17
AZ Cert#0629

REPORT OF ANALYSIS

Lab Number : 63279
Sample Id : Pima Co

Date Sampled: 3/14/2017 13:00:00
Date Received: 04/07/2017 00:00
Date Reported: 04/14/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	14.30	143000	100.0	R D	04/07/2017 14:10	SM-2540G
Moisture *	85.69		100.0	R D	04/07/2017 14:10	SM-2540G
Total Kjeldahl Nitrogen	6.86	68600	50.0	R D	04/10/2017 08:40	SM-4500-NH3C-TKN
Total Phosphorus	2.76	27600	100	MOS	04/11/2017 16:05	6010B
Total Potassium	0.23	2280	100	MOS	04/11/2017 16:05	6010B
Total Sulfur	1.20	12000	100	MOS	04/11/2017 16:05	6010B
Total Calcium	3.31	33100	100	MOS	04/11/2017 16:05	6010B
Total Magnesium	0.63	6280	100	MOS	04/11/2017 16:05	6010B
Total Sodium	0.14	1420	100	MOS	04/14/2017 12:39	6010B
Total Iron		25100	100	MOS	04/11/2017 16:05	6010B
Total Aluminum		2650	100	MOS	04/11/2017 16:05	6010B
Total Manganese		183	5.00	MOS	04/11/2017 16:05	6010B
Total Copper		388	5.00	MOS	04/11/2017 16:05	6010B
Total Zinc		684	5.00	MOS	04/11/2017 16:05	6010B
Ammonia Nitrogen	1.91	19100	50.0	R D	04/10/2017 08:40	SM-4500-NH3C
Organic N	4.95	49500	50.0		04/10/2017 08:40	CALCULATION
Nitrate+Nitrite-N		22.6	2.31	SJB	04/13/2017 13:49	4500NO3F-2011

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Laboratory Supervisor

Report Number: 17-097-0208
Account Number: 16010

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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 3/14/17
AZ Cert#0629

REPORT OF ANALYSIS

Lab Number : 63279
Sample Id : Pima Co

Date Sampled: 3/14/2017 13:00:00
Date Received: 04/07/2017 00:00
Date Reported: 04/14/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	04/11/2017 16:05	6010B
Total Chromium		26.5	5.00	MOS	04/11/2017 16:05	6010B
Total Nickel		21.0	5.00	MOS	04/11/2017 16:05	6010B
Total Lead		13.5	5.00	MOS	04/11/2017 16:05	6010B
Total Arsenic		7.02	3.00	MOS	04/11/2017 16:05	6010B
Total Mercury		<0.400	0.400	SJB	04/13/2017 12:06	SW-7471B
Total Selenium		5.73	5.00	MOS	04/11/2017 16:05	6010B
pH (Standard Units) *	8.63		1.00	R D	04/10/2017 08:40	SW-9045D
Total Molybdenum		10.3	5.00	MOS	04/11/2017 16:05	6010B
Chloride		6090	200	R D	04/10/2017 08:40	SM-4500Cl-D
Total Boron		62.7	3.00	MOS	04/14/2017 12:39	6010B

Comments:
pH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
Ag to follow

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Debbie Holt
Laboratory Supervisor

Report Number: 17-097-0209
Account Number: 16010

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Send To: Avra Gro Systems Inc
Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 3/28/17
AZ Cert#0629

REPORT OF ANALYSIS

Lab Number : 63280
Sample Id : Pima Co

Date Sampled: 3/28/2017 14:00:00
Date Received: 04/07/2017 00:00
Date Reported: 04/14/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	15.13	151300	100.0	R D	04/07/2017 14:10	SM-2540G
Moisture *	84.86		100.0	R D	04/07/2017 14:10	SM-2540G
Total Kjeldahl Nitrogen	7.53	75300	50.0	R D	04/10/2017 08:40	SM-4500-NH3C-TKN
Total Phosphorus	2.53	25300	100	MOS	04/11/2017 16:25	6010B
Total Potassium	0.26	2560	100	MOS	04/11/2017 16:25	6010B
Total Sulfur	1.09	10900	100	MOS	04/11/2017 16:25	6010B
Total Calcium	3.00	30000	100	MOS	04/11/2017 16:25	6010B
Total Magnesium	0.61	6090	100	MOS	04/11/2017 16:25	6010B
Total Sodium	0.12	1160	100	MOS	04/14/2017 12:51	6010B
Total Iron		22300	100	MOS	04/11/2017 16:25	6010B
Total Aluminum		2200	100	MOS	04/11/2017 16:25	6010B
Total Manganese		161	5.00	MOS	04/11/2017 16:25	6010B
Total Copper		363	5.00	MOS	04/11/2017 16:25	6010B
Total Zinc		621	5.00	MOS	04/11/2017 16:25	6010B
Ammonia Nitrogen	2.44	24400	50.0	R D	04/10/2017 08:40	SM-4500-NH3C
Organic N	5.09	50900	50.0		04/10/2017 08:40	CALCULATION
Nitrate+Nitrite-N		<2.22	2.22	SJB	04/13/2017 13:50	4500NO3F-2011

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Laboratory Supervisor

Report Number: 17-097-0209
Account Number: 16010

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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 3/28/17
AZ Cert#0629

REPORT OF ANALYSIS

Lab Number : 63280
Sample Id : Pima Co

Date Sampled: 3/28/2017 14:00:00
Date Received: 04/07/2017 00:00
Date Reported: 04/14/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	04/11/2017 16:25	6010B
Total Chromium		21.9	5.00	MOS	04/11/2017 16:25	6010B
Total Nickel		18.9	5.00	MOS	04/11/2017 16:25	6010B
Total Lead		11.6	5.00	MOS	04/11/2017 16:25	6010B
Total Arsenic		6.66	3.00	MOS	04/11/2017 16:25	6010B
Total Mercury		<0.400	0.400	SJB	04/13/2017 12:13	SW-7471B
Total Selenium		5.10	5.00	MOS	04/11/2017 16:25	6010B
pH (Standard Units) *	8.72		1.00	R D	04/10/2017 08:40	SW-9045D
Total Molybdenum		9.54	5.00	MOS	04/11/2017 16:25	6010B
Chloride		5960	200	R D	04/10/2017 08:40	SM-4500Cl-D
Total Boron		62.6	3.00	MOS	04/14/2017 12:51	6010B

Comments:
pH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
Ag to follow

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Debbie Holt
Laboratory Supervisor

Report Number: 17-132-0202
Account Number: 16010

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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 4/12/17

REPORT OF ANALYSIS

Lab Number : 63920
Sample Id : Pima Co

Date Sampled: 4/12/2017 17:00:00
Date Received: 05/12/2017 00:00
Date Reported: 05/17/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	12.76	127600	100.0	JM	05/12/2017 15:20	SM-2540G
Moisture *	87.23		100.0	JM	05/12/2017 15:20	SM-2540G
Total Kjeldahl Nitrogen	7.40	74000	50.0	R D	05/15/2017 08:30	SM-4500-NH3C-TKN
Total Phosphorus	2.80	28000	100	JTR	05/17/2017 03:50	6010B
Total Potassium	0.21	2080	1000	JTR	05/17/2017 03:55	6010B
Total Sulfur	1.08	10800	100	JTR	05/17/2017 03:50	6010B
Total Calcium	3.12	31200	1000	JTR	05/17/2017 03:55	6010B
Total Magnesium	0.65	6490	100	JTR	05/17/2017 03:50	6010B
Total Sodium	0.10	1030	100	JTR	05/17/2017 03:50	6010B
Total Iron		24200	100	JTR	05/17/2017 03:50	6010B
Total Aluminum		2270	100	JTR	05/17/2017 03:50	6010B
Total Manganese		178	5.00	JTR	05/17/2017 03:50	6010B
Total Copper		388	5.00	JTR	05/17/2017 03:50	6010B
Total Zinc		672	5.00	JTR	05/17/2017 03:50	6010B
Ammonia Nitrogen	2.13	21300	50.0	R D	05/15/2017 08:30	SM-4500-NH3C
Organic N	5.27	52700	50.0		05/15/2017 08:30	CALCULATION
Nitrate+Nitrite-N		<2.22	2.22	SJB	05/16/2017 12:59	4500NO3F-2011

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Pauric McGroary

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Pauric McGroary
Agronomist

Report Number: 17-132-0202
Account Number: 16010

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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 4/12/17

REPORT OF ANALYSIS

Lab Number : 63920
Sample Id : Pima Co

Date Sampled: 4/12/2017 17:00:00
Date Received: 05/12/2017 00:00
Date Reported: 05/17/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	JTR	05/17/2017 03:50	6010B
Total Chromium		22.1	5.00	JTR	05/17/2017 03:50	6010B
Total Nickel		18.9	5.00	JTR	05/17/2017 03:50	6010B
Total Lead		14.1	5.00	JTR	05/17/2017 03:50	6010B
Total Arsenic		7.48	3.00	JTR	05/17/2017 03:50	6010B
Total Mercury		<0.400	0.400	SJB	05/17/2017 11:20	SW-7471B
Total Selenium		10.4	5.00	JTR	05/17/2017 03:50	6010B
pH (Standard Units) *	8.62		1.00	R D	05/15/2017 08:30	SW-9045D
Total Molybdenum		11.2	5.00	JTR	05/17/2017 03:50	6010B
Chloride		1450	200	R D	05/15/2017 08:30	SM-4500Cl-D
Total Boron		53.3	3.00	JTR	05/17/2017 03:50	6010B

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
Ag to follow

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Pauric McGroary

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Pauric McGroary
Agronomist

Report Number: 17-132-0203
Account Number: 16010

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Send To: Avra Gro Systems Inc
Rob Fehrmann
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Project : Pima Co 4/26/17

REPORT OF ANALYSIS

Lab Number : 63921
Sample Id : Pima Co

Date Sampled: 4/26/2017 17:00:00
Date Received: 05/12/2017 00:00
Date Reported: 05/17/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	14.31	143100	100.0	JM	05/12/2017 15:20	SM-2540G
Moisture *	85.68		100.0	JM	05/12/2017 15:20	SM-2540G
Total Kjeldahl Nitrogen	6.91	69100	50.0	R D	05/15/2017 08:30	SM-4500-NH3C-TKN
Total Phosphorus	2.69	26900	100	JTR	05/17/2017 04:26	6010B
Total Potassium	0.19	1880	100	JTR	05/17/2017 04:26	6010B
Total Sulfur	1.05	10500	100	JTR	05/17/2017 04:26	6010B
Total Calcium	3.07	30700	1000	JTR	05/17/2017 04:31	6010B
Total Magnesium	0.59	5940	100	JTR	05/17/2017 04:26	6010B
Total Sodium	0.11	1130	100	JTR	05/17/2017 04:26	6010B
Total Iron		24400	100	JTR	05/17/2017 04:26	6010B
Total Aluminum		2210	100	JTR	05/17/2017 04:26	6010B
Total Manganese		170	5.00	JTR	05/17/2017 04:26	6010B
Total Copper		390	5.00	JTR	05/17/2017 04:26	6010B
Total Zinc		681	5.00	JTR	05/17/2017 04:26	6010B
Ammonia Nitrogen	1.96	19600	50.0	R D	05/15/2017 08:30	SM-4500-NH3C
Organic N	4.95	49500	50.0		05/15/2017 08:30	CALCULATION
Nitrate+Nitrite-N		<2.33	2.33	SJB	05/16/2017 13:00	4500NO3F-2011

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Pauric McGroary
Agronomist

Page: 2 of 2

Report Number: 17-132-0203
Account Number: 16010

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Send To: Avra Gro Systems Inc
Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 4/26/17

REPORT OF ANALYSIS

Lab Number : 63921
Sample Id : Pima Co

Date Sampled: 4/26/2017 17:00:00
Date Received: 05/12/2017 00:00
Date Reported: 05/17/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	JTR	05/17/2017 04:26	6010B
Total Chromium		22.8	5.00	JTR	05/17/2017 04:26	6010B
Total Nickel		18.5	5.00	JTR	05/17/2017 04:26	6010B
Total Lead		13.6	5.00	JTR	05/17/2017 04:26	6010B
Total Arsenic		7.74	3.00	JTR	05/17/2017 04:26	6010B
Total Mercury		<0.400	0.400	SJB	05/17/2017 11:22	SW-7471B
Total Selenium		10.1	5.00	JTR	05/17/2017 04:26	6010B
pH (Standard Units) *	8.69		1.00	R D	05/15/2017 08:30	SW-9045D
Total Molybdenum		11.2	5.00	JTR	05/17/2017 04:26	6010B
Chloride		1310	200	R D	05/15/2017 08:30	SM-4500Cl-D
Total Boron		53.6	3.00	JTR	05/17/2017 04:26	6010B

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Report Number: 17-157-0212
Account Number: 16010

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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 5/25/17

REPORT OF ANALYSIS

Lab Number : 64243
Sample Id : Pima Co

Date Sampled: 5/25/2017 10:00:00
Date Received: 06/06/2017 00:00
Date Reported: 06/09/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	13.62	136200	100.0	JM	06/06/2017 16:00	SM-2540G
Moisture *	86.37		100.0	JM	06/06/2017 16:00	SM-2540G
Total Kjeldahl Nitrogen	6.85	68500	50.0	R D	06/07/2017 08:40	SM-4500-NH3C-TKN
Total Phosphorus	2.89	28900	100	JTR	06/08/2017 09:59	6010B
Total Potassium	0.18	1800	100	JTR	06/08/2017 23:52	6010B
Total Sulfur	0.99	9940	100	JTR	06/08/2017 23:52	6010B
Total Calcium	2.71	27100	1000	JTR	06/08/2017 23:56	6010B
Total Magnesium	0.51	5110	100	JTR	06/08/2017 23:52	6010B
Total Sodium	0.09	889	100	JTR	06/08/2017 23:52	6010B
Total Iron		21700	100	JTR	06/08/2017 23:52	6010B
Total Aluminum		2280	100	JTR	06/08/2017 23:52	6010B
Total Manganese		166	5.00	JTR	06/08/2017 23:52	6010B
Total Copper		382	5.00	JTR	06/08/2017 23:52	6010B
Total Zinc		580	5.00	JTR	06/08/2017 23:52	6010B
Ammonia Nitrogen	1.90	19000	50.0	R D	06/07/2017 08:40	SM-4500-NH3C
Organic N	4.95	49500	50.0		06/07/2017 08:40	CALCULATION
Nitrate+Nitrite-N		<2.45	2.45	SJB	06/08/2017 13:13	4500NO3F-2011

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Report Number: 17-157-0212
Account Number: 16010

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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 5/25/17

REPORT OF ANALYSIS

Lab Number : 64243
Sample Id : Pima Co

Date Sampled: 5/25/2017 10:00:00
Date Received: 06/06/2017 00:00
Date Reported: 06/09/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	JTR	06/08/2017 23:52	6010B
Total Chromium		23.0	5.00	JTR	06/08/2017 23:52	6010B
Total Nickel		18.2	5.00	JTR	06/08/2017 23:52	6010B
Total Lead		10.2	5.00	JTR	06/08/2017 23:52	6010B
Total Arsenic		6.56	3.00	JTR	06/08/2017 23:52	6010B
Total Mercury		<0.400	0.400	SJB	06/08/2017 11:25	SW-7471B
Total Selenium		6.23	5.00	JTR	06/08/2017 23:52	6010B
pH (Standard Units) *	8.58		1.00	R D	06/07/2017 08:40	SW-9045D
Total Molybdenum		10.0	5.00	JTR	06/08/2017 23:52	6010B
Chloride		737	200	R D	06/07/2017 08:40	SM-4500Cl-D
Total Boron		51.9	3.00	JTR	06/08/2017 23:52	6010B

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Report Number: 17-157-0211
Account Number: 16010

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Rob Fehrmann
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Marana , AZ 85653

Project : Pima Co 5/5/17

REPORT OF ANALYSIS

Lab Number : 64242
Sample Id : Pima Co

Date Sampled: 5/5/2017 11:00:00
Date Received: 06/06/2017 00:00
Date Reported: 06/09/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	18.87	188700	100.0	JM	06/06/2017 16:00	SM-2540G
Moisture *	81.12		100.0	JM	06/06/2017 16:00	SM-2540G
Total Kjeldahl Nitrogen	5.35	53500	50.0	R D	06/07/2017 08:40	SM-4500-NH3C-TKN
Total Phosphorus	2.72	27200	100	JTR	06/08/2017 09:59	6010B
Total Potassium	0.21	2130	1000	JTR	06/08/2017 23:29	6010B
Total Sulfur	1.30	13000	100	JTR	06/08/2017 23:25	6010B
Total Calcium	3.42	34200	1000	JTR	06/08/2017 23:29	6010B
Total Magnesium	0.60	5970	100	JTR	06/08/2017 23:25	6010B
Total Sodium	0.15	1490	100	JTR	06/08/2017 23:25	6010B
Total Iron		28600	100	JTR	06/08/2017 23:25	6010B
Total Aluminum		3180	100	JTR	06/08/2017 23:25	6010B
Total Manganese		240	5.00	JTR	06/08/2017 23:25	6010B
Total Copper		454	5.00	JTR	06/08/2017 23:25	6010B
Total Zinc		746	5.00	JTR	06/08/2017 23:25	6010B
Ammonia Nitrogen	1.67	16700	50.0	R D	06/07/2017 08:40	SM-4500-NH3C
Organic N	3.68	36800	50.0		06/07/2017 08:40	CALCULATION
Nitrate+Nitrite-N		<2.20	2.20	SJB	06/08/2017 13:12	4500NO3F-2011

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Report Number: 17-157-0211
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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 5/5/17

REPORT OF ANALYSIS

Lab Number : 64242
Sample Id : Pima Co

Date Sampled: 5/5/2017 11:00:00
Date Received: 06/06/2017 00:00
Date Reported: 06/09/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	JTR	06/08/2017 23:25	6010B
Total Chromium		30.5	5.00	JTR	06/08/2017 23:25	6010B
Total Nickel		24.1	5.00	JTR	06/08/2017 23:25	6010B
Total Lead		13.8	5.00	JTR	06/08/2017 23:25	6010B
Total Arsenic		8.19	3.00	JTR	06/08/2017 23:25	6010B
Total Mercury		0.446	0.400	SJB	06/08/2017 11:22	SW-7471B
Total Selenium		7.16	5.00	JTR	06/08/2017 23:25	6010B
pH (Standard Units) *	8.59		1.00	R D	06/07/2017 08:40	SW-9045D
Total Molybdenum		12.7	5.00	JTR	06/08/2017 23:25	6010B
Chloride		393	200	R D	06/07/2017 08:40	SM-4500Cl-D
Total Boron		67.7	3.00	JTR	06/08/2017 23:25	6010B

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Report Number: 17-201-0208
Account Number: 16010

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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 6/12/2017 10:30am

REPORT OF ANALYSIS

Lab Number : 55332
Sample Id : Pima Co 6/12/2017 10:30am

Date Sampled: 6/12/2017 00:00:00
Date Received: 07/20/2017 00:00
Date Reported: 07/27/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	13.10	131000	100.0	JM	07/20/2017 15:45	SM-2540G
Moisture *	86.89		100.0	JM	07/20/2017 15:45	SM-2540G
Total Kjeldahl Nitrogen	6.96	69600	50.0	R D	07/21/2017 08:35	SM-4500-NH3C-TKN
Total Phosphorus	2.98	29800	100	MOS	07/21/2017 18:34	6010B
Total Potassium	0.31	3070	100	MOS	07/21/2017 18:34	6010B
Total Sulfur	1.44	14400	100	MOS	07/21/2017 18:34	6010B
Total Calcium	3.50	35000	100	MOS	07/21/2017 18:34	6010B
Total Magnesium	0.63	6340	100	MOS	07/21/2017 18:34	6010B
Total Sodium	0.16	1570	100	MOS	07/21/2017 18:34	6010B
Total Iron		27400	100	MOS	07/21/2017 18:34	6010B
Total Aluminum		2470	100	MOS	07/21/2017 18:34	6010B
Total Manganese		181	5.00	MOS	07/21/2017 18:34	6010B
Total Copper		465	5.00	MOS	07/21/2017 18:34	6010B
Total Zinc		744	5.00	MOS	07/21/2017 18:34	6010B
Ammonia Nitrogen	2.05	20500	50.0	JM	07/21/2017 08:35	SM-4500-NH3C
Organic N	4.91	49100	50.0		07/21/2017 08:35	CALCULATION
Nitrate+Nitrite-N		<2.16	2.16	SJB	07/21/2017 14:10	4500NO3F-2011

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Report Number: 17-201-0208
Account Number: 16010

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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 6/12/2017 10:30am

REPORT OF ANALYSIS

Lab Number : 55332
Sample Id : Pima Co 6/12/2017 10:30am

Date Sampled: 6/12/2017 00:00:00
Date Received: 07/20/2017 00:00
Date Reported: 07/27/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	07/21/2017 18:34	6010B
Total Chromium		23.5	5.00	MOS	07/21/2017 18:34	6010B
Total Nickel		21.2	5.00	MOS	07/27/2017 10:59	6010B
Total Lead		14.2	5.00	MOS	07/21/2017 18:34	6010B
Total Arsenic		11.1	3.00	MOS	07/21/2017 18:34	6010B
Total Mercury		<0.400	0.400	MOS	07/24/2017 12:17	SW-7471B
Total Selenium		7.73	5.00	MOS	07/26/2017 18:41	6010B
pH *	8.69		1.00	R D	07/21/2017 08:35	SW-9045D
Total Molybdenum		11.3	5.00	MOS	07/21/2017 18:34	6010B
Chloride		810	200	R D	07/21/2017 08:35	SM-4500Cl-D
Total Boron		68.5	3.00	MOS	07/21/2017 18:34	6010B

Comments:
AZ CERT#0629
SULFUR NOT FOR COMPLIANCE PURPOSES
Ag TO FOLLOW

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Report Number: 17-201-0209
Account Number: 16010

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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 6/27/17 11:30am

REPORT OF ANALYSIS

Lab Number : 55333
Sample Id : Pima Co 6/27/17 11:30am

Date Sampled: 6/27/2017 00:00:00
Date Received: 07/20/2017 00:00
Date Reported: 07/27/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	13.62	136200	100.0	JM	07/20/2017 15:45	SM-2540G
Moisture *	86.37		100.0	JM	07/20/2017 15:45	SM-2540G
Total Kjeldahl Nitrogen	7.09	70900	50.0	R D	07/21/2017 08:35	SM-4500-NH3C-TKN
Total Phosphorus	2.96	29600	100	MOS	07/21/2017 18:45	6010B
Total Potassium	0.26	2640	100	MOS	07/21/2017 18:45	6010B
Total Sulfur	1.50	15000	100	MOS	07/21/2017 18:45	6010B
Total Calcium	3.67	36700	100	MOS	07/21/2017 18:45	6010B
Total Magnesium	0.70	6980	100	MOS	07/21/2017 18:45	6010B
Total Sodium	0.13	1260	100	MOS	07/21/2017 18:45	6010B
Total Iron		29000	100	MOS	07/21/2017 18:45	6010B
Total Aluminum		2520	100	MOS	07/21/2017 18:45	6010B
Total Manganese		195	5.00	MOS	07/21/2017 18:45	6010B
Total Copper		468	5.00	MOS	07/21/2017 18:45	6010B
Total Zinc		757	5.00	MOS	07/21/2017 18:45	6010B
Ammonia Nitrogen	2.13	21300	50.0	JM	07/21/2017 08:35	SM-4500-NH3C
Organic N	4.96	49600	50.0		07/21/2017 08:35	CALCULATION
Nitrate+Nitrite-N		<2.33	2.33	SJB	07/21/2017 14:11	4500NO3F-2011

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Report Number: 17-201-0209
Account Number: 16010

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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 6/27/17 11:30am

REPORT OF ANALYSIS

Lab Number : 55333
Sample Id : Pima Co 6/27/17 11:30am

Date Sampled: 6/27/2017 00:00:00
Date Received: 07/20/2017 00:00
Date Reported: 07/27/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	07/21/2017 18:45	6010B
Total Chromium		25.3	5.00	MOS	07/21/2017 18:45	6010B
Total Nickel		23.0	5.00	MOS	07/27/2017 11:11	6010B
Total Lead		13.3	5.00	MOS	07/21/2017 18:45	6010B
Total Arsenic		11.6	3.00	MOS	07/21/2017 18:45	6010B
Total Mercury		<0.400	0.400	MOS	07/24/2017 12:20	SW-7471B
Total Selenium		8.86	5.00	MOS	07/26/2017 18:53	6010B
pH *	8.88		1.00	R D	07/21/2017 08:35	SW-9045D
Total Molybdenum		11.8	5.00	MOS	07/21/2017 18:45	6010B
Chloride		729	200	R D	07/21/2017 08:35	SM-4500Cl-D
Total Boron		70.1	3.00	MOS	07/21/2017 18:45	6010B

Comments:
AZ CERT#0629
SULFUR NOT FOR COMPLIANCE PURPOSES
Ag TO FOLLOW

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Report Number: 17-222-0202
Account Number: 16010

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Send To: Avra Gro Systems Inc
Rob Fehrmann
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Marana , AZ 85653

Project : Pima Co 7/14/17

REPORT OF ANALYSIS

Lab Number : 55628
Sample Id : Pima Co

Date Sampled: 7/14/2017 10:30:00
Date Received: 08/10/2017 00:00
Date Reported: 08/17/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	14.50	145000	100.0	R D	08/10/2017 16:15	SM-2540G
Moisture *	85.49		100.0	R D	08/10/2017 16:15	SM-2540G
Total Kjeldahl Nitrogen	6.44	64400	50.0	R D	08/11/2017 08:50	SM-4500-NH3C-TKN
Total Phosphorus	3.06	30600	100	MOS	08/11/2017 17:01	6010B
Total Potassium	0.22	2190	100	MOS	08/11/2017 17:01	6010B
Total Sulfur	1.40	14000	100	MOS	08/11/2017 17:01	6010B
Total Calcium	3.13	31300	100	MOS	08/11/2017 17:01	6010B
Total Magnesium	0.71	7100	100	MOS	08/11/2017 17:01	6010B
Total Sodium	0.11	1080	100	MOS	08/11/2017 17:01	6010B
Total Iron		25100	100	MOS	08/11/2017 17:01	6010B
Total Aluminum		3130	100	MOS	08/11/2017 17:01	6010B
Total Manganese		178	5.00	MOS	08/11/2017 17:01	6010B
Total Copper		424	5.00	MOS	08/11/2017 17:01	6010B
Total Zinc		715	5.00	MOS	08/11/2017 17:01	6010B
Ammonia Nitrogen	1.96	19600	50.0	R D	08/11/2017 08:50	SM-4500-NH3C
Organic N	4.48	44800	50.0		08/11/2017 08:50	CALCULATION
Nitrate+Nitrite-N		15.3	2.00	SJB	08/11/2017 14:50	4500NO3F-2011

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Pauric McGroary

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Pauric McGroary
Agronomist

Report Number: 17-222-0202
Account Number: 16010

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Send To: Avra Gro Systems Inc
Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 7/14/17

REPORT OF ANALYSIS

Lab Number : 55628
Sample Id : Pima Co

Date Sampled: 7/14/2017 10:30:00
Date Received: 08/10/2017 00:00
Date Reported: 08/17/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	08/11/2017 17:01	6010B
Total Chromium		31.6	5.00	MOS	08/11/2017 17:01	6010B
Total Nickel		22.3	5.00	MOS	08/11/2017 17:01	6010B
Total Lead		15.1	5.00	MOS	08/11/2017 17:01	6010B
Total Arsenic		11.0	3.00	MOS	08/11/2017 17:01	6010B
Total Mercury		<0.400	0.400	SJB	08/15/2017 09:52	SW-7471B
Total Selenium		9.23	5.00	MOS	08/11/2017 17:01	6010B
pH *	8.58		1.00	R D	08/14/2017 12:00	SW-9045D
Total Molybdenum		11.5	5.00	MOS	08/11/2017 17:01	6010B
Chloride		8890	200	R D	08/11/2017 08:50	SM-4500Cl-D
Total Boron		67.2	3.00	MOS	08/15/2017 11:28	6010B

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Report Number: 17-222-0203
Account Number: 16010

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Rob Fehrmann
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Project : Pima Co 7/31/17

REPORT OF ANALYSIS

Lab Number : 55629
Sample Id : Pima Co

Date Sampled: 7/31/2017 09:30:00
Date Received: 08/10/2017 00:00
Date Reported: 08/17/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	15.22	152200	100.0	R D	08/10/2017 16:15	SM-2540G
Moisture *	84.77		100.0	R D	08/10/2017 16:15	SM-2540G
Total Kjeldahl Nitrogen	5.52	55200	50.0	R D	08/11/2017 08:50	SM-4500-NH3C-TKN
Total Phosphorus	2.60	26000	100	MOS	08/11/2017 17:25	6010B
Total Potassium	0.24	2360	100	MOS	08/11/2017 17:25	6010B
Total Sulfur	1.13	11300	100	MOS	08/11/2017 17:25	6010B
Total Calcium	2.62	26200	100	MOS	08/11/2017 17:25	6010B
Total Magnesium	0.67	6720	100	MOS	08/11/2017 17:25	6010B
Total Sodium	0.09	946	100	MOS	08/11/2017 17:25	6010B
Total Iron		23700	100	MOS	08/11/2017 17:25	6010B
Total Aluminum		4060	100	MOS	08/11/2017 17:25	6010B
Total Manganese		202	5.00	MOS	08/11/2017 17:25	6010B
Total Copper		361	5.00	MOS	08/11/2017 17:25	6010B
Total Zinc		631	5.00	MOS	08/11/2017 17:25	6010B
Ammonia Nitrogen	1.58	15800	50.0	R D	08/11/2017 08:50	SM-4500-NH3C
Organic N	3.94	39400	50.0		08/11/2017 08:50	CALCULATION
Nitrate+Nitrite-N		<2.09	2.09	SJB	08/11/2017 14:51	4500NO3F-2011

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Report Number: 17-222-0203
Account Number: 16010

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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 7/31/17

REPORT OF ANALYSIS

Lab Number : 55629
Sample Id : Pima Co

Date Sampled: 7/31/2017 09:30:00
Date Received: 08/10/2017 00:00
Date Reported: 08/17/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	08/11/2017 17:25	6010B
Total Chromium		27.6	5.00	MOS	08/11/2017 17:25	6010B
Total Nickel		19.5	5.00	MOS	08/11/2017 17:25	6010B
Total Lead		16.9	5.00	MOS	08/11/2017 17:25	6010B
Total Arsenic		9.28	3.00	MOS	08/11/2017 17:25	6010B
Total Mercury		<0.400	0.400	SJB	08/15/2017 09:55	SW-7471B
Total Selenium		8.13	5.00	MOS	08/11/2017 17:25	6010B
pH *	8.48		1.00	R D	08/14/2017 12:00	SW-9045D
Total Molybdenum		9.20	5.00	MOS	08/11/2017 17:25	6010B
Chloride		6580	200	R D	08/11/2017 08:50	SM-4500Cl-D
Total Boron		53.2	3.00	MOS	08/15/2017 11:39	6010B

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Agronomist

Report Number: 17-265-0208
Account Number: 16010

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Project : Pima Co 8/17/17

REPORT OF ANALYSIS

Lab Number : 56284
Sample Id : Pima Co

Date Sampled: 8/17/2017 07:30:00
Date Received: 09/22/2017 00:00
Date Reported: 09/29/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	19.25	192500	100.0	JM	09/22/2017 14:45	SM-2540G
Moisture *	80.74		100.0	JM	09/22/2017 14:45	SM-2540G
Total Kjeldahl Nitrogen	4.85	48500	50.0	R D	09/26/2017 08:45	SM-4500-NH3C-TKN
Total Phosphorus	2.65	26500	100	MOS	09/28/2017 14:38	6010B
Total Potassium	0.31	3080	100	MOS	09/26/2017 16:02	6010B
Total Sulfur	1.21	12100	100	MOS	09/26/2017 16:02	6010B
Total Calcium	2.76	27600	100	MOS	09/26/2017 16:02	6010B
Total Magnesium	0.78	7820	100	MOS	09/26/2017 16:02	6010B
Total Sodium	0.14	1410	100	MOS	09/26/2017 16:02	6010B
Total Iron		26200	100	MOS	09/26/2017 16:02	6010B
Total Aluminum		7560	100	MOS	09/26/2017 16:02	6010B
Total Manganese		290	5.00	MOS	09/26/2017 16:02	6010B
Total Copper		368	5.00	MOS	09/26/2017 16:02	6010B
Total Zinc		657	5.00	MOS	09/26/2017 16:02	6010B
Ammonia Nitrogen	0.96	9610	50.0	R D	09/25/2017 08:45	SM-4500-NH3C
Organic N	3.89	38890	50.0		09/25/2017 08:45	CALCULATION
Nitrate+Nitrite-N		123	2.36	SJB	09/26/2017 13:39	4500NO3F-2011

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Report Number: 17-265-0208
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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 8/17/17

REPORT OF ANALYSIS

Lab Number : 56284
Sample Id : Pima Co

Date Sampled: 8/17/2017 07:30:00
Date Received: 09/22/2017 00:00
Date Reported: 09/29/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	09/26/2017 16:02	6010B
Total Chromium		33.9	5.00	MOS	09/26/2017 16:02	6010B
Total Nickel		25.1	5.00	MOS	09/26/2017 16:02	6010B
Total Lead		17.8	5.00	MOS	09/26/2017 16:02	6010B
Total Arsenic		9.66	3.00	MOS	09/26/2017 16:02	6010B
Total Mercury		<0.400	0.400	SJB	09/26/2017 11:31	SW-7471B
Total Selenium		5.34	5.00	MOS	09/26/2017 16:02	6010B
pH *	6.67		1.00	R D	09/25/2017 08:45	SW-9045D
Total Molybdenum		8.59	5.00	MOS	09/26/2017 16:02	6010B
Chloride		665	200	R D	09/25/2017 08:45	SM-4500Cl-D
Total Boron		46.2	3.00	MOS	09/26/2017 16:02	6010B

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Report Number: 17-265-0209
Account Number: 16010

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Marana , AZ 85653

Project : Pima Co 8/30/17

REPORT OF ANALYSIS

Lab Number : 56285
Sample Id : Pima Co

Date Sampled: 8/30/2017 11:30:00
Date Received: 09/22/2017 00:00
Date Reported: 09/29/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	15.22	152200	100.0	JM	09/22/2017 14:45	SM-2540G
Moisture *	84.77		100.0	JM	09/22/2017 14:45	SM-2540G
Total Kjeldahl Nitrogen	6.57	65700	50.0	R D	09/26/2017 08:45	SM-4500-NH3C-TKN
Total Phosphorus	3.17	31700	100	MOS	09/28/2017 15:19	6010B
Total Potassium	0.25	2480	100	MOS	09/26/2017 16:26	6010B
Total Sulfur	1.24	12400	100	MOS	09/26/2017 16:26	6010B
Total Calcium	3.32	33200	100	MOS	09/26/2017 16:26	6010B
Total Magnesium	0.70	7020	100	MOS	09/26/2017 16:26	6010B
Total Sodium	0.12	1170	100	MOS	09/26/2017 16:26	6010B
Total Iron		15800	100	MOS	09/26/2017 16:26	6010B
Total Aluminum		4600	100	MOS	09/26/2017 16:26	6010B
Total Manganese		196	5.00	MOS	09/26/2017 16:26	6010B
Total Copper		456	5.00	MOS	09/26/2017 16:26	6010B
Total Zinc		812	5.00	MOS	09/26/2017 16:26	6010B
Ammonia Nitrogen	2.39	23900	50.0	R D	09/25/2017 08:45	SM-4500-NH3C
Organic N	4.18	41800	50.0		09/25/2017 08:45	CALCULATION
Nitrate+Nitrite-N		<2.38	2.38	SJB	09/26/2017 13:40	4500NO3F-2011

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Report Number: 17-265-0209
Account Number: 16010

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Marana , AZ 85653

Project : Pima Co 8/30/17

REPORT OF ANALYSIS

Lab Number : 56285
Sample Id : Pima Co

Date Sampled: 8/30/2017 11:30:00
Date Received: 09/22/2017 00:00
Date Reported: 09/29/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	09/26/2017 16:26	6010B
Total Chromium		34.7	5.00	MOS	09/26/2017 16:26	6010B
Total Nickel		27.1	5.00	MOS	09/26/2017 16:26	6010B
Total Lead		18.0	5.00	MOS	09/26/2017 16:26	6010B
Total Arsenic		10.7	3.00	MOS	09/26/2017 16:26	6010B
Total Mercury		0.477	0.400	SJB	09/26/2017 11:33	SW-7471B
Total Selenium		8.36	5.00	MOS	09/26/2017 16:26	6010B
pH *	8.72		1.00	R D	09/25/2017 08:45	SW-9045D
Total Molybdenum		11.2	5.00	MOS	09/26/2017 16:26	6010B
Chloride		588	200	R D	09/25/2017 08:45	SM-4500Cl-D
Total Boron		62.1	3.00	MOS	09/26/2017 16:26	6010B

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW
Amended report

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Report Number: 17-265-0210
Account Number: 16010

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Marana , AZ 85653

Project : Pima Co 9/7/17

REPORT OF ANALYSIS

Lab Number : 56286
Sample Id : Pima Co

Date Sampled: 9/7/2017 10:30:00
Date Received: 09/22/2017 00:00
Date Reported: 09/29/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	5.32	53200	100.0	JM	09/22/2017 14:45	SM-2540G
Moisture *	94.67		100.0	JM	09/22/2017 14:45	SM-2540G
Total Kjeldahl Nitrogen	5.20	52000	50.0	R D	09/26/2017 08:45	SM-4500-NH3C-TKN
Total Phosphorus	3.08	30800	100	MOS	09/28/2017 15:23	6010B
Total Potassium	0.41	4100	100	MOS	09/26/2017 16:30	6010B
Total Sulfur	1.31	13100	100	MOS	09/26/2017 16:30	6010B
Total Calcium	3.41	34100	100	MOS	09/26/2017 16:30	6010B
Total Magnesium	0.76	7590	100	MOS	09/26/2017 16:30	6010B
Total Sodium	0.22	2190	100	MOS	09/26/2017 16:30	6010B
Total Iron		23200	100	MOS	09/26/2017 16:30	6010B
Total Aluminum		4370	100	MOS	09/26/2017 16:30	6010B
Total Manganese		192	5.00	MOS	09/26/2017 16:30	6010B
Total Copper		477	5.00	MOS	09/26/2017 16:30	6010B
Total Zinc		870	5.00	MOS	09/26/2017 16:30	6010B
Ammonia Nitrogen	3.23	32300	50.0	R D	09/25/2017 08:45	SM-4500-NH3C
Organic N	1.97	19700	50.0		09/25/2017 08:45	CALCULATION
Nitrate+Nitrite-N		<2.45	2.45	SJB	09/26/2017 13:41	4500NO3F-2011

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Agronomist

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Report Number: 17-265-0210
Account Number: 16010

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Rob Fehrmann
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Marana , AZ 85653

Project : Pima Co 9/7/17

REPORT OF ANALYSIS

Lab Number : 56286
Sample Id : Pima Co

Date Sampled: 9/7/2017 10:30:00
Date Received: 09/22/2017 00:00
Date Reported: 09/29/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	09/26/2017 16:30	6010B
Total Chromium		30.5	5.00	MOS	09/26/2017 16:30	6010B
Total Nickel		27.2	5.00	MOS	09/26/2017 16:30	6010B
Total Lead		20.3	5.00	MOS	09/26/2017 16:30	6010B
Total Arsenic		10.7	3.00	MOS	09/26/2017 16:30	6010B
Total Mercury		0.451	0.400	SJB	09/26/2017 11:36	SW-7471B
Total Selenium		8.37	5.00	MOS	09/26/2017 16:30	6010B
pH *	8.02		1.00	R D	09/25/2017 08:45	SW-9045D
Total Molybdenum		11.1	5.00	MOS	09/26/2017 16:30	6010B
Chloride		1740	200	R D	09/25/2017 08:45	SM-4500Cl-D
Total Boron		64.9	3.00	MOS	09/26/2017 16:30	6010B

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Pauric McGroary
Agronomist

Report Number: 17-298-0213
Account Number: 16010

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Rob Fehrmann
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Marana , AZ 85653

Project : Pima Co 9/21/2017

REPORT OF ANALYSIS

Lab Number : 56852
Sample Id : Pima Co 9/21/2017

Date Sampled: 9/21/2017 10:30:00
Date Received: 10/25/2017 00:00
Date Reported: 11/01/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	12.80	128000	100.0	R D	10/25/2017 14:50	SM-2540G
Moisture *	87.19		100.0	R D	10/25/2017 14:50	SM-2540G
Total Kjeldahl Nitrogen	6.46	64600	50.0	R D	10/26/2017 09:00	SM-4500-NH3C-TKN
Total Phosphorus	2.76	27600	100	MOS	11/01/2017 13:47	6010B
Total Potassium	0.18	1830	100	MOS	10/31/2017 18:30	6010B
Total Sulfur	1.35	13500	100	MOS	10/31/2017 18:30	6010B
Total Calcium	2.94	29400	100	MOS	10/31/2017 18:30	6010B
Total Magnesium	0.63	6270	100	MOS	10/31/2017 18:30	6010B
Total Sodium	0.13	1320	100	MOS	10/31/2017 18:30	6010B
Total Iron		25000	100	MOS	10/31/2017 18:30	6010B
Total Aluminum		3720	100	MOS	10/31/2017 18:30	6010B
Total Manganese		172	5.00	MOS	11/01/2017 13:47	6010B
Total Copper		428	5.00	MOS	11/01/2017 13:47	6010B
Total Zinc		778	5.00	MOS	10/31/2017 18:30	6010B
Ammonia Nitrogen	1.62	16200	50.0	R D	10/26/2017 09:00	SM-4500-NH3C
Organic N	4.84	48400	50.0		10/26/2017 09:00	CALCULATION
Nitrate+Nitrite-N		<2.28	2.28	SJB	10/30/2017 13:53	4500NO3F-2011

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Pauric McGroary

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Agronomist

Report Number: 17-298-0213
Account Number: 16010

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Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 9/21/2017

REPORT OF ANALYSIS

Lab Number : 56852
Sample Id : Pima Co 9/21/2017

Date Sampled: 9/21/2017 10:30:00
Date Received: 10/25/2017 00:00
Date Reported: 11/01/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	10/31/2017 18:30	6010B
Total Chromium		35.7	5.00	MOS	11/01/2017 13:47	6010B
Total Nickel		21.4	5.00	MOS	11/01/2017 13:47	6010B
Total Lead		16.4	5.00	MOS	10/31/2017 18:30	6010B
Total Arsenic		9.42	3.00	MOS	10/31/2017 18:30	6010B
Total Mercury		0.426	0.400	SJB	11/01/2017 15:01	SW-7471B
Total Selenium		6.92	5.00	MOS	10/31/2017 18:30	6010B
pH *	8.55		1.00	R D	10/26/2017 09:00	SW-9045D
Total Molybdenum		10.8	5.00	MOS	10/31/2017 18:30	6010B
Chloride		740	200	R D	10/26/2017 09:00	SM-4500Cl-D
Total Boron		55.3	3.00	MOS	10/31/2017 18:30	6010B

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Report Number: 17-298-0214
Account Number: 16010

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Project : Pima Co 10/7/2017

REPORT OF ANALYSIS

Lab Number : 56853
Sample Id : Pima Co 10/7/2017

Date Sampled: 10/7/2017 11:30:00
Date Received: 10/25/2017 00:00
Date Reported: 11/01/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	13.04	130400	100.0	R D	10/25/2017 14:50	SM-2540G
Moisture *	86.95		100.0	R D	10/25/2017 14:50	SM-2540G
Total Kjeldahl Nitrogen	6.09	60900	50.0	R D	10/26/2017 09:00	SM-4500-NH3C-TKN
Total Phosphorus	2.64	26400	100	MOS	10/31/2017 18:42	6010B
Total Potassium	0.17	1730	100	MOS	10/31/2017 18:42	6010B
Total Sulfur	1.36	13600	100	MOS	10/31/2017 18:42	6010B
Total Calcium	2.87	28700	100	MOS	10/31/2017 18:42	6010B
Total Magnesium	0.57	5660	100	MOS	10/31/2017 18:42	6010B
Total Sodium	0.11	1100	100	MOS	10/31/2017 18:42	6010B
Total Iron		32000	100	MOS	10/31/2017 18:42	6010B
Total Aluminum		2920	100	MOS	10/31/2017 18:42	6010B
Total Manganese		209	5.00	MOS	11/01/2017 13:59	6010B
Total Copper		395	5.00	MOS	11/01/2017 13:59	6010B
Total Zinc		713	5.00	MOS	10/31/2017 18:42	6010B
Ammonia Nitrogen	1.59	15900	50.0	R D	10/26/2017 09:00	SM-4500-NH3C
Organic N	4.50	45000	50.0		10/26/2017 09:00	CALCULATION
Nitrate+Nitrite-N		57.4	2.25	SJB	10/30/2017 13:54	4500NO3F-2011

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Project : Pima Co 10/7/2017

REPORT OF ANALYSIS

Lab Number : 56853
Sample Id : Pima Co 10/7/2017

Date Sampled: 10/7/2017 11:30:00
Date Received: 10/25/2017 00:00
Date Reported: 11/01/2017

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	10/31/2017 18:42	6010B
Total Chromium		37.0	5.00	MOS	11/01/2017 13:59	6010B
Total Nickel		21.3	5.00	MOS	11/01/2017 13:59	6010B
Total Lead		14.4	5.00	MOS	10/31/2017 18:42	6010B
Total Arsenic		9.88	3.00	MOS	10/31/2017 18:42	6010B
Total Mercury		<0.400	0.400	SJB	11/01/2017 15:03	SW-7471B
Total Selenium		5.52	5.00	MOS	10/31/2017 18:42	6010B
pH *	8.53		1.00	R D	10/26/2017 09:00	SW-9045D
Total Molybdenum		10.3	5.00	MOS	10/31/2017 18:42	6010B
Chloride		662	200	R D	10/26/2017 09:00	SM-4500Cl-D
Total Boron		52.2	3.00	MOS	10/31/2017 18:42	6010B

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Report Number: 17-352-0201
Account Number: 16010

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Project : Pima Co 10/25/2017

REPORT OF ANALYSIS

Lab Number : 57730
Sample Id : Pima Co 10/25/17

Date Sampled: 10/25/2017 15:00:00
Date Received: 12/18/2017 00:00
Date Reported: 01/03/2018

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	13.40	134000	100.0	R D	12/18/2017 13:45	SM-2540G
Moisture *	86.59		100.0	R D	12/18/2017 13:45	SM-2540G
Total Kjeldahl Nitrogen	6.82	68200	50.0	JM	12/19/2017 08:35	SM-4500-NH3C-TKN
Total Phosphorus	2.22	22200	100	MOS	12/27/2017 19:26	6010C
Total Potassium	0.17	1720	100	MOS	12/27/2017 19:26	6010C
Total Sulfur	1.01	10100	100	MOS	12/27/2017 19:26	6010C
Total Calcium	2.38	23800	100	MOS	12/27/2017 19:26	6010C
Total Magnesium	0.45	4480	100	MOS	12/27/2017 19:26	6010C
Total Sodium	0.09	870	100	MOS	12/27/2017 19:26	6010C
Total Iron		18500	100	MOS	12/27/2017 19:26	6010C
Total Aluminum		1710	100	MOS	12/27/2017 19:26	6010C
Total Manganese		141	5.00	MOS	12/27/2017 19:26	6010C
Total Copper		311	5.00	MOS	12/27/2017 19:26	6010C
Total Zinc		584	5.00	MOS	12/27/2017 19:26	6010C
Ammonia Nitrogen	1.77	17700	50.0	R D	12/19/2017 08:35	SM-4500-NH3C
Organic N	5.05	50500	50.0		12/19/2017 08:35	CALCULATION
Nitrate+Nitrite-N		<22.9	22.9	MMT	12/20/2017 10:18	4500NO3F-2011

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Page: 2 of 2

Report Number: 17-352-0201
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Marana , AZ 85653

Project : Pima Co 10/25/2017

REPORT OF ANALYSIS

Lab Number : 57730
Sample Id : Pima Co 10/25/17

Date Sampled: 10/25/2017 15:00:00
Date Received: 12/18/2017 00:00
Date Reported: 01/03/2018

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	12/27/2017 19:26	6010C
Total Chromium		30.4	5.00	MOS	12/27/2017 19:26	6010C
Total Nickel		17.1	5.00	MOS	12/27/2017 19:26	6010C
Total Lead		9.46	5.00	MOS	12/27/2017 19:26	6010C
Total Arsenic		7.30	3.00	MOS	12/27/2017 19:26	6010C
Total Mercury		<0.400	0.400	MOS	12/22/2017 10:33	SW-7471B
Total Selenium		7.07	5.00	MOS	01/02/2018 12:51	6010C
pH *	8.58		1.00	R D	12/19/2017 08:35	SW-9045D
Total Molybdenum		8.99	5.00	MOS	12/27/2017 19:26	6010C
Chloride		7200	200	R D	12/19/2017 08:35	SM-4500Cl-D
Total Boron		53.7	3.00	MOS	01/02/2018 16:51	6010C

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Report Number: 17-352-0202
Account Number: 16010

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Project : Pima Co 11/10/2017

REPORT OF ANALYSIS

Lab Number : 57731
Sample Id : Pima Co 11/10/17

Date Sampled: 11/10/2017 10:30:00
Date Received: 12/18/2017 00:00
Date Reported: 01/03/2018

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	14.65	146500	100.0	R D	12/18/2017 13:45	SM-2540G
Moisture *	85.34		100.0	R D	12/18/2017 13:45	SM-2540G
Total Kjeldahl Nitrogen	6.53	65300	50.0	JM	12/19/2017 08:35	SM-4500-NH3C-TKN
Total Phosphorus	2.70	27000	100	MOS	12/27/2017 19:30	6010C
Total Potassium	0.19	1920	100	MOS	12/27/2017 19:30	6010C
Total Sulfur	1.34	13400	100	MOS	12/27/2017 19:30	6010C
Total Calcium	3.00	30000	100	MOS	12/27/2017 19:30	6010C
Total Magnesium	0.57	5740	100	MOS	12/27/2017 19:30	6010C
Total Sodium	0.10	995	100	MOS	12/27/2017 19:30	6010C
Total Iron		23700	100	MOS	12/27/2017 19:30	6010C
Total Aluminum		2300	100	MOS	12/27/2017 19:30	6010C
Total Manganese		179	5.00	MOS	12/27/2017 19:30	6010C
Total Copper		400	5.00	MOS	12/27/2017 19:30	6010C
Total Zinc		748	5.00	MOS	12/27/2017 19:30	6010C
Ammonia Nitrogen	1.77	17700	50.0	R D	12/19/2017 08:35	SM-4500-NH3C
Organic N	4.76	47600	50.0		12/19/2017 08:35	CALCULATION
Nitrate+Nitrite-N		<23.1	23.1	MMT	12/20/2017 10:19	4500NO3F-2011

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Report Number: 17-352-0202
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Marana , AZ 85653

Project : Pima Co 11/10/2017

REPORT OF ANALYSIS

Lab Number : 57731
Sample Id : Pima Co 11/10/17

Date Sampled: 11/10/2017 10:30:00
Date Received: 12/18/2017 00:00
Date Reported: 01/03/2018

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	12/27/2017 19:30	6010C
Total Chromium		25.4	5.00	MOS	12/27/2017 19:30	6010C
Total Nickel		19.1	5.00	MOS	12/27/2017 19:30	6010C
Total Lead		12.5	5.00	MOS	12/27/2017 19:30	6010C
Total Arsenic		10.2	3.00	MOS	12/27/2017 19:30	6010C
Total Mercury		<0.400	0.400	MOS	12/22/2017 10:36	SW-7471B
Total Selenium		7.61	5.00	MOS	01/02/2018 12:55	6010C
pH *	8.51		1.00	R D	12/19/2017 08:35	SW-9045D
Total Molybdenum		12.2	5.00	MOS	12/27/2017 19:30	6010C
Chloride		6960	200	R D	12/19/2017 08:35	SM-4500Cl-D
Total Boron		56.1	3.00	MOS	01/02/2018 16:55	6010C

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Report Number: 17-352-0203
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Project : Pima Co 11/25/2017

REPORT OF ANALYSIS

Lab Number : 57732
Sample Id : Pima Co 11/25/17

Date Sampled: 11/25/2017 11:30:00
Date Received: 12/18/2017 00:00
Date Reported: 01/03/2018

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	13.76	137600	100.0	R D	12/18/2017 13:45	SM-2540G
Moisture *	86.23		100.0	R D	12/18/2017 13:45	SM-2540G
Total Kjeldahl Nitrogen	6.64	66400	50.0	JM	12/19/2017 08:35	SM-4500-NH3C-TKN
Total Phosphorus	2.37	23700	100	MOS	12/27/2017 19:34	6010C
Total Potassium	0.18	1780	100	MOS	12/27/2017 19:34	6010C
Total Sulfur	1.05	10500	100	MOS	12/27/2017 19:34	6010C
Total Calcium	2.45	24500	100	MOS	12/27/2017 19:34	6010C
Total Magnesium	0.52	5230	100	MOS	12/27/2017 19:34	6010C
Total Sodium	0.08	841	100	MOS	12/27/2017 19:34	6010C
Total Iron		19100	100	MOS	12/27/2017 19:34	6010C
Total Aluminum		1780	100	MOS	12/27/2017 19:34	6010C
Total Manganese		147	5.00	MOS	12/27/2017 19:34	6010C
Total Copper		311	5.00	MOS	12/27/2017 19:34	6010C
Total Zinc		586	5.00	MOS	12/27/2017 19:34	6010C
Ammonia Nitrogen	1.90	19000	50.0	R D	12/19/2017 08:35	SM-4500-NH3C
Organic N	4.74	47400	50.0		12/19/2017 08:35	CALCULATION
Nitrate+Nitrite-N		<21.6	21.6	MMT	12/20/2017 10:20	4500NO3F-2011

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Report Number: 17-352-0203
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Project : Pima Co 11/25/2017

REPORT OF ANALYSIS

Lab Number : 57732
Sample Id : Pima Co 11/25/17

Date Sampled: 11/25/2017 11:30:00
Date Received: 12/18/2017 00:00
Date Reported: 01/03/2018

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	12/27/2017 19:34	6010C
Total Chromium		28.9	5.00	MOS	12/27/2017 19:34	6010C
Total Nickel		16.2	5.00	MOS	12/27/2017 19:34	6010C
Total Lead		10.1	5.00	MOS	12/27/2017 19:34	6010C
Total Arsenic		8.05	3.00	MOS	12/27/2017 19:34	6010C
Total Mercury		<0.400	0.400	MOS	12/22/2017 10:38	SW-7471B
Total Selenium		7.22	5.00	MOS	01/02/2018 12:59	6010C
pH *	8.47		1.00	R D	12/19/2017 08:35	SW-9045D
Total Molybdenum		8.87	5.00	MOS	12/27/2017 19:34	6010C
Chloride		6820	200	R D	12/19/2017 08:35	SM-4500Cl-D
Total Boron		50.4	3.00	MOS	01/02/2018 16:59	6010C

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

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Agronomist

Report Number: 17-352-0205
Account Number: 16010

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Project : Pima Co 12/14/2017

REPORT OF ANALYSIS

Lab Number : 57734
Sample Id : Pima Co 12/14/17

Date Sampled: 12/14/2017 14:30:00
Date Received: 12/18/2017 00:00
Date Reported: 01/03/2018

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	12.06	120600	100.0	R D	12/18/2017 13:45	SM-2540G
Moisture *	87.93		100.0	R D	12/18/2017 13:45	SM-2540G
Total Kjeldahl Nitrogen	6.71	67100	50.0	JM	12/19/2017 08:35	SM-4500-NH3C-TKN
Total Phosphorus	2.90	29000	100	MOS	12/27/2017 19:42	6010C
Total Potassium	0.23	2330	100	MOS	12/27/2017 19:42	6010C
Total Sulfur	1.23	12300	100	MOS	12/27/2017 19:42	6010C
Total Calcium	2.64	26400	100	MOS	12/27/2017 19:42	6010C
Total Magnesium	0.74	7440	100	MOS	12/27/2017 19:42	6010C
Total Sodium	0.11	1100	100	MOS	12/27/2017 19:42	6010C
Total Iron		22400	100	MOS	12/27/2017 19:42	6010C
Total Aluminum		2830	100	MOS	12/27/2017 19:42	6010C
Total Manganese		165	5.00	MOS	12/27/2017 19:42	6010C
Total Copper		341	5.00	MOS	12/27/2017 19:42	6010C
Total Zinc		628	5.00	MOS	12/27/2017 19:42	6010C
Ammonia Nitrogen	1.53	15300	50.0	R D	12/19/2017 08:35	SM-4500-NH3C
Organic N	5.18	51800	50.0		12/19/2017 08:35	CALCULATION
Nitrate+Nitrite-N		236	24.5	MMT	12/20/2017 10:22	4500NO3F-2011

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Pauric McGroary

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Pauric McGroary
Agronomist

Report Number: 17-352-0205
Account Number: 16010

Waypoint ANALYTICAL

7621 Whitepine Road, Richmond, VA 23237
Main 804-743-9401 ° Fax 804-271-6446
www.waypointanalytical.com

Send To: Avra Gro Systems Inc
Rob Fehrmann
11661 W Grierr Rd
Marana , AZ 85653

Project : Pima Co 12/14/2017

REPORT OF ANALYSIS

Lab Number : 57734
Sample Id : Pima Co 12/14/17

Date Sampled: 12/14/2017 14:30:00
Date Received: 12/18/2017 00:00
Date Reported: 01/03/2018

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Cadmium		<2.00	2.00	MOS	12/27/2017 19:42	6010C
Total Chromium		32.8	5.00	MOS	12/27/2017 19:42	6010C
Total Nickel		19.0	5.00	MOS	12/27/2017 19:42	6010C
Total Lead		11.3	5.00	MOS	12/27/2017 19:42	6010C
Total Arsenic		8.64	3.00	MOS	12/27/2017 19:42	6010C
Total Mercury		<0.400	0.400	MOS	12/22/2017 10:43	SW-7471B
Total Selenium		6.20	5.00	MOS	01/02/2018 13:06	6010C
pH *	8.40		1.00	R D	12/19/2017 08:35	SW-9045D
Total Molybdenum		10.7	5.00	MOS	12/27/2017 19:42	6010C
Chloride		7050	200	R D	12/19/2017 08:35	SM-4500Cl-D
Total Boron		55.2	3.00	MOS	01/02/2018 17:07	6010C

Comments:
AZ CERT# 0629
PH, CHLORIDE, & SULFUR NOT FOR COMPLIANCE TESTING.
AG TO FOLLOW

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Pauric McGroary

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Pauric McGroary
Agronomist

End of Volume 1 of 2

ANNUAL BIOSOLIDS REPORT 2017

PIMA COUNTY
REGIONAL WASTEWATER RECLAMATION DEPARTMENT
PIMA COUNTY, ARIZONA

PIMA COUNTY

ANNUAL BIOSOLIDS REPORT

Sustainable Resource BIOSOLIDS

Volume 2 of 2

CALENDAR YEAR 2017

REGIONAL WATER RECLAMATION DEPARTMENT

TREATMENT DIVISION

PIMA COUNTY
TUCSON, ARIZONA

PIMA COUNTY
WASTEWATER RECLAMATION

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ANNUAL BIOSOLIDS REPORT 2017

REGIONAL WATER
RECLAMATION DEPARTMENT

TREATMENT DIVISION

PIMA COUNTY
TUCSON, ARIZONA

PIMA COUNTY
WASTEWATER RECLAMATION

SECTION 5

AGUA NUEVA WRF
AZPDES NO. AZ0026107

2017 PREPARER FORM

AND

SAMPLING AND ANALYSES
PRIORITY POLLUTANTS
TCLP
HAZARDOUSNESS

ANNUAL BIOSOLIDS REPORT 2017

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ANNUAL BIOSOLIDS REPORT 2017

REGIONAL WATER
RECLAMATION DEPARTMENT

TREATMENT DIVISION

PIMA COUNTY
TUCSON, ARIZONA

PIMA COUNTY
WASTEWATER RECLAMATION

ARIZONA
DEPARTMENT OF ENVIRONMENTAL QUALITY
AZPDES Individual Permits Unit
1110 W Washington Street
Phoenix, Arizona 85007
(602) 771-4689 (voicemail) (602) 771-4505 (fax)
Email to: biosolids@azdeq.gov

BIOSOLIDS OR SEWAGE SLUDGE ANNUAL REPORT FORM

1. Program Information: All preparers (Generators) and Land Applicators Must complete the following.

Reporting Start Date:1/1/2017	**Reporting End Date: 12/31/2017**
Date:1/31/2018	**AZPDES Permit # (if applicable):AZ00026107** **Pima County Agua Nueva WRF** **2947 Calle Agua Nueva, Tucson, AZ 85745**
Company name (Preparer / Applicator): Preparer, Pima County Regional Water Reclamation Department	
Contact Name: Houssam Eljerdi	**Title: Technical Services Manager**
Address: 7101 N. Casa Grande Highway **Phone:** (520) 724 - 6100	Tucson, AZ 85743 - 8618 **E-mail: Houssam.eljerdi@pima.gov**

Please select one of the following options pertaining to your obligation to submit a Biosolids Annual Report. My facility is a:

☒ POTW with a design flow equal to or greater than 1 MGD Per Day

☐ POTW that serves 10,000 people or more

☒ Class I Sludge Management Facility as defined by 40 CFR 503.9

☐ Biosolids Applicator (Complete Section 5 only)

☐Other Click here to enter text.

What is the estimated total of volume of biosolids or sewage sludge generated at your facility (in dry metric tons)?

Pima County Agua Nueva WRF pumps its Raw primary sludge and its Raw Waste Activated Sludge to Tres Rios WRF				
	Untreated Sewage Sludge, Metric Dry Tons		CLASS A Biosolids	Class B Biosolids
Metric Dry Tons	**Primary Sludge**	**Waste Activated Sludge**	Not applicable	Not applicable
	4,939	**5,181**		

Were all biosolids removed from your facility sent to a landfill for disposal? No

If yes, provide the name and address of the landfill(s). Not Applicable

If all biosolids or sewage sludge was sent to a landfill for disposal, you do not need to complete the remainder of this form, as it is only applicable to facilities preparing Biosolids or sewage sludge for land application.

Certification: I certify, under penalty of law, that the information and descriptions, have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

Signature:	Date: February 19, 2018
Title: John W. Sherlock; Deputy Director - Treatment	

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

2. Generator/Preparers - Biosolids Storage and Treatment Processes

2.1 Please check the box next to the following biosolids or sewage sludge storage practices and treatment processes used on the sewage sludge or biosolids generated or produced at your facility during the reporting period.

Storage Practices

☐ Biosolids are stored in lined lagoons or impoundments

☐ Biosolids stored directly on the ground

Physical Treatment Processes

☒ Preliminary Operations (e.g. sludge grinding, degritting, blending

☒ Thickening (e.g. gravity floatation, centrifugation, belt filter press, vacuum filter)

☐ Sludge lagoon

Pathogen Reduction Operations (PSRP)

☐ Aerobic Digestion

☐ Air Drying (or "sludge drying beds")

☐ Anaerobic Digestion

☐ Lower Temperature Composting

☐ Lime Stabilization

Process to Further Reduce Pathogens (PFRP)

☐ Higher Temperature Composting

☐ Heat Drying (e.g. flash dryer, spray dryer, rotary dryer)

☐ Heat Treatment (Liquid sewage sludge is heated to temp of 356 °F (180 °C) or higher for 30 minutes

☐ Thermophilic Aerobic Digestion

☐ Beta Ray Irradiation

☐ Gamma Ray Irradiation

☐ Pasteurization

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

3. Generators/Preparers: Disposition of Biosolids or Sewage Treatment Sludge:

3.1 At the beginning of the year, did you have any biosolids or sewage sludge stored on site or remaining from previous years? Include any amount that is being stored anywhere. No

If yes provide the following information:

	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	**No Storage** **Pima County Agua Nueva WRF daily pumps its Raw primary sludge and its Raw Waste Activated Sludge to Tres Rios WRF**	Not applicable

3.2 At the end of the year, are any biosolids or sewage sludge stored on site? No

If yes, provide the following information:

	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	**No Storage** **Pima County Agua Nueva WRF daily pumps its Raw primary sludge and its Raw Waste Activated Sludge to Tres Rios WRF**	Not applicable

3.3 Were biosolids or sewage sludge received from another facility during the year, such as another wastewater treatment plant or another APP permitted facility for further processing? Yes

If yes provide the following information for each facility. Click the plus sign to create as many tables as needed.

Name of Facility	Pima County Avra Valley WRF; AZPDES AZ0024121, APP-100642		
Location:	10000 W. Snyder Hill Road, Tucson, AZ 85735		
	Untreated Sewage Sludge	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight Metric Dry Tons	**540** **Five Hundred and Forty**	Not applicable	Not applicable

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

Name of Facility	Pima County Avra Valley WRF; AZPDES AZ0024121, APP-100642		
Location:	10000 W. Snyder Hill Road, Tucson, AZ 85735		
	Untreated Sewage Sludge	CLASS A Biosolids	Class B Biosolids
Pathogen Testing	Not applicable	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable	Not applicable
Storage Locations Storage Locations (Continued)	**No Storage** **Pima County Transports the Sludge from Avra Valley WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Agua Nueva WRF**	Not applicable	Not applicable

Name of Facility	Pima County Corona de Tucson WRF; APP-100644		
Location:	1100 W. Sahuarita Road, Corona de Tucson, 85711		
	Untreated Sewage Sludge	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight Metric Dry Tons	**113** **One Hundred and Thirteen**	Not applicable	Not applicable
Pathogen Testing	Not applicable	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable	Not applicable
Storage Locations	**No Storage** **Pima County Transports the Sludge from Corona de Tucson WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Agua Nueva WRF**	Not applicable	Not applicable

Enter any content that you want to repeat, including other content controls. You can also insert this control around table rows in order to repeat parts of a table.

3.4. Were biosolids removed from your facility for land application? Include all recipients, including haulers, name, phone number, land applicators, composters, drying facilities, EQB bagging facilities, bulk composting, etc.

Name of Facility	**No Biosolids were removed from Agua Nueva WRF for land application** **Pima County Agua Nueva WRF daily pumps its raw primary sludge and its raw Waste Activated Sludge to Tres Rios WRF**	
Management Practice Type:	Not Applicable	
Handler or Preparer Type:	Not Applicable	
Management Practice Detail:	Not Applicable	
Bag or Bulk Container:	Not Applicable	
	CLASS A Biosolids	Class B Biosolids

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

Name of Facility	**No Biosolids were removed from Agua Nueva WRF for land application** **Pima County Agua Nueva WRF daily pumps its raw primary sludge and its raw Waste Activated Sludge to Tres Rios WRF**	
Dry Ton Weight	None	None
Pathogen Testing	Not Applicable	Not applicable
Pathogen Reduction Method	Not Applicable	Not Applicable
Vector Attraction Reduction Method	Not Applicable	Not Applicable
Storage Locations	Not Applicable	Not Applicable

4. Generators/Preparers : Biosolids or Sewage Sludge Analytical Methods

Arizona regulations specify that representative samples of sewage sludge that is land applied, placed on a surface disposal site, or fired in s sewage sludge incinerator, must be collected and analyzed. These regulations specify the analytical methods that must be used to analyzed samples of sewage sludge.

Parameter	*Method Number or Author*	*Results (if tested)*	*Comments (required if other)*
Pathogens			
Ascaris ova.	Not applicable	Not applicable	Not applicable
Fecal Coliform	Not Applicable	Not Applicable	Not Applicable
Helminth ova.	Not Applicable	Not Applicable	Not Applicable
Salmonella sp. Bacteria	Not Applicable	Not Applicable	Not Applicable
Total Cultural Viruses	Not Applicable	Not Applicable	Not Applicable
Metals			
Arsenic	EPA Method 6010 - Arsenic (ICP-OES)	< 14.5 / < 16.9 / < 11.3	Mean / Maximum / Minimum
Beryllium	Choose an item.	< 2.9 / < 3.4 / < 2.3	Mean / Maximum / Minimum
Cadmium	EPA Method 6010 - Cadmium (ICP-OES)	< 5.8 / < 6.7 / < 4.5	Mean / Maximum / Minimum
Chromium	EPA Method 6010 - Chromium (ICP-OES)	< 14.5 / < 16.9 / < 11.3	Mean / Maximum / Minimum
Copper	EPA Method 6010 - Copper (ICP-OES)	< 75.4 / 158.0 / < 16.9	Mean / Maximum / Minimum
Lead	EPA Method 6010 - Lead (ICP-OES)	< 14.5 / 16.9 / 11.3	Mean / Maximum / Minimum
Mercury	EPA Method 7471 - Mercury (CVAA)	< 1.3 / < 4.4 / 0.03	Mean / Maximum / Minimum
Molybdenum	EPA Method 6010 - Molybdenum (ICP-OES)	< 5.8 / < 6.7 / < 4.5	Mean / Maximum / Minimum

Parameter	*Method Number or Author*	*Results (if tested)*	*Comments (required if other)*
Nickel	EPA Method 6010 - Nickel (ICP-OES)	< 14.5 / < 16.9 / < 11.3	Mean / Maximum / Minimum
Selenium	EPA Method 6010 - Selenium (ICP-OES)	< 28.9 / < 33.7 / < 22.5	Mean / Maximum / Minimum
Zinc	EPA Method 6010 - Zinc (ICP-OES)	< 28.9 / < 33.7 / < 22.5	Mean / Maximum / Minimum
Nitrogen Compounds			
Ammonia Nitrogen	Not applicable	Not applicable	Not applicable
Nitrate Nitrogen	Not applicable	Not applicable	Not applicable
Nitrogen	Not applicable	Not applicable	Not applicable
Organic Nitrogen	Not applicable	Not applicable	Not applicable
Total Kjeldahl Nitrogen	Not applicable	Not applicable	Not applicable
Other Analytes			
Fixed Solids	Not applicable	Not applicable	Not applicable
Paint Filter Test	Not Applicable	Not Applicable	Not Applicable
pH	Not Applicable	Not Applicable	Not Applicable
Specific Oxygen Uptake Rate	Not Applicable	Not Applicable	Not Applicable
TCLP	Other TCLP Analytical Method	**Total Amount Does Not Exceed 20X TCLP Screening Value.** **Sample Analysis Results Included in Section 5 of this Report**	Click here to enter text.
Temperature	Not applicable	Not applicable	Not applicable
Total Solids	Standard Method 2540 - Total Solids	DAF primary Sludge, % Solids Content **1.15 / 2.22 / 0.55** Waste Activated Sludge, % Solids Content **0.78 / 0.94 / 0.55**	Mean / Maximum / Minimum
Volatile Solids	Not applicable	Not applicable	Not applicable
No Analytical Methods Used	**Sample Analysis Results Included in Section 5 of this Report**		

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 03/15/2017
Laboratory License: AZO159

Sample Analysis Report

Agua Nueva WRF

January 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By: Barbara Alcaraz 04/17/17

Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701099-01	C	Di-n-octyl phthalate	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	2.55	12.00	D1, D7	SJM
1701099-01	C	Fluoranthene	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	1.32	4.00	D1, D7	SJM
1701099-01	C	Fluorene	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	1.54	4.00	D1, D7	SJM
1701099-01	C	Hexachlorobenzene	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	0.62	4.00	D1, D7	SJM
1701099-01	C	Hexachlorobutadiene	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	1.01	4.00	D1, D7	SJM
1701099-01	C	Hexachlorocyclopentadiene	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	4.23	12.00	D1, D7	SJM
1701099-01	C	Hexachloroethane	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	1.26	4.00	D7, D1	SJM
1701099-01	C	Indeno(1,2,3-cd)pyrene	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	2.83	12.00	D1, D7	SJM
1701099-01	C	Isophorone	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	1.66	4.00	D1, D7	SJM
1701099-01	C	Naphthalene	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	1.77	4.00	D1, D7	SJM
1701099-01	C	n-Decane	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	1.95	4.00	D1, D7	SJM
1701099-01	C	Nitrobenzene	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	2.10	12.00	D1, D7	SJM
1701099-01	C	N-Nitrosodimethylamine	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	2.09	12.00	D1, D7, PC3	SJM
1701099-01	C	N-Nitrosodi-n-propylamine	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	2.43	12.00	D1, D7	SJM
1701099-01	C	N-Nitrosodiphenylamine	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	6.08	20.00	D1, D7	SJM
1701099-01	C	n-Octadecane	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	2.18	12.00	D1, D7	SJM
1701099-01	C	Pentachlorophenol	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	4.02	12.00	D1, D7	SJM
1701099-01	C	Phenanthrene	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	1.63	4.00	D1, D7	SJM
1701099-01	C	Phenol	01/13/17 6:00	EPA 625	1/23/17 18:38	**16.7**	ug/L	2.59	12.00	D1, D7	SJM
1701099-01	C	Pyrene	01/13/17 6:00	EPA 625	1/23/17 18:38	**ND**	ug/L	1.38	4.00	D1, D7	SJM
1701099-01	C	1,2-Diphenylhydrazine	01/13/17 6:00	EPA 8270C	1/23/17 18:38	**ND**	ug/L	0.98	4.00	D1, D7	SJM
1701099-01RE1	C	Copper	01/13/17 6:00	EPA 200.8	2/7/17 16:54	**54.8**	ug/L	0.43	2.00	D1	JB
1701099-01RE1	C	Lead	01/13/17 6:00	EPA 200.8	2/7/17 16:54	**1.46**	ug/L	0.10	2.00	D1, J	JB
1701099-01RE1	C	Thallium	01/13/17 6:00	EPA 200.8	2/7/17 16:54	**ND**	ug/L	0.05	2.00	D1	JB
1701099-01RE1	C	Zinc	01/13/17 6:00	EPA 200.8	2/7/17 16:54	**155**	ug/L	0.40	2.00	D2	JB
Thickened Sludge Pump (26107-0600)											
1701099-02	C	Antimony	01/13/17 6:00	EPA 6010D	1/24/17 15:58	**ND**	mg/kg dry		16.85		MLB
1701099-02	C	Arsenic	01/13/17 6:00	EPA 6010D	1/25/17 12:50	**ND**	mg/kg dry		16.85		MLB
1701099-02	C	Beryllium	01/13/17 6:00	EPA 6010D	1/24/17 15:58	**ND**	mg/kg dry		3.37		MLB
1701099-02	C	Cadmium	01/13/17 6:00	EPA 6010D	1/24/17 15:58	**ND**	mg/kg dry		6.74		MLB
1701099-02	C	Chromium	01/13/17 6:00	EPA 6010D	1/24/17 15:58	**ND**	mg/kg dry		16.85		MLB
1701099-02	C	Copper	01/13/17 6:00	EPA 6010D	1/24/17 15:58	**68.6**	mg/kg dry		16.85		MLB
1701099-02	C	Lead	01/13/17 6:00	EPA 6010D	1/24/17 15:58	**ND**	mg/kg dry		16.85		MLB
1701099-02	C	Mercury	01/13/17 6:00	EPA 7471B	1/24/17 11:19	**0.34**	mg/kg dry		0.03		DML
1701099-02	C	Molybdenum	01/13/17 6:00	EPA 6010D	1/24/17 15:58	**ND**	mg/kg dry		6.74		MLB
1701099-02	C	Nickel	01/13/17 6:00	EPA 6010D	1/24/17 15:58	**ND**	mg/kg dry		16.85		MLB
1701099-02	C	Selenium	01/13/17 6:00	EPA 6010D	1/24/17 15:58	**ND**	mg/kg dry		33.70		MLB
1701099-02	C	Silver	01/13/17 6:00	EPA 6010D	1/25/17 12:50	**0.99**	mg/kg dry		1.68		MLB
1701099-02	C	Arsenic	01/13/17 6:00	TCLP/EPA 6010D	2/7/17 15:40	**ND**	mg/L		0.03		MLB
1701099-02	C	Barium	01/13/17 6:00	TCLP/EPA 6010D	2/7/17 15:40	**0.14**	mg/L		0.03		MLB
1701099-02	C	Cadmium	01/13/17 6:00	TCLP/EPA 6010D	2/7/17 15:40	**ND**	mg/L		0.01		MLB
1701099-02	C	Chromium	01/13/17 6:00	TCLP/EPA 6010D	2/7/17 15:40	**ND**	mg/L		0.03		MLB
1701099-02	C	Lead	01/13/17 6:00	TCLP/EPA 6010D	2/7/17 15:40	**ND**	mg/L		0.03		MLB
1701099-02	C	Mercury	01/13/17 6:00	TCLP/EPA 7470	2/7/17 11:13	**ND**	mg/L		0.0002		DML
1701099-02	C	Selenium	01/13/17 6:00	TCLP/EPA 6010D	2/7/17 15:40	**ND**	mg/L		0.03		MLB
1701099-02	C	Silver	01/13/17 6:00	TCLP/EPA 6010D	2/7/17 16:52	**0.0049**	mg/L		0.0026		MLB
1701099-02	C	Thallium	01/13/17 6:00	EPA 6010D	1/25/17 14:05	**ND**	mg/kg dry		16.85		MLB
1701099-02	C	Zinc	01/13/17 6:00	EPA 6010D	1/24/17 17:30	**176**	mg/kg dry		16.85	M5	MLB
1701099-02	C	% Solids	01/13/17 6:00	SM 2540G	1/14/17 12:20	**1.52**	%		0.01		CJF
1701099-02	C	Acrolein	01/13/17 6:00	EPA 624	1/17/17 13:44	**ND**	mg/kg dry	0.00299	6.58		JOB
1701099-02	C	Acrylonitrile	01/13/17 6:00	EPA 624	1/17/17 13:44	**ND**	mg/kg dry	0.000650	6.58		JOB
1701099-02	C	4,4-DDD	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00006	0.00177	D1, D7	klh
1701099-02	C	4,4-DDE	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00003	0.00177	D1, D7	klh
1701099-02	C	4,4-DDT	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00006	0.00177	D1, D7	klh
1701099-02	C	Aldrin	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00006	0.00177	D1, D7	klh
1701099-02	C	alpha-BHC	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00004	0.00177	D1, D7	klh
1701099-02	C	beta-BHC	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00009	0.00177	D1, D7	klh
1701099-02	C	Chlordane	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00025	0.01	D1, D7	klh

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701099-02	C	delta-BHC	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00007	0.00177	D1, D7	klh
1701099-02	C	Dieldrin	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00015	0.00353	D1, D7	klh
1701099-02	C	Endosulfan I	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00004	0.00177	D1, D7	klh
1701099-02	C	Endosulfan II	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00003	0.00177	D1, D7	klh
1701099-02	C	Endosulfan sulfate	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00004	0.00177	D1, D7	klh
1701099-02	C	Endrin	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00010	0.00177	D1, D7	klh
1701099-02	C	Endrin aldehyde	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00011	0.00177	D1, D7, N1	klh
1701099-02	C	gamma-BHC (Lindane)	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00007	0.00177	D1, D7	klh
1701099-02	C	Heptachlor	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00005	0.00177	D1, D7	klh
1701099-02	C	Heptachlor Epoxide	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00004	0.00177	D1, D7	klh
1701099-02	C	PCB 1016	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00006	0.00353	D1, D7	klh
1701099-02	C	PCB 1221	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00017	0.01	D1, D7	klh
1701099-02	C	PCB 1232	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00007	0.01	D1, D7	klh
1701099-02	C	PCB 1242	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00013	0.01	D1, D7	klh
1701099-02	C	PCB 1248	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00010	0.01	D1, D7	klh
1701099-02	C	PCB 1254	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00019	0.01	D1, D7	klh
1701099-02	C	PCB 1260	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00007	0.00353	D1, D7	klh
1701099-02	C	Total PCBs	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00016	0.01	D1, D7	klh
1701099-02	C	Toxaphene	01/13/17 6:00	EPA 625	1/25/17 15:14	**ND**	mg/kg dry	0.00094	0.03	D1, D7	klh
1701099-02	C	Methoxychlor	01/13/17 6:00	EPA 8270C	1/25/17 15:14	**ND**	mg/kg dry	0.00004	0.00177	D1, D7	klh
1701099-02	C	1,1,1-Trichloroethane	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0002	0.00066		SRM
1701099-02	C	1,1,2,2-Tetrachloroethane	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.00006	0.00066		SRM
1701099-02	C	1,1,2-Trichloroethane	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.00009	0.00066		SRM
1701099-02	C	1,1-Dichloroethane	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0002	0.00066		SRM
1701099-02	C	1,1-Dichloroethene	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0001	0.00066		SRM
1701099-02	C	1,2-Dichlorobenzene	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.00008	0.00066		SRM
1701099-02	C	1,2-Dichloroethane	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.00009	0.00066		SRM
1701099-02	C	1,2-Dichloropropane	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0001	0.00066		SRM
1701099-02	C	1,3-Dichlorobenzene	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.00008	0.00066		SRM
1701099-02	C	1,4-Dichlorobenzene	01/13/17 6:00	EPA 624	1/18/17 18:34	**0.342**	mg/kg dry	0.0002	0.00066		SRM
1701099-02	C	2-Chloroethyl vinyl ether	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0003	0.00131		SRM
1701099-02	C	Benzene	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0001	0.00066		SRM
1701099-02	C	Bromodichloromethane	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0002	0.00066		SRM
1701099-02	C	Bromoform	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0003	0.00066		SRM
1701099-02	C	Bromomethane	01/13/17 6:00	EPA 624	1/18/17 18:34	**0.197**	mg/kg dry	0.0001	0.00066		SRM
1701099-02	C	Carbon Tetrachloride	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0004	0.00066		SRM
1701099-02	C	Chlorobenzene	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.00006	0.00066		SRM
1701099-02	C	Chloroethane	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0002	0.00066		SRM
1701099-02	C	Chloroform	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0001	0.00066		SRM
1701099-02	C	Chloromethane	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0002	0.00066		SRM
1701099-02	C	cis-1,3-Dichloropropene	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.00009	0.00066		SRM
1701099-02	C	Dibromochloromethane	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.00006	0.00066		SRM
1701099-02	C	Ethyl Benzene	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.00009	0.00066		SRM
1701099-02	C	Methylene Chloride	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0002	0.00066		SRM
1701099-02	C	Tetrachloroethene	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0002	0.00066		SRM
1701099-02	C	Toluene	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0001	0.00066		SRM
1701099-02	C	Total Trihalomethanes	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0003	0.00066		SRM
1701099-02	C	trans-1,2-Dichloroethene	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0001	0.00066		SRM
1701099-02	C	trans-1,3-Dichloropropene	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0001	0.00066		SRM
1701099-02	C	Trichloroethene	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0001	0.00066		SRM
1701099-02	C	Trichlorofluoromethane	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0003	0.00066		SRM
1701099-02	C	Vinyl chloride	01/13/17 6:00	EPA 624	1/18/17 18:34	**ND**	mg/kg dry	0.0002	0.00066		SRM
1701099-02	C	1,2,4-Trichlorobenzene	01/13/17 6:00	EPA 8260	1/18/17 18:34	**ND**	mg/kg dry	0.0001	0.00066		SRM
1701099-02	C	1,2-Dibromo-3-chloropropane	01/13/17 6:00	EPA 8260	1/18/17 18:34	**ND**	mg/kg dry	0.00009	0.00131		SRM
1701099-02	C	1,2-Dibromoethane	01/13/17 6:00	EPA 8260	1/18/17 18:34	**ND**	mg/kg dry	0.0001	0.00066		SRM
1701099-02	C	cis-1,2-Dichloroethene	01/13/17 6:00	EPA 8260	1/18/17 18:34	**ND**	mg/kg dry	0.0002	0.00066		SRM
1701099-02	C	m,p-Xylenes	01/13/17 6:00	EPA 8260	1/18/17 18:34	**ND**	mg/kg dry	0.0002	0.00131		SRM
1701099-02	C	Methyl Ethyl Ketone	01/13/17 6:00	EPA 8260	1/18/17 18:34	**9.65**	mg/kg dry	0.0003	0.00066		SRM
1701099-02	C	o-Xylene	01/13/17 6:00	EPA 8260	1/18/17 18:34	**ND**	mg/kg dry	0.00008	0.00066		SRM
1701099-02	C	Styrene	01/13/17 6:00	EPA 8260	1/18/17 18:34	**ND**	mg/kg dry	0.00008	0.00066		SRM

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701099-02	C	Xylenes, total	01/13/17 6:00	EPA 8260	1/18/17 18:34	**ND**	mg/kg dry	0.0002	0.00131		SRM
1701099-02	C	2,3,7,8-TCDD - Dioxin Scan	01/13/17 6:00	EPA 625	1/26/17 13:34	**ND**	ug/kg dry		1.64		SJM
1701099-02	C	1,2,4-Trichlorobenzene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	2,3-Dichloroaniline	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701099-02	C	2,4,6-Trichlorophenol	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	2,4-Dichlorophenol	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701099-02	C	2,4-Dimethylphenol	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1701099-02	C	2,4-Dinitrophenol	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.009	0.02	D1, D7	SJM
1701099-02	C	2,4-Dinitrotoluene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701099-02	C	2,6-Dinitrotoluene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	2-Chloronaphthalene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	2-Chlorophenol	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	2-Methyl-4,6-dinitrophenol	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1701099-02	C	2-Methylphenol	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	2-Nitrophenol	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701099-02	C	3,3-Dichlorobenzidine	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701099-02	C	4-Bromophenyl phenyl ether	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	4-Chloro-3-methylphenol	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701099-02	C	4-Chlorophenyl phenyl ether	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	4-Methylphenol	01/13/17 6:00	EPA 625	1/23/17 17:20	**20.47**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	4-Nitrophenol	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1701099-02	C	Acenaphthene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	Acenaphthylene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	Anthracene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	Benzidine	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.007	0.01	D1, D7	SJM
1701099-02	C	Benzo[a]anthracene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	Benzo[a]pyrene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	Benzo[b]fluoranthene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	Benzo[ghi]perylene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701099-02	C	Benzo[k]fluoranthene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701099-02	C	bis(2-chloroethoxy)methane	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	bis(2-chloroethyl)ether	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701099-02	C	bis(2-chloroisopropyl)ether	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7, V1	SJM
1701099-02	C	bis(2-ethylhexyl)phthalate	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701099-02	C	Butylbenzylphthalate	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	Carbazole	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701099-02	C	Chrysene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	Dibenzo(a,h)anthracene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701099-02	C	Diethyl phthalate	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701099-02	C	Dimethyl phthalate	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1701099-02	C	Di-n-butyl phthalate	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701099-02	C	Di-n-octyl phthalate	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701099-02	C	Fluoranthene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	Fluorene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	Hexachlorobenzene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1701099-02	C	Hexachlorobutadiene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	Hexachlorocyclopentadiene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1701099-02	C	Hexachloroethane	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	Indeno(1,2,3-cd)pyrene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701099-02	C	Isophorone	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	Naphthalene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	n-Decane	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	Nitrobenzene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701099-02	C	N-Nitrosodimethylamine	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1701099-02	C	N-Nitrosodi-n-propylamine	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701099-02	C	N-Nitrosodiphenylamine	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.006	0.01	D1, D7	SJM
1701099-02	C	n-Octadecane	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701099-02	C	Pentachlorophenol	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1701099-02	C	Phenanthrene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	Phenol	01/13/17 6:00	EPA 625	1/23/17 17:20	**25.13**	mg/kg dry	0.003	0.01	D1, D7	SJM

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701099-02	C	Pyrene	01/13/17 6:00	EPA 625	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	1,2-Diphenylhydrazine	01/13/17 6:00	EPA 8270C	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	1,4-Dichlorobenzene	01/13/17 6:00	EPA 8270C	1/23/17 17:20	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701099-02	C	2,4,5-Trichlorophenol	01/13/17 6:00	EPA 8270C	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.03	D1, D7	SJM
1701099-02	C	3 & 4-Methylphenol	01/13/17 6:00	EPA 8270C	1/23/17 17:20	**24.0**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701099-02	C	Pyridine	01/13/17 6:00	EPA 8270C	1/23/17 17:20	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701099-02	C	Chlordane	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	1.38	3.00	N7	KLH
1701099-02	C	Endrin	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.200	0.50	N7	KLH
1701099-02	C	gamma-BHC (Lindane)	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.270	0.50	N7	KLH
1701099-02	C	Heptachlor	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.270	0.50	N7	KLH
1701099-02	C	Heptachlor Epoxide	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.290	0.50	N7	KLH
1701099-02	C	Methoxychlor	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.270	0.50	N7	KLH
1701099-02	C	Toxaphene	01/13/17 6:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	3.79	6.00	N7	KLH
1701099-02	C	1,1-Dichloroethene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:34	**NA**	ug/L	0.110	0.50	N7	SRM
1701099-02	C	1,2-Dichloroethane	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:34	**NA**	ug/L	0.0900	0.50	N7	SRM
1701099-02	C	1,4-Dichlorobenzene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:34	**NA**	ug/L	0.170	0.50	N7	SRM
1701099-02	C	Benzene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:34	**NA**	ug/L	0.110	0.50	N7	SRM
1701099-02	C	Carbon Tetrachloride	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:34	**NA**	ug/L	0.340	0.50	N7	SRM
1701099-02	C	Chlorobenzene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:34	**NA**	ug/L	0.0600	0.50	N7	SRM
1701099-02	C	Chloroform	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:34	**NA**	ug/L	0.140	0.50	N7	SRM
1701099-02	C	Hexachlorobutadiene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:34	**NA**	ug/L	0.230	0.50	N7	SRM
1701099-02	C	Methyl Ethyl Ketone	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:34	**NA**	ug/L	0.290	0.50	N7	SRM
1701099-02	C	Tetrachloroethene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:34	**NA**	ug/L	0.180	0.50	N7	SRM
1701099-02	C	Trichloroethene	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:34	**NA**	ug/L	0.130	0.50	N7	SRM
1701099-02	C	Vinyl chloride	01/13/17 6:00	TCLP/EPA 8260B	1/18/17 18:34	**NA**	ug/L	0.210	0.50	N7	SRM
1701099-02	C	1,4-Dichlorobenzene	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.37	2.00	N7	SJM
1701099-02	C	2,4,5-Trichlorophenol	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	2.46	10.00	N7	SJM
1701099-02	C	2,4,6-Trichlorophenol	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.14	5.00	N7	SJM
1701099-02	C	2,4-Dinitrotoluene	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.44	5.00	N7	SJM
1701099-02	C	2-Methylphenol	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.09	2.00	N7	SJM
1701099-02	C	3 & 4-Methylphenol	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.07	4.00	N7	SJM
1701099-02	C	Hexachlorobenzene	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	0.610	2.00	N7	SJM
1701099-02	C	Hexachlorobutadiene	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	0.880	2.00	N7	SJM
1701099-02	C	Hexachloroethane	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.09	2.00	N7	SJM
1701099-02	C	Nitrobenzene	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.84	5.00	N7	SJM
1701099-02	C	Pentachlorophenol	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	6.10	10.00	N7	SJM
1701099-02	C	Pyridine	01/13/17 6:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.55	2.00	N7	SJM
1701099-03	C	2,4-D	01/13/17 6:00	8151A	1/25/17 00:04	**NR**	ug/L	2.1	40	N1	AMB *
1701099-03	C	Silvex (2,4,5-TP)	01/13/17 6:00	8151A	1/25/17 00:04	**NR**	ug/L	1.7	10	N1	AMB *
* Analysis Performed by:TestAmerica Denver - See attached contract lab report for official results.											
1701099-03	C	Flashpoint	01/13/17 6:00	1020B	1/24/17 16:01	**>201**	Degrees F	72.0	72.0		AP *
* Analysis Performed by:TestAmerica Irvine - See attached contract lab report for official results.											
1701099-03	C	Sulfide	01/13/17 6:00	9034	1/19/17 19:13	**NR**	mg/Kg dry	280	280	N1	HTL *
* Analysis Performed by:TestAmerica Irvine - See attached contract lab report for official results.											
1701099-03	C	Cyanide, Total	01/13/17 6:00	9012B	1/27/17 18:29	**ND**	mg/Kg dry	72	140	E8, V1	SDL *
* Analysis Performed by:TestAmerica Nashville - See attached contract lab report for official results.											
1701099-03	C	pH	01/13/17 6:00	9045D	1/19/17 17:05	**6.9**	SU	1.7	1.7	H5	JCB *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1701099-03	C	Percent Solids	01/13/17 6:00	2540G	1/19/17 10:28	**1.4**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1701099-03	C	Percent Moisture	01/13/17 6:00	2540G	1/19/17 10:28	**98.6**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											

Plant Effluent (26107-7100)

1701083-01	D	Temperature	01/11/17 10:15	SM2550B	1/11/17 10:15	**24.6**	°C		0.10		SMPLR
1701083-01	D	pH	01/11/17 10:15	SM4500 H B	1/11/17 10:15	**7.4**	pH Units				SMPLR
1701083-01	D	Temp at time of pH, °C	01/11/17 10:15	SM4500 H B	1/11/17 10:15	**23.4**	°C				SMPLR
1701083-01	D	Ammonia	01/11/17 10:15	SM4500-NH3-D	1/12/17 10:50	**9.81**	mg/L	0.04	0.50		KMT
1701083-01	D	Mercury	01/11/17 10:15	EPA 245.7	1/23/17 10:15	**1.21**	ng/L	0.730	5.00	J	KKH

Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

1701029-01
EPA Method 624 and 8260 Volatiles.
Target analytes flagged with N1 failed the matrixspike percent recovery and the blank spike percent recovery for Benzene. The analyte was not detected in the samples.
MS/MSD RPD exceeded the method acceptance limit for Chloromethane and 1,2-Dichloropropane. Recovery met acceptance criteria.
Target analytes flagged with N1 failed the matrixspike for Carbon Tetrachloride from the same analytical batch but the spike was performed on a different sample.
The blank spike failed high but the associated matrix spike and CVS passed for 1,2-Dibrom-3-chloropropane. The analyte was not detected in the samples.
SRM 01/05/17

1701029-01
EPA Method 625 Semi-volatiles: Target analytes flagged with N1 failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. SJM 01/30/17

1701064-01
EPA Method 624 and 8260 Volatiles. MS/MSD RPD exceeded the method acceptance limit.
The blank spike failed high but the CVS passed. The analyte was not detected in the samples for 1,2 Dichloroethane, Benzene and Carbon Tetrachloride.
SRM 01/12/17

1701064-01
EPA Method 625 Semi-volatiles: Target analytes flagged with N1 failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. SJM 01/30/17

1701064-01
Method SM 5310C Total Organic Carbon: Not Analyzed, Sample Expired on 02/06/17, Analyst Error. CAB 02/21/17

1701099-01
1701099-02
1701099-04
EPA Methods 625 Pesticides: Target analytes flagged with N1 for this method failed the matrix spike RPD from the same extraction batch but the spike was performed on a different sample. KLH 01/26/17

Semi-Quantitation
Method: 625
1701099-02

Compound Name	Concentration-mg/Kg
N,N-Dimethyl-1-dodecanamine	267
Palmitic Acid	29423
Oleic Acid	41903
Stearic Acid	9629

SJM 02/03/17

Semi-Quantitation
Method: 625
1701099-01

Compound Name	Concentration-ug/L
Benzoic Acid	152
N,N-Dimethyl-1-dodecanamine	325
Palmitic Acid	16445
Oleic Acid	19448
Stearic Acid	6990

SJM 02/03/17

1701099-03
EPA 8151 Herbicides not extracted within specified holding time. Results not reported. JD 2/27/17

1701099-03
EPA 9034 Cyanide not analyzed within specified holding time. Results not reported. JD 2/27/17

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1701099-02

PROJECT & LOCATION: Agua Nueva WRF - Thickened Sludge Pump (Annual)

PROJECT-LOCATION NUMBER: 26107-0600 (XXXXX-XXXX)

SAMPLE START DATE: 01-12-2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0600 (Military time)

CLIENT: IWC

SAMPLE END DATE: 01-13-2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0600 (Military time)

SAMPLER(S): Silva, Echanove, Riccaboni, Martinez (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ■ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Hardness				
Iron				
Lead				
Magnesium				
Manganese				
Mercury	×			■
Mercury LL				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Thallium				
Tin				

METALS	Tot	Diss	D	C
Titanium				
Vanadium				
Zinc				
PPMs *	×			■
TCLP Metals				■
503 Metals **				■
Dissolved Cr+6				

WET METHODS	D	C
Ammonia as N		
Chloride GOS per MS		
~~Cyanide, Total~~		■
Cyanide, Amenable 01-13-17		
Fluoride		
Ignitability		
Nitrate as N		
Nitrite as N		
Nitrate/Nitrite as N		
Nitrogen, Total Kjeldahl		
Nitrogen, Total as N		
Orthophosphate as P		
Phosphorus, Total as P		
Sulfate		
Sulfide		
Other		
Other		

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	
Dioxin GC/SIM/MS Scan		■
Organochlorine Pesticides & PCBs		■
Purgeable Organics (GCMS)	■	
Semivolatile Organics (GCMS)		■
Bis(2-ethylhexyl) phthalate		
Digester Gas		
Oil and Grease		
Organic Carbon, Total		
Organic Carbon, Dissolved		
TCLP Herbicides (Contract Lab)		
TCLP Pesticides		■
TCLP Semivolatile Organics		■
TCLP Volatile Organics	■	
TTHM		
Total Petroleum Hydrocarbons		
Volatile Acids		
Other		
Other		

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*		
Chronic *C. dubia*		
Chronic *Selenastrum capricornutum*		
Other		

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity		
BOD		
COD		
Coliform, Fecal		
Coliform, Total		
Specific Conductance		
E. coli		
Oxygen, Dissolved		
pH		
Solids, Total		■
Solids, Total Dissolved		
Solids, Total Suspended		
Solids, Total Volatile		
Solids, Volatile Suspended		
Other		

OTHER

	D	C
Paint Filter		

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions: The lab shall composite the four discrete Purgeable Organics and Acrolein/Acrylonitrile samples.

Septum Blank Prep Date & Initials: 12-13-2016 lej

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	Riccaboni	1-12-17	1600
Relinquished by:	Received by:	Date:	Time: (Military time)
Riccaboni	Refrigerator	1-13-17	0230
Relinquished by:	Received by:	Date:	Time: (Military time)
Refrigerator	[signature]	1-13-17	0600
Relinquished by:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	01-13-17	0939
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: GOS 01-13-17 11 (10) GOS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 4 °C

Initials: GOS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒		
Sample labels match Chain of Custody?	☒		
Correct number of sample bottles were delivered?	☒		
Custody seals intact?			☒
Within holding time?	☒		
Sufficient sample volume for analysis?	☒		
Samples are in properly preserved containers?	☒		
Sample containers damaged/leaking/frozen?		☒	
40 ml vials headspace, > pea-sized air bubble?		☒	
Received from a refrigerator?		☒	

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1701099-03

PROJECT & LOCATION: Agua Nueva WRF - Thickened Sludge Pump (Annual)

PROJECT-LOCATION NUMBER: 26107-0600 (XXXXX-XXXX)

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CLIENT: IWC

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SAMPLE END TIME: 0600 (Military time)

SAMPLER(S): Silva, Echanove, Riccaboni, Martinez (Print Last Name(s) Only)

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Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	☐	☐	☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total (contract)	☐	■
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability (contract)	☐	■
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide (contract)	☐	■
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	■
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total (contract)	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
Corrosivity pH (contract)	☐	■
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ ° C
☐ Temperature *SM 2550 B*		° C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions: All samples sent to Test America COS 01-13-17 COC#17-20362

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Riccaboni Jr.		1-12-17	1600
Riccaboni Jr.	Refrigerator	1-13-17	0230
Refrigerator		1-13-17	0600
		01-13-17	0939
		1/13/17	1528

Sample Integrity/Preservation:

# of Bottles Delivered: 01-13-17 COS 5 COS 6 COS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 4 °C

Initials: COS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2

Revised: 03/12/2015

PIMA COUNTY
WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

NOTIFICATION

LABORATORY ID:	1701099-03
SAMPLE DATE/TIME:	1-13-17 / 0600
SAMPLE PERMIT NAME:	Agua Nueva WRF
SAMPLE LOCATION NAME:	Thickened Sludge Pump (Quarterly Sampling/Annual Reporting)
PERMIT TYPE:	AZPDES
FACILITY/LOCATION ID:	26107-0600
PARAMETER:	TCLP Herbicides and Sulfide
ANALYSIS DATE:	Not applicable
ANALYSIS RESULT:	Not applicable
LIMIT:	Not applicable
COMMENTS:	Sample was not extracted (TCLP Herbicides) or analyzed (Sulfides) within specified holding times.

☐ **Not Analyzed** ☑ **Not Reported**

SUBMITTED BY: Test America — ANALYST — 1-15-17 DATE

REVIEWED BY: Nancy Powell — UNIT SUPERVISOR — 1-15-17 DATE

☐ Laboratory Director Review

Audit Pending?
☐ Yes ☐ No

QA Audit Number:

xc: Permit_Testing_Notification@pima.gov

* This form must be submitted for any Not Analyzed or Not Reported sample.

QA-33 Not Analyzed Not Reported Notification Form 9-14-16 Rev 0

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
WATER QUALITY
SAMPLE COLLECTION REPORT

SAMPLE LOCATION: Agua Nueva WRF – Thickened Sludge Pump LIMS: 1701099-02+03
LOCATION ID: 26107 – 0600 SAMPLERS: Silva, Echanove, Riccaboni, Martinez SAMPLE DATE: 1-13-17
Last names only, primary sampler first

Sample D or C	Parameter	Frequency	AUTO MAN	Volume Submitted	Bottle/Preservation
C	Semivolatile Organics	Hand Composite 4 Aliquots for the duration of the discharge	Man	1000 ml	Amber Glass/None/Ice
C	Organochlorine Pest & PCB's		Man	1000 ml	Amber Glass/None/Ice
C	Dioxin		Man	1000 ml	Amber Glass/None/Ice
C	Priority Pollutant & 503 Metals		Man	1000 ml	Dissolved Metals/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
C	TCLP Metals		Man	1000 ml	Dissolved Metals/None/Ice
C	TCLP Pesticides		Man	1000 ml	Amber Glass/None/Ice
C	TCLP Semivolatile organics		Man	1000 ml	Amber Glass/None/Ice
To be Composited by the Laboratory					
D	Purgeable Organics	Hand Composite 4 Aliquots for the duration of the discharge	Man	4 X 40	None/Ice
D	Acrolein/Acrylonitrile		Man	4 X 40	None/Ice
D	TCLP Volatile Organics		Man	4 X 40	None/Ice
To be Submitted to an Outside Laboratory					
C	Corrosivity pH	Hand Composite 4 Aliquots for the duration of the discharge	Man	1000 ml	General Purpose/None/Ice
C	Sulfide (T)		Man	1000 ml	Dissolved Metals/None/Ice
C	Ignitability		Man	1000 ml	Amber Glass/None/Ice
C	Cyanide (T)		Man	1000 ml	Dissolved Metals/None/Ice
C	TCLP Herbicides		Man	1000 ml	Amber Glass/None/Ice
C	Total Solids		Man	1000 ml	None/Ice

@ 1-10-17 1 bottle

Need 16 L total
Pull 4 L per aliquot

		Time
Aliquot #1	1-12-17	0815
Aliquot #2	1-12-17	1220
Aliquot #3	1-12-17	1800
Aliquot #4	1-13-17	0020

Comments:	Thickened Sludge Pump samples are not preserved.
	All Composites including Cyanide can be poured off at the end of the sampling event
	Two Total Solids samples are required. One for our lab, one for the contract lab

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Biosolids	☐ 1 week			
Site: TR and AN	☐ 2 days			Job / SDG No.:
P O # 17-20362	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry	pH/corrosivity	Ignitability	TCLP herbicides	Sulfide mg/kg	Sample Specific Notes:
Agua Nueva WRF - thickened sludge 26107-0600														
1701099-03	1/13/2017	0600	Comp	BS	5	N		1	1	1	1	1		BS - biosolids
Tres Rios WRF - dewatered cake 20001-5703														
1701100-02	1/13/17	0600	Comp	BS	5	N		1	1	1	1	1		

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☐Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	PC CRAO	01-13-17/1331	[signature]	PC CRAO	01-13-17 / 1331
Relinquished by: [signature]	Company: GS 01-13-17 PC ~~EA~~ CRAO	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY

WASTEWATER RECLAMATION

COPY

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1701099-03, 1701100-02**	**DO**	**17-20362**
CONTRACT LAB	**TestAmerica PHX, IRV, NASH, DEV**	**SAMPLE GROUP**	**Biosolids**
ANALYSES	**CN^-, Ignitability, Sulfide, TCLP Herbicides, %TS, pH**	**REPORT ID**	**550-75871-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	N/A
DO received in Pima Core?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	N/A
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times? (*See page 2)	Y/N*
Check that MDLs are below water quality standards, If not notify Tom Berry? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	N/A
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	N/A
Was Tom Berry notified of any exceedences?	N/A
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	N/A
Report states if zeolite treatment was utilized?	N/A
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	N/A
Chemistry data included?	N/A
Reference Toxicant Test Results and Control Chart within limits?	N/A

PMSD Determination included and within acceptable range? (minimum acceptable= 13)	N/A
End Points include TUc, NOEC, LOEC, and IC25?	N/A
Statistics verify endpoints	N/A
Control Charts Updated to include month of analysis	N/A

Reviewer Initials:	JD	**Review Date:**	02-22-17

PEER/FINAL REVIEW:	PR	FR
LIMS/Excel data matches printed CL report?	✓	
Analysis dates are correct?	✓	
Correct Data Qualifiers included if necessary.	✓	
CRAO report shows result is from Contract Lab?	✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?	✓	
DO received in Pima Core	✓	
Analysis set to Reported?		

Peer Reviewer Initials:	TD	**Review Date:**	3-6-17
Biomonitor Supervisor Initials:	NA		NA
Final Reviewer Initials:	BAE	**Review Date:**	03/06/17

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	DEVIATION:	CORRECTIVE ACTION:
*1701099-03	EPA 8151A Extraction exceeded hold time	Reported as NR
*1701099-03	EPA 9034 Analysis exceeded hold time	Reported as NR

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.*
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

QA-18 SubcontractDataCheclist-Reports Rev 15
Effective 12/30/15

Page 2 of 2

1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-75871-1
TestAmerica Sample Delivery Group: TR and AN
Client Project/Site: Biosolids

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Nancy Powell

Authorized for release by:
2/15/2017 2:40:18 PM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

3

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.

General Chemistry

Qualifier	Qualifier Description
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
V1	CCV recovery was above method acceptance limits. The analyte was not detected in the sample.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Job ID: 550-75871-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-75871-1

Comments
No additional comments.

Receipt
The samples were received on 1/13/2017 4:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.4° C.

Receipt Exceptions

Method(s) 8151A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 490-405739 and analytical batch 490-405912.

Method(s) 8151A: The following sample was extracted outside of analytical holding time due to laboratory error: 1701099-03 (550-75871-3). The matrix was changed at some point and the status was not set correctly when the sample arrived, so the extraction group backlog did not indicate that the sample was available for extraction. Analysis cancelled per client request.

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

General Chemistry
Method(s) 9012A, 9012B, SM 4500 CN E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Cyanide, Total preparation batch 280-359104 and analytical batch 280-359144 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 9034: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 440-383250 and analytical batch 440-383299 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS/LCSD) recoveries was within acceptance limits.

Method(s) 9034: The following sample was analyzed outside of holding time due to the matrix changed at some point and the status was not set correctly when the sample arrived, 1701099-03 (550-75871-3). Analysis cancelled per client request.

Method(s) 9012B: The distilled continuing calibration blank (CCV) for preparation batch 490-403961 and analytical batch 490-404236 recovered outside control limits for the following analytes: Cyanide, Total. These analytes were biased high in the CCV and were not detected in the associated samples; therefore, the data has been reported.

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

Organic Prep

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

Sample Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-75871-1	1701099-03	Water	01/13/17 06:00	01/13/17 16:55
550-75871-2	1701100-02	Solid	01/13/17 06:00	01/13/17 16:55
550-75871-3	1701099-03	Solid	01/13/17 06:00	01/13/17 16:55

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Detection Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Client Sample ID: 1701099-03 — Lab Sample ID: 550-75871-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>201		72.0	72.0	Degrees F	1		1020B	Total/NA

Client Sample ID: 1701100-02 — Lab Sample ID: 550-75871-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ignitability	Non-Ignitable				NONE	1		1030	Total/NA
Cyanide, Total	2.0	E4	3.5	0.72	mg/Kg	1	☼	9012B	Total/NA
Sulfide	720	M2	280	280	mg/Kg	1	☼	9034	Total/NA
pH	7.0	H5	1.7	1.7	SU	1		9045D	Soluble

Client Sample ID: 1701099-03 — Lab Sample ID: 550-75871-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	6.9	H5	1.7	1.7	SU	1		9045D	Soluble

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Client Sample ID: 1701099-03

Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>201		72.0	72.0	Degrees F			01/24/17 16:01	1

Client Sample ID: 1701100-02

Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-2
Matrix: Solid

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Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND	E8 R4	40	2.1	ug/L		01/19/17 16:25	01/25/17 00:04	1
Silvex (2,4,5-TP)	ND	E8 R4	10	1.7	ug/L		01/19/17 16:25	01/25/17 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*63*		*10 - 131*	*01/19/17 16:25*	*01/25/17 00:04*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ignitability	Non-Ignitable				NONE			01/16/17 18:00	1
Percent Moisture	85.5		0.1	0.1	%			01/16/17 14:38	1
Percent Solids	14.5		0.1	0.1	%			01/16/17 14:38	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0	H5	1.7	1.7	SU			01/19/17 17:05	1

Client Sample ID: 1701100-02

Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-2
Matrix: Solid
Percent Solids: 14.5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	2.0	E4	3.5	0.72	mg/Kg	☼	01/17/17 17:22	01/17/17 22:44	1
Sulfide	720	M2	280	280	mg/Kg	☼	01/19/17 15:39	01/19/17 19:13	1

Client Sample ID: 1701099-03

Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-3
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	98.6		0.1	0.1	%			01/19/17 10:28	1
Percent Solids	1.4		0.1	0.1	%			01/19/17 10:28	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.9	H5	1.7	1.7	SU			01/19/17 17:05	1

Client Sample Results

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Client Sample ID: 1701099-03
Date Collected: 01/13/17 06:00
Date Received: 01/13/17 16:55

Lab Sample ID: 550-75871-3
Matrix: Solid
Percent Solids: 1.4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8 V1	140	72	mg/Kg	☼	01/27/17 10:47	01/27/17 18:29	1

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TestAmerica Phoenix

2/15/2017

Certification Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Laboratory: TestAmerica Phoenix

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arizona	State Program	9	AZ0728	06-09-17

Analysis Method	Prep Method	Matrix	Analyte

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-20-17
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16 *
Connecticut	State Program	1	PH-0686	09-30-18
Florida	NELAP	4	E87667	06-30-17
Georgia	State Program	4	N/A	01-08-18
Illinois	NELAP	5	200017	04-30-17
Iowa	State Program	7	370	11-30-16 *
Kansas	NELAP	7	E-10166	04-30-17
Louisiana	NELAP	6	02096	06-30-17
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-17 *
Nevada	State Program	9	CO0026	07-31-17
New Hampshire	NELAP	1	205310	04-28-17
New Jersey	NELAP	2	CO004	06-30-17
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-17
North Dakota	State Program	8	R-034	01-09-17 *
Oklahoma	State Program	6	8614	08-31-17
Oregon	NELAP	10	4025	01-08-18
Pennsylvania	NELAP	3	68-00664	07-31-17
South Carolina	State Program	4	72002001	01-09-17 *
Texas	NELAP	6	T104704183-16-12	09-30-17
USDA	Federal		P330-16-00397	12-15-19
Utah	NELAP	8	CO00026	07-31-17
Virginia	NELAP	3	460232	06-14-17
Washington	State Program	10	C583	08-02-17
West Virginia DEP	State Program	3	354	11-30-17
Wisconsin	State Program	5	999615430	08-31-17
Wyoming (UST)	A2LA	8	2907.01	10-31-17

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-14-17

* Certification renewal pending - certification considered valid.

Certification Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Laboratory: TestAmerica Irvine (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
California	LA Cty Sanitation Districts	9	10256	06-30-18
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 16-001r	01-23-17 *
Hawaii	State Program	9	N/A	01-29-17 *
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312016-2	07-31-17
New Mexico	State Program	6	N/A	01-29-17 *
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-17 *
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-17
A2LA	ISO/IEC 17025		0453.07	12-31-17
Alaska (UST)	State Program	10	UST-087	07-24-17
Arizona	State Program	9	AZ0473	05-05-17
Arkansas DEQ	State Program	6	88-0737	04-25-17
California	State Program	9	2938	10-31-18
Connecticut	State Program	1	PH-0220	12-31-17
Florida	NELAP	4	E87358	06-30-17
Georgia	State Program	4	N/A	12-31-17
Illinois	NELAP	5	200010	12-09-17
Iowa	State Program	7	131	04-01-18
Kansas	NELAP	7	E-10229	10-31-17
Kentucky (UST)	State Program	4	19	06-30-17
Kentucky (WW)	State Program	4	90038	12-31-17
Louisiana	NELAP	6	30613	06-30-17
Maine	State Program	1	TN00032	11-03-17
Maryland	State Program	3	316	03-31-18
Massachusetts	State Program	1	M-TN032	06-30-17
Minnesota	NELAP	5	047-999-345	12-31-17
Mississippi	State Program	4	N/A	06-30-17
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-17
New Hampshire	NELAP	1	2963	10-09-17
New Jersey	NELAP	2	TN965	06-30-17
New York	NELAP	2	11342	03-31-17
North Carolina (WW/SW)	State Program	4	387	12-31-17
North Dakota	State Program	8	R-146	06-30-17
Ohio VAP	State Program	5	CL0033	07-10-17
Oklahoma	State Program	6	9412	08-31-17
Oregon	NELAP	10	TN200001	04-27-17
Pennsylvania	NELAP	3	68-00585	06-30-17
Rhode Island	State Program	1	LAO00268	12-30-17
South Carolina	State Program	4	84009 (001)	02-18-17 *
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17

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* Certification renewal pending - certification considered valid.

TestAmerica Phoenix

Certification Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Laboratory: TestAmerica Nashville (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Tennessee	State Program	4	2008	02-23-17 *
Texas	NELAP	6	T104704077	08-31-17
USDA	Federal		P330-13-00306	12-01-19
Utah	NELAP	8	TN00032	07-31-17
Virginia	NELAP	3	460152	06-14-17
Washington	State Program	10	C789	07-19-17
West Virginia DEP	State Program	3	219	02-28-18
Wisconsin	State Program	5	998020430	08-31-17
Wyoming (UST)	A2LA	8	453.07	12-31-17

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* Certification renewal pending - certification considered valid.

Method Summary

Client: Pima County WWTP
Project/Site: Biosolids

TestAmerica Job ID: 550-75871-1
SDG: TR and AN

Method	Method Description	Protocol	Laboratory
8151A	Herbicides (GC)	SW846	TAL DEN
1020B	Ignitability, Small Scale Closed-Cup Method	SW846	TAL IRV
1030	Ignitability, Solids	SW846	TAL PHX
2540G	SM 2540G	SM22	TAL PHX
9012B	Cyanide, Total andor Amenable	SW846	TAL NSH
9012B	Cyanide, Total andor Amenable	SW846	TAL DEN
9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL IRV
9045D	pH	SW846	TAL PHX

Protocol References:

SM22 = SM22

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

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Chain of Custody Record

75871

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Biosolids	☐ 1 week			Job / SDG No.:
Site: TR and AN	☐ 2 days			
P O # 17-20362	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry	pH/corrosivity	Ignitability	TCLP herbicides	Sulfide mg/kg	Sample Specific Notes:
Agua Nueva WRF - thickened sludge 26107-0600 1701099-03	1/13/2017	0600	Comp	BS	5	N		1	1	1	1	1		-01 BS - biosolids
Tres Rios WRF - dewatered cake 20001-5703 1701100-02	1/13/17	0600	Comp	BS	5	N		1	1	1	1	1		-02

550-75871 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☐Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:
0.4°C on ice

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company: PC CRAO	Date/Time: 01-13-17/1331	Received by:	Company: PC CRAO	Date/Time: 01-13-17 / 1331
Relinquished by:	Company: PC CRAO	Date/Time: 1528	Received by:	Company: TAL	Date/Time: 1/13/17 1528
Relinquished by:	Company: TAL	Date/Time: 1/13/17 1655	Received in Laboratory by:	Company: TA	Date/Time: 1/13/17 16:55

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler	Lab PM: Eshelman, Linda	Carrier Tracking No(s)	COC No: 550-15886.1
Client Contact: Shipping/Receiving	Phone	E-Mail: linda.eshelman@testamericainc.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-75871-1
Address: 4955 Yarrow Street,	Due Date Requested: 1/20/2017			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #			
Email	WO #			
Project Name: Biosolids	Project #: 55001656			
Site	SSOW#			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8151A/1311_T TCLP 8151	9012B/9012B_Prep	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
1701100-02 (550-75871-2)	1/13/17	06:00 Arizona		Solid			X	X	1	AZ

550-75871 Chain of Custody

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*			**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)** ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months		
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2		Special Instructions/QC Requirements:		
Empty Kit Relinquished by:	Date	Time	Method of Shipment		
Relinquished by: 01-16-17	Date/Time: 12:00	Company: TAB	Received by:	Date/Time: 1-17-17 0955	Company: TAD
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.		Cooler Temperature(s) °C and Other Remarks: 3.4 IRS C+-0.C transferred SPL 1-17-17		

TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)

Client Contact: Shipping/Receiving
Company: TestAmerica Laboratories, Inc
Address: 17461 Derian Ave, Suite 100,
City: Irvine
State, Zip: CA, 92614-5817
Phone: 949-261-1022(Tel) 949-260-3297(Fax)
Email:
Project Name: Biosolids
Site:

Sampler:
Phone:
Due Date Requested: 1/23/2017
TAT Requested (days):
PO #:
WO #:
Project #: 55001656
SSOW#:

Lab PM: Eshelman, Linda
E-Mail: linda.eshelman@testamericainc.com
Carrier Tracking No(s):
State of Origin: Arizona
Accreditations Required (See note): State Program - Arizona

COC No: 550-15888.1
Page: Page 1 of 1
Job #: 550-75871-1

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1020B	SM4500_S2_D/ Sulfide, Total	9034_Calc/9030B	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
1701099-03 (550-75871-1)	1/13/17	06:00 Arizona		Water			X	X		2	
1701100-02 (550-75871-2)	1/13/17	06:00 Arizona		Solid					X	1	AZ spl please manually qualify source spls when needed (M & R).

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time: Method of Shipment: Fed: 6715 9621 8544

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[illegible signature]	01-16-17 17:00	TAA	[illegible signature]	1/17/17 9:30	TAA

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: (CS) 4.7/4.4 IR-77

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 06/02/2017
Laboratory License: AZO159

Sample Analysis Report

Agua Nueva WRF

March 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

6·13·17
Date

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
Thickened Sludge Pump (26107-0600)											
1703077-01	C	Sulfide	03/10/17 5:00	9034	3/16/17 15:06	**2300**	mg/Kg dry	2300	2300		HTL *
* Analysis Performed by:TestAmerica Irvine - See attached contract lab report for official results.											
1703077-01	C	2,4-D	03/10/17 5:00	8151A	3/17/17 21:19	**ND**	ug/L	50	100	E8	JML *
1703077-01	C	Silvex (2,4,5-TP)	03/10/17 5:00	8151A	3/17/17 21:19	**ND**	ug/L	50	100	E8	JML *
* Analysis Performed by:TestAmerica Nashville - See attached contract lab report for official results.											
1703077-01	C	Percent Solids	03/10/17 5:00	2540G	3/14/17 10:19	**1.8**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1703077-01	C	Percent Moisture	03/10/17 5:00	2540G	3/14/17 10:19	**98.2**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
Chlorinated Effluent (26107-7000)											
1703026-01	D	Nitrate/Nitrite	03/03/17 10:07	EPA 353.2	3/7/17 12:18	**1.94**	mg/L	0.02	0.20		DML
1703026-01	D	Total Kjeldahl Nitrogen	03/03/17 10:07	EPA 351.2	3/6/17 11:37	**2.66**	mg/L	0.52	0.80		KKH
1703026-01	D	Nitrogen Total Water	03/03/17 10:07	Calculated	3/7/17 12:18	**4.60**	mg/L	0.52	0.80		KKH
Plant Effluent (26107-7100)											
1703061-01	D	Temperature	03/08/17 8:30	SM2550B	3/8/17 08:30	**22.8**	°C		0.10		SMPLR
1703061-01	D	pH	03/08/17 8:30	SM4500 H B	3/8/17 08:30	**7.2**	pH Units				SMPLR
1703061-01	D	Temp at time of pH, °C	03/08/17 8:30	SM4500 H B	3/8/17 08:30	**22.5**	°C				SMPLR
1703061-01	D	Ammonia	03/08/17 8:30	SM4500-NH3-D	3/16/17 11:12	**1.41**	mg/L	0.04	0.50		KMT
1703061-01	D	Mercury	03/08/17 8:30	EPA 245.7	3/13/17 11:05	**1.26**	ng/L	0.730	5.00	J	KMT
1703061-01	D	Sulfide	03/08/17 8:30	Hach 8131	3/9/17 11:21	**0.004**	mg/L	0.003	0.100	J	KMT
1703061-01	D	Oil & Grease	03/08/17 8:30	EPA 1664B	3/28/17 15:08	**1.28**	mg/L	1.25	4.65	J	JOB
1703061-02	FB	Mercury	03/08/17 8:30	EPA 245.7	3/13/17 11:02	**ND**	ng/L	0.730	5.00		KMT
1703061-03	C	Nitrate/Nitrite	03/08/17 9:00	EPA 353.2	3/13/17 12:22	**4.14**	mg/L	0.02	0.20		DML
1703061-03	C	Total Kjeldahl Nitrogen	03/08/17 9:00	EPA 351.2	3/19/17 10:21	**4.15**	mg/L	0.52	0.80		MGA
1703061-03	C	Nitrogen Total Water	03/08/17 9:00	Calculated	3/19/17 10:21	**8.29**	mg/L	0.52	0.80		MGA
1703061-03	C	Selenium	03/08/17 9:00	EPA 200.8	4/6/17 13:59	**ND**	ug/L	0.75	1.00		JB
1703149-01	D	Temperature	03/21/17 10:25	SM2550B	3/21/17 10:25	**26.0**	°C		0.10		SMPLR
1703149-01	D	pH	03/21/17 10:25	SM4500 H B	3/21/17 10:25	**7.4**	pH Units				SMPLR
1703149-01	D	Temp at time of pH, °C	03/21/17 10:25	SM4500 H B	3/21/17 10:25	**25.8**	°C				SMPLR
1703149-01	D	Ammonia	03/21/17 10:25	SM4500-NH3-D	4/7/17 13:57	**1.63**	mg/L	0.04	0.50		KMT
Well SC-01R (26107-9009)											
1703042-01	D	Calcium	03/06/17 10:30	EPA 200.7	3/16/17 10:41	**91.6**	mg/L	0.08	4.00		MLB
1703042-01	D	Hardness	03/06/17 10:30	SM 2340B	3/16/17 10:41	**278**	mg/L	0.19	9.99		MLB
1703042-01	D	Magnesium	03/06/17 10:30	EPA 200.7	3/16/17 10:41	**11.8**	mg/L	0.01	2.00		MLB
1703042-01	D	Nitrate	03/06/17 10:30	Calculated	3/7/17 13:05	**10.6**	mg/L	0.02	0.20		KKH
1703042-01	D	Nitrate/Nitrite	03/06/17 10:30	EPA 353.2	3/7/17 13:05	**10.6**	mg/L	0.02	0.20		DML
1703042-01	D	Nitrite	03/06/17 10:30	SM4500-NO2 B	3/7/17 12:14	**ND**	mg/L	0.02	0.20		KKH
1703042-01	D	Total Kjeldahl Nitrogen	03/06/17 10:30	EPA 351.2	3/9/17 11:21	**ND**	mg/L	0.52	0.80		DML
1703042-01	D	Nitrogen Total Water	03/06/17 10:30	Calculated	3/9/17 11:21	**10.6**	mg/L	0.52	0.80		DML
1703042-01	D	Sodium	03/06/17 10:30	EPA 200.7	3/16/17 10:41	**184**	mg/L	1.17	4.00		MLB
1703042-01	D	Coliform, Total	03/06/17 10:30	SM 9223B	3/7/17 13:46	**Absence**	CFU/100 ml				JGB
1703042-01	D	Total Dissolved Solids	03/06/17 10:30	SM 2540C	3/8/17 12:53	**813**	mg/L		10.00		CJF
1703042-01	D	Total Organic Carbon	03/06/17 10:30	SM 5310C	3/22/17 11:42	**0.83**	mg/L	0.52	1.00	J	CAB
Well SC-02R (26107-9029)											
1703018-01	D	Calcium	03/02/17 12:00	EPA 200.7	3/9/17 16:06	**108**	mg/L	0.08	4.00		MLB
1703018-01	D	Hardness	03/02/17 12:00	SM 2340B	3/9/17 16:06	**332**	mg/L	0.19	9.99		MLB
1703018-01	D	Magnesium	03/02/17 12:00	EPA 200.7	3/9/17 16:06	**15.3**	mg/L	0.01	2.00		MLB
1703018-01	D	Nitrate	03/02/17 12:00	Calculated	3/3/17 14:47	**0.48**	mg/L	0.02	0.20		KKH
1703018-01	D	Nitrate/Nitrite	03/02/17 12:00	EPA 353.2	3/3/17 14:47	**0.48**	mg/L	0.02	0.20		DML
1703018-01	D	Nitrite	03/02/17 12:00	SM4500-NO2 B	3/2/17 15:16	**ND**	mg/L	0.02	0.20		KKH
1703018-01	D	Total Kjeldahl Nitrogen	03/02/17 12:00	EPA 351.2	3/6/17 11:27	**ND**	mg/L	0.52	0.80		KKH

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1703077-01

PROJECT & LOCATION: Agua Nueva WRF - Thickened Sludge Pump (Quarterly)

PROJECT-LOCATION NUMBER: 26107-0600 (XXXXX-XXXX)

SAMPLE START DATE: 03-09-2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0500 (Military time)

CLIENT: IWC

SAMPLE END DATE: 03-10-2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0500 (Military time)

SAMPLER(S): Silva, Echanove, Riccaboni, Martinez (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ■ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury			☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *			☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide (contract)	☐	■
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	■
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total (contract)	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ ° C
☐ Temperature *SM 2550 B*		° C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
Re sample All sent to Test America COJ
03-10-17 PO#17-26384

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	3-9-17	1500
Relinquished by:	Received by:	Date:	Time: (Military time)
[signature]	Refrigerator	3.10.17	0100
Relinquished by:	Received by:	Date:	Time: (Military time)
Refrigerator	[signature]	3.10.17	0600
Relinquished by:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	03-10-17	0820
Relinquished by:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	3-10-17	1246

Sample Integrity/Preservation:

# of Bottles Delivered: 3 COJ

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 3 °C

Initials: COJ

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
WATER QUALITY
SAMPLE COLLECTION REPORT

SAMPLE LOCATION: Agua Nueva WRF – Thickened Sludge Pump LIMS: 1703077-01
LOCATION ID: 26107 – 0600 SAMPLERS: Silva, Echanove SAMPLE DATE: 3-10-17
Last names only, primary sampler first
Riccaboni, Martinez

Sample D or C	Parameter	Frequency	AUTO MAN	Volume Submitted	Bottle/Preservation
C		Hand Composite	Man	1000 ml	Amber Glass/None/Ice
C			Man	1000 ml	Amber Glass/None/Ice
C			Man	1000 ml	Amber Glass/None/Ice
C			Man	1000 ml	Dissolved Metals/None/Ice
		4 Aliquots for the duration of the discharge			
C			Man	1000 ml	General Purpose/None/Ice
C			Man	1000 ml	Dissolved Metals/None/Ice
C			Man	1000 ml	Amber Glass/None/Ice
C			Man	1000 ml	Amber Glass/None/Ice
To be Composited by the Laboratory					
D		Hand Composite	Man	4 X 40	None/Ice
D			Man	4 X 40	None/Ice
D		4 Aliquots for the duration of the discharge	Man	4 X 40	None/Ice
To be Submitted to an Outside Laboratory					
C		Hand Composite	Man	1000 ml	General Purpose/None/Ice
C	Sulfide (T)		Man	1000 ml	Dissolved Metals/None/Ice
C			Man	1000 ml	Amber Glass/None/Ice
C		4 Aliquots for the duration of the discharge	Man	1000 ml	Dissolved Metals/None/Ice
C	TCLP Herbicides		Man	1000 ml	Amber Glass/None/Ice
C	Total Solids		Man	1000 ml	None/Ice

	Time
Aliquot #1	3-9-17 @ 0505
Aliquot #2	3-9-17 @ 1105
Aliquot #3	3-9-17 @ 1705
Aliquot #4	3/9/17 @ 2305

Comments:	Thickened Sludge Pump samples are not preserved.
	All Composites including Cyanide can be poured off at the end of the sampling event
	Two Total Solids samples are required. One for our lab, one for the contract lab

TestAmerica Phoenix
4625 East Cotton Center Boulevard
Suite 189
Phoenix, AZ 85040-4807
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax:	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6016 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 or 6071 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Agua Nueva biosolids	☐ 1 week			
Site: Agua Nueva	☐ 2 days			Job / SDG No.:
P O # 17-26384	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Sulfide mg/kg	Total % solids for mg/kg dry	TCLP herbicides	Sample Specific Notes:
Agua Nueva WRF - thickened sludge pump 26107-0600											
1703077-01	3/10/17	0500	Comp	BS	3			1	1	1	BS- solids

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

5.3°C

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company: PC CRAO	Date/Time: 031017/0820	Received by:	Company: PC CRAO	Date/Time: 031017/0820
Relinquished by:	Company: PC CRAO	Date/Time: 031017/1246	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 3-10-17 1244

Form No. CA-C-WI-002, Rev. 4.11, dated 1/24/2017

PIMA COUNTY
WASTEWATER RECLAMATION
COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1703077-01**	**DO**	**17-26384**
CONTRACT LAB	**TestAmerica PHX, Nash, IRV**	**SAMPLE GROUP**	**Agua Nueva biosolids**
ANALYSES	**TCLP Herb, %TS, Sulfide**	**REPORT ID**	**550-79012-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	NA
DO received in Pima Core?	NA
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	NA
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	NA
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	Y
Was Belinda Gamboa-Felix notified of any exceedences?	NA
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	NA
Report states if zeolite treatment was utilized?	NA
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	NA
Chemistry data included?	NA
Reference Toxicant Test Results and Control Chart within limits?	NA

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-79012-1
TestAmerica Sample Delivery Group: Agua Nueva
Client Project/Site: Agua Nueva biosolids

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Nancy Powell

Authorized for release by:
3/23/2017 4:21:00 PM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: Agua Nueva biosolids

TestAmerica Job ID: 550-79012-1
SDG: Agua Nueva

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C8	Sample RPD between the primary and confirmatory analysis exceeded 40% Per EPA Method 8000C, the lower value was reported as there was no evidence of chromatographic problems.

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Pima County WWTP
Project/Site: Agua Nueva biosolids

TestAmerica Job ID: 550-79012-1
SDG: Agua Nueva

Job ID: 550-79012-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-79012-1

Comments
No additional comments.

Receipt
The sample was received on 3/10/2017 12:46 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.3° C.

GC Semi VOA
Method(s) 8151A: The %RPD between the primary and confirmation column exceeded 40% for Dichloroacetic acid(Surr) for the following sample: (LCS 490-415139/7-A) and (LCSD 490-415139/8-A). The higher value has been reported and qualified in accordance with the laboratory's SOP.

Method(s) 8151A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 490-415139 and analytical batch 490-415293.

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

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

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

Sample Summary

Client: Pima County WWTP
Project/Site: Agua Nueva biosolids

TestAmerica Job ID: 550-79012-1
SDG: Agua Nueva

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-79012-1	1703077-01	Solid	03/10/17 05:00	03/10/17 12:46

Detection Summary

Client: Pima County WWTP
Project/Site: Agua Nueva biosolids

TestAmerica Job ID: 550-79012-1
SDG: Agua Nueva

Client Sample ID: 1703077-01 **Lab Sample ID: 550-79012-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfide	2300		2300	2300	mg/Kg	1	☼	9034	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: Agua Nueva biosolids

TestAmerica Job ID: 550-79012-1
SDG: Agua Nueva

Client Sample ID: 1703077-01

Date Collected: 03/10/17 05:00
Date Received: 03/10/17 12:46

Lab Sample ID: 550-79012-1
Matrix: Solid

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND	E8	100	50	ug/L		03/16/17 22:20	03/17/17 21:19	1
Silvex (2,4,5-TP)	ND	E8	100	50	ug/L		03/16/17 22:20	03/17/17 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dichloroacetic acid(Surr)	*62*		*10 - 150*	*03/16/17 22:20*	*03/17/17 21:19*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**98.2**		0.1	0.1	%			03/14/17 10:19	1
Percent Solids	**1.8**		0.1	0.1	%			03/14/17 10:19	1

Client Sample ID: 1703077-01

Date Collected: 03/10/17 05:00
Date Received: 03/10/17 12:46

Lab Sample ID: 550-79012-1
Matrix: Solid
Percent Solids: 1.8

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	**2300**		2300	2300	mg/Kg	☼	03/16/17 11:20	03/16/17 15:06	1

TestAmerica Phoenix

Surrogate Summary

Client: Pima County WWTP
Project/Site: Agua Nueva biosolids

TestAmerica Job ID: 550-79012-1
SDG: Agua Nueva

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		pacetic acic							
Lab Sample ID	**Client Sample ID**	**(10-150)**							
LCS 490-415139/7-A	Lab Control Sample	12 C8							
LCSD 490-415139/8-A	Lab Control Sample Dup	38 C8							

Surrogate Legend

Dichloroacetic acid(Surr) = Dichloroacetic acid(Surr)

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)							
		pacetic acic							
Lab Sample ID	**Client Sample ID**	**(10-150)**							
550-79012-1	1703077-01	62							
MB 490-414965/1-D	Method Blank	80							

Surrogate Legend

Dichloroacetic acid(Surr) = Dichloroacetic acid(Surr)

Certification Summary

Client: Pima County WWTP
Project/Site: Agua Nueva biosolids

TestAmerica Job ID: 550-79012-1
SDG: Agua Nueva

Laboratory: TestAmerica Phoenix

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arizona	State Program	9	AZ0728	06-09-17

Analysis Method	Prep Method	Matrix	Analyte

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arizona	State Program	9	AZ0671	10-14-17

Analysis Method	Prep Method	Matrix	Analyte

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-17
A2LA	ISO/IEC 17025		0453.07	12-31-17
Alaska (UST)	State Program	10	UST-087	07-24-17
Arizona	State Program	9	AZ0473	05-05-17
Arkansas DEQ	State Program	6	88-0737	04-25-17
California	State Program	9	2938	10-31-18
Connecticut	State Program	1	PH-0220	12-31-17
Florida	NELAP	4	E87358	06-30-17
Georgia	State Program	4	N/A	12-31-17
Illinois	NELAP	5	200010	12-09-17
Iowa	State Program	7	131	04-01-18
Kansas	NELAP	7	E-10229	10-31-17
Kentucky (UST)	State Program	4	19	06-30-17
Kentucky (WW)	State Program	4	90038	12-31-17
Louisiana	NELAP	6	30613	06-30-17
Maine	State Program	1	TN00032	11-03-17
Maryland	State Program	3	316	03-31-18
Massachusetts	State Program	1	M-TN032	06-30-17
Minnesota	NELAP	5	047-999-345	12-31-17
Mississippi	State Program	4	N/A	06-30-17
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-17
New Hampshire	NELAP	1	2963	10-09-17
New Jersey	NELAP	2	TN965	06-30-17
New York	NELAP	2	11342	03-31-17
North Carolina (WW/SW)	State Program	4	387	12-31-17
North Dakota	State Program	8	R-146	06-30-17
Ohio VAP	State Program	5	CL0033	07-10-17
Oklahoma	State Program	6	9412	08-31-17
Oregon	NELAP	10	TN200001	04-27-17
Pennsylvania	NELAP	3	68-00585	06-30-17
Rhode Island	State Program	1	LAO00268	12-30-17

Certification Summary

Client: Pima County WWTP
Project/Site: Agua Nueva biosolids

TestAmerica Job ID: 550-79012-1
SDG: Agua Nueva

Laboratory: TestAmerica Nashville (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
South Carolina	State Program	4	84009 (001)	02-18-17 *
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17
Tennessee	State Program	4	2008	02-23-17 *
Texas	NELAP	6	T104704077	08-31-17
USDA	Federal		P330-13-00306	12-01-19
Utah	NELAP	8	TN00032	07-31-17
Virginia	NELAP	3	460152	06-14-17
Washington	State Program	10	C789	07-19-17
West Virginia DEP	State Program	3	219	02-28-18
Wisconsin	State Program	5	998020430	08-31-17
Wyoming (UST)	A2LA	8	453.07	12-31-17

* Certification renewal pending - certification considered valid.

Method Summary

Client: Pima County WWTP
Project/Site: Agua Nueva biosolids

TestAmerica Job ID: 550-79012-1
SDG: Agua Nueva

Method	Method Description	Protocol	Laboratory
8151A	Herbicides (GC)	SW846	TAL NSH
2540G	SM 2540G	SM22	TAL PHX
9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL IRV

Protocol References:

SM22 = SM22

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

Laboratory References:

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

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 East Cotton Center Boulevard
Suite 189
Phoenix, AZ 85040-4807
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

79012

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax:	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6016 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 or 6071 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Agua Nueva biosolids	☐ 1 week			
Site: Agua Nueva	☐ 2 days			Job / SDG No.:
P O # 17-26384	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Sulfide mg/kg	Total % solids for mg/kg dry	TCLP herbicides	Sample Specific Notes:
Agua Nueva WRF - thickened sludge pump 26107-0600											
1703077-01	3/10/17	0500	Comp	BS	3			1	1	1	BS- solids

550-79012 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

5.3 °C

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____		Therm ID No.: _____
Relinquished by:	Company: PC CRAO	Date/Time: 03-10-17/0820	Received by:	Company: PC CRAO	Date/Time: 03-10-17/0820
Relinquished by:	Company: PC CRAO	Date/Time: 03-10-17/1246	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 3-10-17 1246

Form No. CA-C-WI-002, Rev. 4.11, dated 1/24/2017

TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Eshelman, Linda	Carrier Tracking No(s):	COC No: 550-16640.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: linda.eshelman@testamericainc.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-79012-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 3/20/2017			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email	WO #:			
Project Name: Agua Nueva biosolids	Project #: 55001656			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9034_Calc/9030B	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
1703077-01 (550-79012-1)	3/10/17	05:00 Arizona		Solid			X	1	AZ spl please manually qualify source spls when needed (M & R).

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification Unconfirmed			*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months		
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2		Special Instructions/QC Requirements:		
Empty Kit Relinquished by:	Date:		Time:	Method of Shipment:	
Relinquished by:	Date/Time: 3/10 1161 45	Company: TA	Received by: FedEx	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 3/11/17 1020	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 4.1 / 4.6		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

Sa-th

COOLER RECEIPT FORM

550-79012 Chain of Custody

Cooler Received/Opened On 3/11/2017 @ 0945

Time Samples Removed From Cooler 1025 Time Samples Placed In Storage 1031 (2 Hour Window)

1. Tracking # 0935 (last 4 digits, FedEx) Courier: _FedEx_

   IR Gun ID_160406069_ pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 3.1 *Degrees Celsius*

3. If Item #2 temperatures is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) SN

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (initial) SN

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) SN

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) SN

I certify that I attached a label with the unique LIMS number to each container (initial) SN

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 12/15/15

TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

550-79012

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Eshelman, Linda	COC No: 550-16644.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: linda.eshelman@testamericainc.com Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona	Job #: 550-79012-1
Address: 2960 Foster Creighton Drive,	Due Date Requested: 3/17/2017		
City: Nashville	TAT Requested (days):		
State, Zip: TN, 37204			
Phone: 615-726-0177(Tel) 615-726-3404(Fax)	PO #:		
Email:	WO #:		
Project Name: Agua Nueva biosolids	Project #: 55001656		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8151A/1311_T (MOD) TCLP 8151	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
1703077-01 (550-79012-1)	3/10/17	05:00 Arizona		Solid			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 3/10/17 16:50	Company: TA	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 3/11/17 @ 0945	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 3.1		

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-79012-1
SDG Number: Agua Nueva

Login Number: 79012
List Number: 1
Creator: Vilaboy, Monica

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-79012-1
SDG Number: Agua Nueva

Login Number: 79012
List Number: 2
Creator: Ornelas, Olga

List Source: TestAmerica Irvine
List Creation: 03/11/17 12:22 PM

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?	N/A	Received project as a subcontract.
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	

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-79012-1
SDG Number: Agua Nueva

Login Number: 79012
List Number: 3
Creator: Vest, Laura E

List Source: TestAmerica Nashville
List Creation: 03/13/17 10:30 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1
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	

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 08/11/2017
Laboratory License: AZO159

Sample Analysis Report

Agua Nueva WRF

April 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

9.29.17
Date

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704054-01	C	Dimethyl phthalate	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	0.58	4.00	D1, D7	SJM
1704054-01	C	Di-n-butyl phthalate	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	2.50	12.00	D1, D7	SJM
1704054-01	C	Di-n-octyl phthalate	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	2.55	12.00	D1, D7	SJM
1704054-01	C	Fluoranthene	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	1.32	4.00	D1, D7	SJM
1704054-01	C	Fluorene	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	1.54	4.00	D1, D7	SJM
1704054-01	C	Hexachlorobenzene	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	0.62	4.00	D1, D7	SJM
1704054-01	C	Hexachlorobutadiene	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	1.01	4.00	D1, D7	SJM
1704054-01	C	Hexachlorocyclopentadiene	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	4.23	12.00	D1, D7	SJM
1704054-01	C	Hexachloroethane	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	1.26	4.00	D1, D7	SJM
1704054-01	C	Indeno(1,2,3-cd)pyrene	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	2.83	12.00	D1, D7	SJM
1704054-01	C	Isophorone	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	1.66	4.00	D1, D7	SJM
1704054-01	C	Naphthalene	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	1.77	4.00	D1, D7	SJM
1704054-01	C	n-Decane	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	1.95	4.00	D1, D7	SJM
1704054-01	C	Nitrobenzene	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	2.10	12.00	D1, D7	SJM
1704054-01	C	N-Nitrosodimethylamine	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	2.09	12.00	D1, D7, PC3	SJM
1704054-01	C	N-Nitrosodi-n-propylamine	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	2.43	12.00	D1, D7	SJM
1704054-01	C	N-Nitrosodiphenylamine	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	6.08	20.00	D1, D7	SJM
1704054-01	C	n-Octadecane	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	2.18	12.00	D1, D7	SJM
1704054-01	C	Pentachlorophenol	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	4.02	12.00	D1, D7	SJM
1704054-01	C	Phenanthrene	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	1.63	4.00	D1, D7	SJM
1704054-01	C	Phenol	04/07/17 6:00	EPA 625	4/17/17 20:20	**25.1**	ug/L	2.59	12.00	D1, D7	SJM
1704054-01	C	Pyrene	04/07/17 6:00	EPA 625	4/17/17 20:20	**ND**	ug/L	1.38	4.00	D1, D7	SJM
1704054-01	C	1,2-Diphenylhydrazine	04/07/17 6:00	EPA 8270C	4/17/17 20:20	**ND**	ug/L	0.98	4.00	D1, D7	SJM
1704054-01RE1	C	Zinc	04/07/17 6:00	EPA 200.8	7/11/17 19:46	**120**	ug/L	0.23	2.00	D1	JB
1704054-01RE2	C	Copper	04/07/17 6:00	EPA 200.8	7/11/17 19:52	**41.0**	ug/L	0.36	10.00		JB

Thickened Sludge Pump (26107-0600)

1704053-01	C	Antimony	04/07/17 6:00	EPA 6010D	4/27/17 13:45	**ND**	mg/kg dry		14.11		MLB
1704053-01	C	Arsenic	04/07/17 6:00	EPA 6010D	4/21/17 14:12	**ND**	mg/kg dry		14.11		MLB
1704053-01	C	Beryllium	04/07/17 6:00	EPA 6010D	4/21/17 14:12	**ND**	mg/kg dry		2.82		MLB
1704053-01	C	Cadmium	04/07/17 6:00	EPA 6010D	4/21/17 14:12	**ND**	mg/kg dry		5.64		MLB
1704053-01	C	Chromium	04/07/17 6:00	EPA 6010D	4/21/17 14:12	**ND**	mg/kg dry		14.11		MLB
1704053-01	C	Copper	04/07/17 6:00	EPA 6010D	4/27/17 13:45	**158**	mg/kg dry		14.11		MLB
1704053-01	C	Lead	04/07/17 6:00	EPA 6010D	4/27/17 15:20	**ND**	mg/kg dry		14.11		MLB
1704053-01	C	Mercury	04/07/17 6:00	EPA 7471B	4/25/17 10:09	**0.30**	mg/kg dry		0.05		DML
1704053-01	C	Molybdenum	04/07/17 6:00	EPA 6010D	4/21/17 14:12	**ND**	mg/kg dry		5.64		MLB
1704053-01	C	Nickel	04/07/17 6:00	EPA 6010D	4/21/17 14:12	**ND**	mg/kg dry		14.11		MLB
1704053-01	C	Selenium	04/07/17 6:00	EPA 6010D	4/21/17 14:12	**ND**	mg/kg dry		28.22		MLB
1704053-01	C	Silver	04/07/17 6:00	EPA 6010D	4/21/17 14:12	**1.69**	mg/kg dry		1.41		MLB
1704053-01	C	Thallium	04/07/17 6:00	EPA 6010D	4/27/17 13:45	**ND**	mg/kg dry		14.11		MLB
1704053-01	C	Zinc	04/07/17 6:00	EPA 6010D	4/21/17 14:12	**341**	mg/kg dry		14.11		MLB
1704053-01	C	% Solids	04/07/17 6:00	SM 2540G	4/8/17 14:48	**0.98**	%		0.01		SDR
1704053-01	C	Acrolein	04/07/17 6:00	EPA 624	4/10/17 17:20	**ND**	mg/kg dry	0.00111	20.24		JOB
1704053-01	C	Acrylonitrile	04/07/17 6:00	EPA 624	4/10/17 17:20	**ND**	mg/kg dry	0.00116	20.24		JOB
1704053-01	C	4,4-DDD	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00006	0.00257	D1, D7	KLH
1704053-01	C	4,4-DDE	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00003	0.00257	D1, D7	KLH
1704053-01	C	4,4-DDT	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00006	0.00257	D1, D7	KLH
1704053-01	C	Aldrin	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00006	0.00257	D1, D7	KLH
1704053-01	C	alpha-BHC	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00004	0.00257	D1, D7	KLH
1704053-01	C	beta-BHC	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00009	0.00257	D1, D7	KLH
1704053-01	C	Chlordane	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00025	0.02	D1, D7	KLH
1704053-01	C	delta-BHC	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00007	0.00257	D1, D7	KLH
1704053-01	C	Dieldrin	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00015	0.01	D1, D7	KLH
1704053-01	C	Endosulfan I	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00004	0.00257	D1, D7	KLH
1704053-01	C	Endosulfan II	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00003	0.00257	D1, D7	KLH
1704053-01	C	Endosulfan sulfate	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00004	0.00257	D1, D7	KLH
1704053-01	C	Endrin	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00010	0.00257	D1, D7	KLH
1704053-01	C	Endrin aldehyde	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00011	0.00257	D1, D7, N1	KLH

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704053-01	C	gamma-BHC (Lindane)	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00007	0.00257	D1, D7	KLH
1704053-01	C	Heptachlor	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00005	0.00257	D1, D7	KLH
1704053-01	C	Heptachlor Epoxide	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00004	0.00257	D1, D7	KLH
1704053-01	C	PCB 1016	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00006	0.01	D1, D7	KLH
1704053-01	C	PCB 1221	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00017	0.02	D1, D7	KLH
1704053-01	C	PCB 1232	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00007	0.02	D1, D7	KLH
1704053-01	C	PCB 1242	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00013	0.02	D1, D7	KLH
1704053-01	C	PCB 1248	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00010	0.02	D1, D7	KLH
1704053-01	C	PCB 1254	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00019	0.02	D1, D7	KLH
1704053-01	C	PCB 1260	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00007	0.01	D1, D7	KLH
1704053-01	C	Total PCBs	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00016	0.02	D1, D7	KLH
1704053-01	C	Toxaphene	04/07/17 6:00	EPA 625	4/18/17 18:13	**ND**	mg/kg dry	0.00094	0.04	D1, D7	KLH
1704053-01	C	Methoxychlor	04/07/17 6:00	EPA 8270C	4/18/17 18:13	**ND**	mg/kg dry		0.00257	D1, D7	KLH
1704053-01	C	1,1,1-Trichloroethane	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0002	0.00102		SRM
1704053-01	C	1,1,2,2-Tetrachloroethane	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.00006	0.00102		SRM
1704053-01	C	1,1,2-Trichloroethane	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.00009	0.00102		SRM
1704053-01	C	1,1-Dichloroethane	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0002	0.00102	V1	SRM
1704053-01	C	1,1-Dichloroethene	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0001	0.00102		SRM
1704053-01	C	1,2-Dichlorobenzene	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.00008	0.00102		SRM
1704053-01	C	1,2-Dichloroethane	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.00009	0.00102		SRM
1704053-01	C	1,2-Dichloropropane	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0001	0.00102		SRM
1704053-01	C	1,3-Dichlorobenzene	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.00008	0.00102		SRM
1704053-01	C	1,4-Dichlorobenzene	04/07/17 6:00	EPA 624	4/10/17 16:59	**0.509**	mg/kg dry	0.0002	0.00102		SRM
1704053-01	C	2-Chloroethyl vinyl ether	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0003	0.00204		SRM
1704053-01	C	Benzene	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0001	0.00102		SRM
1704053-01	C	Bromodichloromethane	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0002	0.00102		SRM
1704053-01	C	Bromoform	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0003	0.00102		SRM
1704053-01	C	Bromomethane	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0001	0.00102		SRM
1704053-01	C	Carbon Tetrachloride	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0004	0.00102		SRM
1704053-01	C	Chlorobenzene	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.00006	0.00102		SRM
1704053-01	C	Chloroethane	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0002	0.00102		SRM
1704053-01	C	Chloroform	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0001	0.00102		SRM
1704053-01	C	Chloromethane	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0002	0.00102		SRM
1704053-01	C	cis-1,3-Dichloropropene	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.00009	0.00102		SRM
1704053-01	C	Dibromochloromethane	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.00006	0.00102		SRM
1704053-01	C	Ethyl Benzene	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.00009	0.00102		SRM
1704053-01	C	Methylene Chloride	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0002	0.00102		SRM
1704053-01	C	Tetrachloroethene	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0002	0.00102		SRM
1704053-01	C	Toluene	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0001	0.00102		SRM
1704053-01	C	Total Trihalomethanes	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0003	0.00102		SRM
1704053-01	C	trans-1,2-Dichloroethene	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0001	0.00102		SRM
1704053-01	C	trans-1,3-Dichloropropene	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0001	0.00102		SRM
1704053-01	C	Trichloroethene	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0001	0.00102		SRM
1704053-01	C	Trichlorofluoromethane	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0003	0.00102		SRM
1704053-01	C	Vinyl chloride	04/07/17 6:00	EPA 624	4/10/17 16:59	**ND**	mg/kg dry	0.0002	0.00102		SRM
1704053-01	C	1,2,4-Trichlorobenzene	04/07/17 6:00	EPA 8260	4/10/17 16:59	**ND**	mg/kg dry		0.00050		SRM
1704053-01	C	1,2-Dibromo-3-chloropropane	04/07/17 6:00	EPA 8260	4/10/17 16:59	**ND**	mg/kg dry		0.00100		SRM
1704053-01	C	1,2-Dibromoethane	04/07/17 6:00	EPA 8260	4/10/17 16:59	**ND**	mg/kg dry		0.00050		SRM
1704053-01	C	cis-1,2-Dichloroethene	04/07/17 6:00	EPA 8260	4/10/17 16:59	**ND**	mg/kg dry		0.00050		SRM
1704053-01	C	m,p-Xylenes	04/07/17 6:00	EPA 8260	4/10/17 16:59	**ND**	mg/kg dry		0.00100		SRM
1704053-01	C	o-Xylene	04/07/17 6:00	EPA 8260	4/10/17 16:59	**ND**	mg/kg dry		0.00050		SRM
1704053-01	C	Styrene	04/07/17 6:00	EPA 8260	4/10/17 16:59	**0.326**	mg/kg dry		0.00050		SRM
1704053-01	C	Xylenes, total	04/07/17 6:00	EPA 8260	4/10/17 16:59	**ND**	mg/kg dry		0.00100		SRM
1704053-01	C	2,3,7,8-TCDD - Dioxin Scan	04/07/17 6:00	EPA 625	4/19/17 13:49	**ND**	ug/kg dry		2.55		SJM
1704053-01	C	1,2,4-Trichlorobenzene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	2,3-Dichloroaniline	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704053-01	C	2,4,6-Trichlorophenol	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	2,4-Dichlorophenol	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	2,4-Dimethylphenol	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1704053-01	C	2,4-Dinitrophenol	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.009	0.02	D1, D7	SJM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704053-01	C	2,4-Dinitrotoluene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704053-01	C	2,6-Dinitrotoluene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	2-Chloronaphthalene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	2-Chlorophenol	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	2-Methyl-4,6-dinitrophenol	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1704053-01	C	2-Methylphenol	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	2-Nitrophenol	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704053-01	C	3,3-Dichlorobenzidine	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704053-01	C	4-Bromophenyl phenyl ether	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	4-Chloro-3-methylphenol	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704053-01	C	4-Chlorophenyl phenyl ether	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	4-Methylphenol	04/07/17 6:00	EPA 625	4/17/17 20:59	**28.20**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	4-Nitrophenol	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1704053-01	C	Acenaphthene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	Acenaphthylene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	Anthracene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	Benzidine	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.007	0.01	D1, D7	SJM
1704053-01	C	Benzo[a]anthracene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	Benzo[a]pyrene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	Benzo[b]fluoranthene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	Benzo[ghi]perylene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704053-01	C	Benzo[k]fluoranthene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704053-01	C	bis(2-chloroethoxy)methane	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	bis(2-chloroethyl)ether	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704053-01	C	bis(2-chloroisopropyl)ether	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	bis(2-ethylhexyl)phthalate	04/07/17 6:00	EPA 625	4/17/17 20:59	**10.53**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704053-01	C	Butylbenzylphthalate	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	Carbazole	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704053-01	C	Chrysene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	Dibenzo(a,h)anthracene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704053-01	C	Diethyl phthalate	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704053-01	C	Dimethyl phthalate	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1704053-01	C	Di-n-butyl phthalate	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704053-01	C	Di-n-octyl phthalate	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704053-01	C	Fluoranthene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	Fluorene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	Hexachlorobenzene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1704053-01	C	Hexachlorobutadiene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	Hexachlorocyclopentadiene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1704053-01	C	Hexachloroethane	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	Indeno(1,2,3-cd)pyrene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704053-01	C	Isophorone	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	Naphthalene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	n-Decane	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	Nitrobenzene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704053-01	C	N-Nitrosodimethylamine	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1704053-01	C	N-Nitrosodi-n-propylamine	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704053-01	C	N-Nitrosodiphenylamine	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.006	0.01	D1, D7	SJM
1704053-01	C	n-Octadecane	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704053-01	C	Pentachlorophenol	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1704053-01	C	Phenanthrene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704053-01	C	Phenol	04/07/17 6:00	EPA 625	4/17/17 20:59	**15.48**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704053-01	C	Pyrene	04/07/17 6:00	EPA 625	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	1,2-Diphenylhydrazine	04/07/17 6:00	EPA 8270C	4/17/17 20:59	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704053-01	C	Cyanide, Total	04/07/17 6:00	9014	4/10/17 14:39	**51**	mg/Kg dry	47	120	E4	JCB *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1704053-01	C	Percent Solids	04/07/17 6:00	2540G	4/10/17 09:07	**1**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1704053-01	C	Percent Moisture	04/07/17 6:00	2540G	4/10/17 09:07	**99.0**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											

1704053-01
EPA Method 625/8270 Pesticides: Target Analytes flagged with N1 for this method failed the matrix spike from the same extraction batch but the spike was performed on a different sample. KLH 04/19/17

Semi-Quantitation
Method: 625
1704053-01

Compound Name	Concentration-mg/Kg
N,N-Dimethyl-1-dodecanamine	674
Palmitic Acid	51116
Oleic Acid	67007
Stearic Acid	11581

SJM 04/28/17

1704054-01, 02
EPA Method 625/8270 Pesticides: Target Analytes flagged with N1 for this method failed the matrix spike from the same extraction batch but the spike was performed on a different sample. KLH 04/19/17

1704054-01, 02
EPA Method 624 and 8260 Volatiles. Target analytes flagged with N1 failed high the matrix spike percent recovery and the blank spike percent recovery for 1,1-Dichloroethane. The analytes were not detected in the samples. SRM 04/20/17

1704054-01, 02
EPA Method 624 and 8260 Volatiles. Target analytes flagged with N1 failed the Matrix Spike for Carbon Tetrachloride from the same analytical batch but the spike was performed on a different sample. SRM 04/20/17

Semi-Quantitation
Method: 625
1704054-01

Compound Name	Concentration-ug/L
2-Butoxyethanol	91
Benzoic Acid	191
Benzeneacetic Acid	96
N,N-Dimethyl-1-dodecanamine	581
Dodecanoic Acid	83
Tetradecanoic Acid	141
Palmitic Acid	23382
Oleic Acid	25471
Stearic Acid	9100
Squalene	169

SJM 04/28/17

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1704053-01

PROJECT & LOCATION: Agua Nueva WRF - Thickened Sludge Pump (Quarterly)

PROJECT-LOCATION NUMBER: 26107-0600 (XXXXX-XXXX)

SAMPLE START DATE: 04/06/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: 0600 (Military time)

CLIENT: IWC

SAMPLE END DATE: 04/07/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0600 (Military time)

SAMPLER(S): Silva, Carpenter, Riccaboni, Preston (Print Last Name(s) Only)

Permit Type: ☐ APP ■ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Hardness				
Iron				
Lead				
Magnesium				
Manganese				
Mercury	×			■
Mercury LL				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Thallium				
Tin				

METALS	Tot	Diss	D	C
Titanium				
Vanadium				
Zinc				
PPMs *	×			■
TCLP Metals				
503 Metals **				■
Dissolved Cr+6				

WET METHODS	D	C
Ammonia as N		
Chloride		
Cyanide, Total (Contract)		■
Cyanide, Amenable		
Fluoride		
Ignitability		
Nitrate as N		
Nitrite as N		
Nitrate/Nitrite as N		
Nitrogen, Total Kjeldahl		
Nitrogen, Total as N		
Orthophosphate as P		
Phosphorus, Total as P		
Sulfate		
Sulfide		
Other		
Other		

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	
Dioxin GC/SIM/MS Scan		■
Organochlorine Pesticides & PCBs		■
Purgeable Organics (GCMS)	■	
Semivolatile Organics (GCMS)		■
Bis(2-ethylhexyl) phthalate		
Digester Gas		
Oil and Grease		
Organic Carbon, Total		
Organic Carbon, Dissolved		
TCLP Herbicides (Contract Lab)		
TCLP Pesticides		
TCLP Semivolatile Organics		
TCLP Volatile Organics		
TTHM		
Total Petroleum Hydrocarbons		
Volatile Acids		
Other		
Other		

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*		
Chronic *C. dubia*		
Chronic *Selenastrum capricornutum*		
Other		

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity		
BOD		
COD		
Coliform, Fecal		
Coliform, Total		
Specific Conductance		
E. coli		
Oxygen, Dissolved		
pH		
Solids, Total		■
Solids, Total Dissolved		
Solids, Total Suspended		
Solids, Total Volatile		
Solids, Volatile Suspended		
Other		

OTHER

	D	C
Paint Filter		

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ ° C
☐ Temperature *SM 2550 B*		° C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
The lab shall composite the four discrete Purgeable Organics and Acrolein/Acrylonitrile samples.
Cyanide and 1 of 2 TOCs sent to Test America. COS 04-07-17 DO#17-29472

Septum Blank Prep Date & Initials: 03-22-2017 | le

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	4-6-17	1500
Relinquished by: [signature]	Received by: Refrigerator	4-7-17	0100
Relinquished by: Refrigerator	Received by: [signature]	4-7-17	0600
Relinquished by: [signature]	Received by: [signature]	04-07-17	0823
Relinquished by: [signature]	Received by: [signature]	4/7/17	1200

Sample Integrity/Preservation:

# of Bottles Delivered: 9 COS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 4 ° C

Initials: COS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒		
Sample labels match Chain of Custody?	☒		
Correct number of sample bottles were delivered?	☒		
Custody seals intact?			☒
Within holding time?	☒		
Sufficient sample volume for analysis?	☒		
Samples are in properly preserved containers?	☒		
Sample containers damaged/leaking/frozen?		☒	
40 ml vials headspace, > pea-sized air bubble?		☒	
Received from a refrigerator?		☒	

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2 Revised 06/12/2015

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
WATER QUALITY
SAMPLE COLLECTION REPORT

SAMPLE LOCATION: Agua Nueva WRF – Thickened Sludge Pump LIMS: 1704053-01
LOCATION ID: 26107 – 0600 SAMPLERS: Silva, Carpenter, Riccaboni, Preston
Last names only, primary sampler first
SAMPLE DATE: 4-7-17

Sample D or C	Parameter	Frequency	AUTO MAN	Volume Submitted	Bottle/Preservation
C	Semivolatile Organics	Hand Composite	Man	1000 ml	Amber Glass/None/Ice
C	Organochlorine Pest & PCB's		Man	1000 ml	Amber Glass/None/Ice
C	Dioxin		Man	1000 ml	Amber Glass/None/Ice
C	Metals (T) + Molybdenum		Man	1000 ml	Dissolved Metals/None/Ice
C	Cyanide (T)	4 Aliquots for the duration of the discharge	Man	1000 ml	Dissolved Metals/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
To be Composited by the Laboratory					
D	Purgeable Organics	Hand Composite	Man	4 X 40	None/Ice
D	Acrolein/Acrylonitrile	4 Aliquots for the duration of the discharge	Man	4 X 40	None/Ice

2L each grab

	Time
Aliquot #1 4-6-17	0620
Aliquot #2 4-6-17	1210
Aliquot #3 4-6-17	1805
Aliquot #4 4-6-17	2358

Comments:	Thickened Sludge Pump samples are not preserved.
	All Composites including Cyanide can be poured off at the end of the sampling event
	Two Total Solids samples are required. One for our lab, one for the contract lab

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: AN & TR quarterlies	☐ 1 week			
Site: AN & TR	☐ 2 days			Job / SDG No.:
P O # 17-29472	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry	Sample Specific Notes:
Agua Nueva WRF thickened sludge pump 26107-0600										
1704053-01	4/7/2017	0600	Comp	BS	2	N		1	1	BS - biosolids
Tres Rios WRF dewatered cake biosolids 20001-5703										
1704055-01	4/7/17	0600	Comp	BS	2	N		1	1	

Preservation Codes: 1= None, 2= HCl, 3= H_2SO_4, 4=HNO_3, 5=NaOH, 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☐Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	PC CRAO	04-07-17/0940	[signature]	PC CRAO	04-07-17 / 0940
[signature]	PC CRAO	04-07-17/1200	[signature]	TA	4/7/17 1200
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY
WASTEWATER RECLAMATION
COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1704053-01, 1704055-01**	**DO**	**17-29472**
CONTRACT LAB	**TestAmerica PHX**	**SAMPLE GROUP**	**AN & TR quarterlies**
ANALYSES	**%TS, Total CN**	**REPORT ID**	**550-80645-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	NA
DO received in Pima Core?	NA
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	NA
If so, were they qualified due to matrix interference?	NA
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	NA
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	Y
Was Belinda Gamboa-Felix notified of any exceedences?	NA
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	NA
Report states if zeolite treatment was utilized?	NA
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	NA
Chemistry data included?	NA
Reference Toxicant Test Results and Control Chart within limits?	NA

PMSD Determination included and within acceptable range? (minimum acceptable= 13)				NA
End Points include TUc, NOEC, LOEC, and IC25?				NA
Statistics verify endpoints				NA
Control Charts Updated to include month of analysis				NA
Reviewer Initials:	**SN**	**Review Date:**	**4-13-17**	

PEER/FINAL REVIEW:				PR	FR
LIMS/Excel data matches printed CL report?				✓	✓
Analysis dates are correct?				✓	✓
Correct Data Qualifiers included if necessary.				✓	✓
CRAO report shows result is from Contract Lab?				✓	✓
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?				✓	✓
DO received in Pima Core				✓	
Analysis set to Reported?					✓
Peer Reviewer Initials:	TB	**Review Date:**	4-17-17		
Biomonitor Supervisor Initials:	NA	**Review Date:**	NA		
Final Reviewer Initials:	BAE	**Review Date:**	04/17/17		

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

QA-18 SubcontractDataCheclist-Reports Rev 16
Effective 7-25-16

Page 2 of 2

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-80645-1
TestAmerica Sample Delivery Group: AN & TR
Client Project/Site: AN & TR quarterlies

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Nancy Powell

Authorized for release by:
4/12/2017 2:57:07 PM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Job ID: 550-80645-1

Laboratory: TestAmerica Phoenix

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Narrative

Job Narrative
550-80645-1

Comments
No additional comments.

Receipt
The samples were received on 4/7/2017 3:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.3° C.

General Chemistry

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

Sample Summary

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-80645-1	1704053-01	Solid	04/07/17 06:00	04/07/17 15:45
550-80645-2	1704055-01	Solid	04/07/17 06:00	04/07/17 15:45

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TestAmerica Phoenix

4/12/2017

Detection Summary

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Client Sample ID: 1704053-01 — Lab Sample ID: 550-80645-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	51	E4	120	47	mg/Kg	1	☼	9014	Total/NA

Client Sample ID: 1704055-01 — Lab Sample ID: 550-80645-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	3.0	E4	3.4	1.3	mg/Kg	1	☼	9014	Total/NA

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This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

4/12/2017

Client Sample Results

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Client Sample ID: 1704053-01

Date Collected: 04/07/17 06:00
Date Received: 04/07/17 15:45

Lab Sample ID: 550-80645-1
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	99.0		0.1	0.1	%			04/10/17 09:07	1
Percent Solids	1		0.1	0.1	%			04/10/17 09:07	1

Client Sample ID: 1704053-01

Date Collected: 04/07/17 06:00
Date Received: 04/07/17 15:45

Lab Sample ID: 550-80645-1
Matrix: Solid
Percent Solids: 0.3

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	51	E4	120	47	mg/Kg	☼	04/10/17 12:00	04/10/17 14:39	1

Client Sample ID: 1704055-01

Date Collected: 04/07/17 06:00
Date Received: 04/07/17 15:45

Lab Sample ID: 550-80645-2
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	86.3		0.1	0.1	%			04/10/17 09:07	1
Percent Solids	13.7		0.1	0.1	%			04/10/17 09:07	1

Client Sample ID: 1704055-01

Date Collected: 04/07/17 06:00
Date Received: 04/07/17 15:45

Lab Sample ID: 550-80645-2
Matrix: Solid
Percent Solids: 11.8

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	3.0	E4	3.4	1.3	mg/Kg	☼	04/10/17 12:00	04/10/17 14:39	1

Method Summary

Client: Pima County WWTP
Project/Site: AN & TR quarterlies

TestAmerica Job ID: 550-80645-1
SDG: AN & TR

Method	Method Description	Protocol	Laboratory
2540G	SM 2540G	SM22	TAL PHX
9014	Cyanide	SW846	TAL PHX

Protocol References:

SM22 = SM22

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

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

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TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

80645

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: AN & TR quarterlies	☐ 1 week			
Site: AN & TR	☐ 2 days			Job / SDG No.:
P O # 17-29472	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry	Sample Specific Notes:
Agua Nueva WRF thickened sludge pump 26107-0600										
1704053-01 -01	4/7/2017	0600	Comp	BS	2	N		1	1	BS - biosolids
Tres Rios WRF dewatered cake biosolids 20001-5703										
1704055-01 -02	4/7/17	0600	Comp	BS	2	N		1	1	

550-80645 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☐Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

3.3° on ice

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	PC CRAO	04-07-17/0940	[signature]	PC CRAO	04-07-17 / 0940
Relinquished by: [signature]	Company: PC CRAO	Date/Time: 04-07-17/1200	Received by: [signature]	Company: TA	Date/Time: 4/7/17 1200
Relinquished by: [signature]	Company: TA	Date/Time: 4/7/17 1545	Received in Laboratory by: [signature]	Company: TA	Date/Time: 4/7/17 15:45

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-80645-1
SDG Number: AN & TR

Login Number: 80645
List Number: 1
Creator: Gravlin, Andrea

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

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PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 11/21/2017
Laboratory License: AZO159

Sample Analysis Report

Agua Nueva WRF

July 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Chaffee

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

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Date

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707102-01	C	Di-n-butyl phthalate	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	2.50	12.00	D1, D7	SJM
1707102-01	C	Di-n-octyl phthalate	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	2.55	12.00	D1, D7	SJM
1707102-01	C	Fluoranthene	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	1.32	4.00	D1, D7	SJM
1707102-01	C	Fluorene	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	1.54	4.00	D1, D7	SJM
1707102-01	C	Hexachlorobenzene	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	0.62	4.00	D1, D7	SJM
1707102-01	C	Hexachlorobutadiene	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	1.01	4.00	D1, D7	SJM
1707102-01	C	Hexachlorocyclopentadiene	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	4.23	20.00	D1, D7	SJM
1707102-01	C	Hexachloroethane	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	1.26	4.00	D1, D7	SJM
1707102-01	C	Indeno(1,2,3-cd)pyrene	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	2.83	12.00	D1, D7	SJM
1707102-01	C	Isophorone	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	1.66	4.00	D1, D7	SJM
1707102-01	C	Naphthalene	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	1.77	4.00	D1, D7	SJM
1707102-01	C	n-Decane	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	1.95	4.00	D1, D7	SJM
1707102-01	C	Nitrobenzene	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	2.10	12.00	D1, D7	SJM
1707102-01	C	N-Nitrosodimethylamine	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	2.09	12.00	D1, D7, PC3	SJM
1707102-01	C	N-Nitrosodi-n-propylamine	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	2.43	12.00	D1, D7	SJM
1707102-01	C	N-Nitrosodiphenylamine	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	6.08	20.00	D1, D7	SJM
1707102-01	C	n-Octadecane	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	2.18	12.00	D1, D7	SJM
1707102-01	C	Pentachlorophenol	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	4.02	20.00	D1, D7	SJM
1707102-01	C	Phenanthrene	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	1.63	4.00	D1, D7	SJM
1707102-01	C	Phenol	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	2.59	12.00	D1, D7	SJM
1707102-01	C	Pyrene	07/14/17 6:00	EPA 625	8/1/17 19:42	**ND**	ug/L	1.38	4.00	D1, D7	SJM
1707102-01	C	1,2-Diphenylhydrazine	07/14/17 6:00	EPA 8270C	8/1/17 19:42	**ND**	ug/L	0.98	4.00	D1, D7	SJM
1707102-01	C	Hg	07/14/17 6:00	245.1	7/19/17 19:43	**0.16**	ug/L	0.080	0.20	E4	EXZ *

* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.

1707102-01RE1	C	Copper	07/14/17 6:00	EPA 200.8	9/20/17 16:40	**51.9**	ug/L	0.36	2.00	D1	JB
1707102-01RE2	C	Zinc	07/14/17 6:00	EPA 200.8	9/20/17 16:46	**145**	ug/L	0.23	10.00	D2	JB
1707103-05	D	1,4-Dioxane	07/13/17 6:30	EPA 522	7/21/17 12:47	**0.27**	ug/L	0.07	0.10	T5	MSM
1707103-06	D	1,4-Dioxane	07/13/17 12:05	EPA 522	7/21/17 13:09	**0.34**	ug/L	0.07	0.10	T5	MSM
1707103-07	D	1,4-Dioxane	07/13/17 18:00	EPA 522	7/21/17 13:31	**0.50**	ug/L	0.07	0.10	T5	MSM
1707103-08	D	1,4-Dioxane	07/13/17 23:50	EPA 522	7/21/17 13:54	**0.41**	ug/L	0.07	0.10	T5	MSM

Thickened Sludge Pump (26107-0600)

1707102-04	C	Antimony	07/14/17 6:00	EPA 6010D	7/27/17 13:19	**ND**	mg/kg dry		11.27		MLB
1707102-04	C	Arsenic	07/14/17 6:00	EPA 6010D	7/27/17 10:48	**ND**	mg/kg dry		11.27		MLB
1707102-04	C	Beryllium	07/14/17 6:00	EPA 6010D	7/27/17 10:48	**ND**	mg/kg dry		2.25		MLB
1707102-04	C	Cadmium	07/14/17 6:00	EPA 6010D	7/27/17 10:48	**ND**	mg/kg dry		4.51		MLB
1707102-04	C	Chromium	07/14/17 6:00	EPA 6010D	7/27/17 10:48	**ND**	mg/kg dry		11.27		MLB
1707102-04	C	Copper	07/14/17 6:00	EPA 6010D	7/27/17 10:48	**79.1**	mg/kg dry		11.27		MLB
1707102-04	C	Lead	07/14/17 6:00	EPA 6010D	7/27/17 12:10	**ND**	mg/kg dry		11.27		MLB
1707102-04	C	Molybdenum	07/14/17 6:00	EPA 6010D	7/27/17 10:48	**ND**	mg/kg dry		4.51		MLB
1707102-04	C	Nickel	07/14/17 6:00	EPA 6010D	7/27/17 10:48	**ND**	mg/kg dry		11.27		MLB
1707102-04	C	Selenium	07/14/17 6:00	EPA 6010D	7/27/17 10:48	**ND**	mg/kg dry		22.54		MLB
1707102-04	C	Silver	07/14/17 6:00	EPA 6010D	7/27/17 13:19	**0.207**	mg/kg dry		1.13		MLB
1707102-04	C	Thallium	07/14/17 6:00	EPA 6010D	7/27/17 10:48	**ND**	mg/kg dry		11.27		MLB
1707102-04	C	Zinc	07/14/17 6:00	EPA 6010D	7/27/17 10:48	**200**	mg/kg dry		11.27		MLB
1707102-04	C	% Solids	07/14/17 6:00	SM 2540G	7/15/17 14:28	**1.35**	%		0.01		JEL
1707102-04	C	Acrolein	07/14/17 6:00	EPA 624	7/19/17 14:29	**ND**	mg/kg dry	0.00103	0.01		JOB
1707102-04	C	Acrylonitrile	07/14/17 6:00	EPA 624	7/19/17 14:29	**ND**	mg/kg dry	0.00206	0.01		JOB
1707102-04	C	4,4-DDD	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00006	0.00169	D1, D7	KLH
1707102-04	C	4,4-DDE	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00003	0.00169	D1, D7	KLH
1707102-04	C	4,4-DDT	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00006	0.00169	D1, D7	KLH
1707102-04	C	Aldrin	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00006	0.00169	D1, D7	KLH
1707102-04	C	alpha-BHC	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00004	0.00169	D1, D7	KLH
1707102-04	C	beta-BHC	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00009	0.00169	D1, D7	KLH

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707102-04	C	Chlordane	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00025	0.01	D1, D7	KLH
1707102-04	C	delta-BHC	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00007	0.00169	D1, D7	KLH
1707102-04	C	Dieldrin	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00015	0.00338	D1, D7	KLH
1707102-04	C	Endosulfan I	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00004	0.00169	D1, D7	KLH
1707102-04	C	Endosulfan II	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00003	0.00169	D1, D7	KLH
1707102-04	C	Endosulfan sulfate	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00004	0.00169	D1, D7	KLH
1707102-04	C	Endrin	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00010	0.00169	D1, D7	KLH
1707102-04	C	Endrin aldehyde	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00011	0.00169	D1, D7	KLH
1707102-04	C	gamma-BHC (Lindane)	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00007	0.00169	D1, D7	KLH
1707102-04	C	Heptachlor	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00005	0.00169	D1, D7	KLH
1707102-04	C	Heptachlor Epoxide	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00004	0.00169	D1, D7	KLH
1707102-04	C	PCB 1016	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00006	0.00338	D1, D7	KLH
1707102-04	C	PCB 1221	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00017	0.01	D1, D7	KLH
1707102-04	C	PCB 1232	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00007	0.01	D1, D7	KLH
1707102-04	C	PCB 1242	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00013	0.01	D1, D7	KLH
1707102-04	C	PCB 1248	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00010	0.01	D1, D7	KLH
1707102-04	C	PCB 1254	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00019	0.01	D1, D7	KLH
1707102-04	C	PCB 1260	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00007	0.00338	D1, D7, L5	KLH
1707102-04	C	Total PCBs	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00016	0.01	D1, D7	KLH
1707102-04	C	Toxaphene	07/14/17 6:00	EPA 625	8/8/17 19:05	**ND**	mg/kg dry	0.00094	0.03	D1, D7	KLH
1707102-04	C	Methoxychlor	07/14/17 6:00	EPA 8270C	8/8/17 19:05	**ND**	mg/kg dry		0.00169	D1, D7	KLH
1707102-04	C	1,1,1-Trichloroethane	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0002	0.00074		SRM
1707102-04	C	1,1,2,2-Tetrachloroethane	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.00006	0.00074		SRM
1707102-04	C	1,1,2-Trichloroethane	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.00009	0.00074		SRM
1707102-04	C	1,1-Dichloroethane	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0002	0.00074		SRM
1707102-04	C	1,1-Dichloroethene	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0001	0.00074		SRM
1707102-04	C	1,2-Dichlorobenzene	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.00008	0.00074		SRM
1707102-04	C	1,2-Dichloroethane	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.00009	0.00074		SRM
1707102-04	C	1,2-Dichloropropane	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0001	0.00074		SRM
1707102-04	C	1,3-Dichlorobenzene	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.00008	0.00074		SRM
1707102-04	C	1,4-Dichlorobenzene	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0002	0.00074		SRM
1707102-04	C	2-Chloroethyl vinyl ether	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0003	0.00149		SRM
1707102-04	C	Benzene	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0001	0.00074		SRM
1707102-04	C	Bromodichloromethane	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0002	0.00074		SRM
1707102-04	C	Bromoform	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0003	0.00074		SRM
1707102-04	C	Bromomethane	07/14/17 6:00	EPA 624	7/18/17 19:08	**0.49**	mg/kg dry	0.0001	0.00074		SRM
1707102-04	C	Carbon Tetrachloride	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0004	0.00074		SRM
1707102-04	C	Chlorobenzene	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.00006	0.00074		SRM
1707102-04	C	Chloroethane	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0002	0.00074		SRM
1707102-04	C	Chloroform	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0001	0.00074		SRM
1707102-04	C	Chloromethane	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0002	0.00074		SRM
1707102-04	C	cis-1,3-Dichloropropene	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.00009	0.00074		SRM
1707102-04	C	Dibromochloromethane	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.00006	0.00074		SRM
1707102-04	C	Ethyl Benzene	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.00009	0.00074		SRM
1707102-04	C	Methylene Chloride	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0002	0.00074		SRM
1707102-04	C	Tetrachloroethene	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0002	0.00074		SRM
1707102-04	C	Toluene	07/14/17 6:00	EPA 624	7/18/17 19:08	**0.37**	mg/kg dry	0.0001	0.00074		SRM
1707102-04	C	Total Trihalomethanes	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0003	0.00074		SRM
1707102-04	C	trans-1,2-Dichloroethene	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0001	0.00074		SRM
1707102-04	C	trans-1,3-Dichloropropene	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0001	0.00074		SRM
1707102-04	C	Trichloroethene	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0001	0.00074		SRM
1707102-04	C	Trichlorofluoromethane	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0003	0.00074		SRM
1707102-04	C	Vinyl chloride	07/14/17 6:00	EPA 624	7/18/17 19:08	**ND**	mg/kg dry	0.0002	0.00074		SRM
1707102-04	C	1,2,4-Trichlorobenzene	07/14/17 6:00	EPA 8260	7/18/17 19:08	**ND**	mg/kg dry		0.00050		SRM
1707102-04	C	1,2-Dibromo-3-chloropropane	07/14/17 6:00	EPA 8260	7/18/17 19:08	**ND**	mg/kg dry		0.00100		SRM
1707102-04	C	1,2-Dibromoethane	07/14/17 6:00	EPA 8260	7/18/17 19:08	**ND**	mg/kg dry		0.00050		SRM
1707102-04	C	cis-1,2-Dichloroethene	07/14/17 6:00	EPA 8260	7/18/17 19:08	**ND**	mg/kg dry		0.00050		SRM
1707102-04	C	m,p-Xylenes	07/14/17 6:00	EPA 8260	7/18/17 19:08	**ND**	mg/kg dry		0.00100		SRM
1707102-04	C	o-Xylene	07/14/17 6:00	EPA 8260	7/18/17 19:08	**ND**	mg/kg dry		0.00050		SRM
1707102-04	C	Styrene	07/14/17 6:00	EPA 8260	7/18/17 19:08	**ND**	mg/kg dry		0.00050		SRM

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707102-04	C	Xylenes, total	07/14/17 6:00	EPA 8260	7/18/17 19:08	**ND**	mg/kg dry		0.00100		SRM
1707102-04	C	2,3,7,8-TCDD - Dioxin Scan	07/14/17 6:00	EPA 625	8/2/17 15:47	**ND**	ug/kg dry		1.86		SJM
1707102-04	C	1,2,4-Trichlorobenzene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	2,3-Dichloroaniline	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707102-04	C	2,4,6-Trichlorophenol	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	2,4-Dichlorophenol	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707102-04	C	2,4-Dimethylphenol	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1707102-04	C	2,4-Dinitrophenol	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.009	0.02	D1, D7	SJM
1707102-04	C	2,4-Dinitrotoluene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707102-04	C	2,6-Dinitrotoluene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	2-Chloronaphthalene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	2-Chlorophenol	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	2-Methyl-4,6-dinitrophenol	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1707102-04	C	2-Methylphenol	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	2-Nitrophenol	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707102-04	C	3,3-Dichlorobenzidine	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707102-04	C	4-Bromophenyl phenyl ether	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	4-Chloro-3-methylphenol	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707102-04	C	4-Chlorophenyl phenyl ether	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	4-Methylphenol	07/14/17 6:00	EPA 625	8/1/17 19:03	**16.56**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	4-Nitrophenol	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1707102-04	C	Acenaphthene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	Acenaphthylene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	Anthracene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	Benzidine	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.007	0.01	D1, D7	SJM
1707102-04	C	Benzo[a]anthracene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	Benzo[a]pyrene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	Benzo[b]fluoranthene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	Benzo[ghi]perylene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707102-04	C	Benzo[k]fluoranthene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707102-04	C	bis(2-chloroethoxy)methane	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	bis(2-chloroethyl)ether	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707102-04	C	bis(2-chloroisopropyl)ether	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	bis(2-ethylhexyl)phthalate	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707102-04	C	Butylbenzylphthalate	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	Carbazole	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707102-04	C	Chrysene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	Dibenzo(a,h)anthracene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707102-04	C	Diethyl phthalate	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707102-04	C	Dimethyl phthalate	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1707102-04	C	Di-n-butyl phthalate	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707102-04	C	Di-n-octyl phthalate	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707102-04	C	Fluoranthene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	Fluorene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	Hexachlorobenzene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1707102-04	C	Hexachlorobutadiene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	Hexachlorocyclopentadiene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1707102-04	C	Hexachloroethane	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	Indeno(1,2,3-cd)pyrene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707102-04	C	Isophorone	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	Naphthalene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	n-Decane	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	Nitrobenzene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707102-04	C	N-Nitrosodimethylamine	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1707102-04	C	N-Nitrosodi-n-propylamine	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707102-04	C	N-Nitrosodiphenylamine	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.006	0.01	D1, D7	SJM
1707102-04	C	n-Octadecane	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707102-04	C	Pentachlorophenol	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1707102-04	C	Phenanthrene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707102-04	C	Phenol	07/14/17 6:00	EPA 625	8/1/17 19:03	**13.98**	mg/kg dry	0.003	0.01	D1, D7	SJM

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707102-04	C	Pyrene	07/14/17 6:00	EPA 625	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	1,2-Diphenylhydrazine	07/14/17 6:00	EPA 8270C	8/1/17 19:03	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707102-04	C	Cyanide, Total	07/14/17 6:00	9014	7/27/17 07:55	**ND**	mg/Kg dry	11	29	E8	YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707102-04	C	Mercury	07/14/17 6:00	7471B	7/26/17 12:52	**ND**	mg/Kg dry	4.4	4.4	E8	JTG *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707102-04	C	Percent Solids	07/14/17 6:00	2540G	7/19/17 09:34	**1.3**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707102-04	C	Percent Moisture	07/14/17 6:00	2540G	7/19/17 09:34	**98.7**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707200-01	D	Percent Solids	07/27/17 13:35	D 2216	8/10/17 15:41	**1.3**	%	0.1	0.1		TCS *
* Analysis Performed by:TestAmerica Sacramento - See attached contract lab report for official results.											
1707200-01	D	Percent Moisture	07/27/17 13:35	D 2216	8/10/17 15:41	**98.7**	%	0.1	0.1		TCS *
* Analysis Performed by:TestAmerica Sacramento - See attached contract lab report for official results.											
1707200-01	D	N-ethyl perfluorooctane sulfona	07/27/17 13:35	537 (modified)	8/10/17 09:27	**ND**	mg/Kg dry	0.030	0.15	E8	CBW*
1707200-01	D	N-methyl perfluorooctane sulfon	07/27/17 13:35	537 (modified)	8/10/17 09:27	**ND**	mg/Kg dry	0.10	0.15	E8	CBW*
1707200-01	D	Perfluorobutanesulfonic acid (PF	07/27/17 13:35	537 (modified)	8/10/17 09:27	**ND**	mg/Kg dry	0.0079	0.015	E8	CBW*
1707200-01	D	Perfluorodecanoic acid (PFDA)	07/27/17 13:35	537 (modified)	8/10/17 09:27	**0.0080**	mg/Kg dry	0.0044	0.015	E4	CBW*
1707200-01	D	Perfluorododecanoic acid (PFD	07/27/17 13:35	537 (modified)	8/10/17 09:27	**ND**	mg/Kg dry	0.0093	0.015	E8	CBW*
1707200-01	D	Perfluoroheptanoic acid (PFHpA	07/27/17 13:35	537 (modified)	8/10/17 09:27	**ND**	mg/Kg dry	0.0067	0.015	E8	CBW*
1707200-01	D	Perfluorohexanesulfonic acid (PF	07/27/17 13:35	537 (modified)	8/10/17 09:27	**0.019**	mg/Kg dry	0.0090	0.015		CBW*
1707200-01	D	Perfluorohexanoic acid (PFHxA)	07/27/17 13:35	537 (modified)	8/10/17 09:27	**ND**	mg/Kg dry	0.0054	0.015	E8	CBW*
1707200-01	D	Perfluorononanoic acid (PFNA)	07/27/17 13:35	537 (modified)	8/10/17 09:27	**ND**	mg/Kg dry	0.0064	0.015	E8	CBW*
1707200-01	D	Perfluorooctanesulfonic acid (PF	07/27/17 13:35	537 (modified)	8/10/17 09:27	**ND**	mg/Kg dry	0.0097	0.015	E8	CBW*
1707200-01	D	Perfluorooctanoic acid (PFOA)	07/27/17 13:35	537 (modified)	8/10/17 09:27	**ND**	mg/Kg dry	0.0078	0.015	E8	CBW*
1707200-01	D	Perfluorotetradecanoic acid (PFT	07/27/17 13:35	537 (modified)	8/10/17 09:27	**ND**	mg/Kg dry	0.0044	0.015	E8	CBW*
1707200-01	D	Perfluorotridecanoic Acid (PFTrD	07/27/17 13:35	537 (modified)	8/10/17 09:27	**ND**	mg/Kg dry	0.0071	0.015	E8	CBW*
1707200-01	D	Perfluoroundecanoic acid (PFUnA	07/27/17 13:35	537 (modified)	8/10/17 09:27	**ND**	mg/Kg dry	0.0081	0.015	E8	CBW*
* Analysis Performed by:TestAmerica Sacramento - See attached contract lab report for official results.											

Chlorinated Effluent (26107-7000)

1707151-01	D	Nitrate/Nitrite	07/21/17 13:15	EPA 353.2	7/25/17 10:56	**0.13**	mg/L	0.02	0.20	J	KMT
1707151-01	D	Total Kjeldahl Nitrogen	07/21/17 13:15	EPA 351.2	7/23/17 14:46	**1.81**	mg/L	0.52	0.80		MGA
1707151-01	D	Nitrogen Total Water	07/21/17 13:15	Calculated	7/25/17 10:56	**1.94**	mg/L	0.52	0.80		MGA

Plant Effluent (26107-7100)

1707059-01	C	C.dubia Reproduction % LOEC	07/10/17 6:00	EPA 1002	7/17/17 11:15	**NC**	N/A			T5, T6	JVR
1707059-01	C	C.dubia Reproduction % NOEC	07/10/17 6:00	EPA 1002	7/17/17 11:15	**100**	N/A			T5, T6	JVR
1707059-01	C	C.dubia Reproduction TUc IC25	07/10/17 6:00	EPA 1002	7/17/17 11:15	**NC**	N/A			T5, T6	JVR
1707059-01	C	C.dubia Reproduction TUc NOEC	07/10/17 6:00	EPA 1002	7/17/17 11:15	**1.00**	N/A			T5, T6	JVR
1707059-01	C	C.dubia Survival % LOEC	07/10/17 6:00	EPA 1002	7/17/17 11:15	**NC**	N/A			T5, T6	JVR
1707059-01	C	C.dubia Survival % NOEC	07/10/17 6:00	EPA 1002	7/17/17 11:15	**100**	N/A			T5, T6	JVR
1707059-01	C	C.dubia Survival TUc IC25	07/10/17 6:00	EPA 1002	7/17/17 11:15	**NC**	N/A			T5, T6	JVR
1707059-01	C	C.dubia Survival TUc NOEC	07/10/17 6:00	EPA 1002	7/17/17 11:15	**1.00**	N/A			T5, T6	JVR
1707059-01	C	Pimephalas Growth % LOEC	07/10/17 6:00	EPA 1000	7/17/17 11:30	**NC**	N/A			T5, T6	JVR
1707059-01	C	Pimephalas Growth % NOEC	07/10/17 6:00	EPA 1000	7/17/17 11:30	**100**	N/A			T5, T6	JVR
1707059-01	C	Pimephalas Growth TUc IC25	07/10/17 6:00	EPA 1000	7/17/17 11:30	**NC**	N/A			T5, T6	JVR
1707059-01	C	Pimephalas Growth TUc NOEC	07/10/17 6:00	EPA 1000	7/17/17 11:30	**1.00**	N/A			T5, T6	JVR
1707059-01	C	Pimephalas Survival % LOEC	07/10/17 6:00	EPA 1000	7/17/17 11:30	**NC**	N/A			T5, T6	JVR
1707059-01	C	Pimephalas Survival % NOEC	07/10/17 6:00	EPA 1000	7/17/17 11:30	**100**	N/A			T5, T6	JVR
1707059-01	C	Pimephalas Survival TUc IC25	07/10/17 6:00	EPA 1000	7/17/17 11:30	**NC**	N/A			T5, T6	JVR
1707059-01	C	Pimephalas Survival TUc NOEC	07/10/17 6:00	EPA 1000	7/17/17 11:30	**1.00**	N/A			T5, T6	JVR
1707059-02	C	Selenastrum Growth % LOEC	07/12/17 6:00	EPA 1003	7/14/17 12:30	**NC**	N/A			T5, T6	JVR
1707059-02	C	Selenastrum Growth % NOEC	07/12/17 6:00	EPA 1003	7/14/17 12:30	**100**	N/A			T5, T6	JVR
1707059-02	C	Selenastrum Growth TUc IC25	07/12/17 6:00	EPA 1003	7/14/17 12:30	**NC**	N/A			T5, T6	JVR
1707059-02	C	Selenastrum Growth TUc NOEC	07/12/17 6:00	EPA 1003	7/14/17 12:30	**1.00**	N/A			T5, T6	JVR

Case Narrative(s)

1707073-01
EPA Method 625 Semi-volatiles: Target analytes flagged with N1 failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. SJM 08/11/17

1707102-03
Contract lab results are for dissolved mercury; the sample was filtered by the CRAO lab before delivery to contract lab. SN 8/1/17

Semi-Quantitation
Method: 625
1707102-04

Compound Name	Concentration-mg/Kg
Palmitic Acid	11343
Oleic Acid	13638
Stearic Acid	3983

SJM 08/21/17

Semi-Quantitation
Method: 625
1707102-01

Compound Name	Concentration-ug/L
Benzoic Acid	115
N,N-Dimethyl-1-dodecanamine	343
Palmitic Acid	9392
Oleic Acid	9296
Stearic Acid	11623
Squalene	113

SJM 08/21/17

1707116-01
SM5310 TOC: Target analyte flagged with N1 failed the Matrix Spike from the same analysis batch, but the spike was performed on a different sample. JOB 07/2717.

PIMA COUNTY
WASTEWATER RECLAMATION
COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1707083-01; 1707086-02; 1707100-01,-02,-03,-04; 1707102-01,-02,-03,-04 1707116-01**	**DO**	**18-01544**
CONTRACT LAB	**TestAmerica PHX**	**SAMPLE GROUP**	**Mercury group #3**
ANALYSES	**TS, Cn, Hg Dissolved, Hg**	**REPORT ID**	**550-86287-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	NA
DO received in Pima Core?	NA
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	NA
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	NA
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	Y
Was Belinda Gamboa-Felix notified of any exceedences?	NA
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	NA
Report states if zeolite treatment was utilized?	NA
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	NA

Chemistry data included?				NA
Reference Toxicant Test Results and Control Chart within limits?				NA
PMSD Determination included and within acceptable range? (minimum acceptable= 13)				NA
End Points include TUc, NOEC, LOEC, and IC25?				NA
Statistics verify endpoints				NA
Control Charts Updated to include month of analysis				NA
Reviewer Initials:	**SN**	**Review Date:**	**8-1-17**	

PEER/FINAL REVIEW:				PR	FR
LIMS/Excel data matches printed CL report?				✓	
Analysis dates are correct?				✓	
Correct Data Qualifiers included if necessary.				✓	
CRAO report shows result is from Contract Lab?				✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?				✓	
DO received in Pima Core				✓	
Analysis set to Reported?					✓
Peer Reviewer Initials:	JLO	**Review Date:**	JLO 8-04-17		
Biomonitor Supervisor Initials:	N/A	**Review Date:**	8-04-17		
Final Reviewer Initials:	JEC	**Review Date:**	8.17.17		

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-86287-1
Client Project/Site: Mercury group #3

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Nancy Powell

Authorized for release by:
7/31/2017 12:27:53 PM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Qualifiers

Metals

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
R13	MS/MSD RPD exceeded the method acceptance limit. Matrix spike recovery was outside acceptance criteria. Batch precision and accuracy were demonstrated.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.

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)

Case Narrative

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Job ID: 550-86287-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-86287-1

Comments
No additional comments.

Receipt
The samples were received on 7/18/2017 4:26 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

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

General Chemistry
Method(s) 9014: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 550-123106 were outside control limits. Sample matrix interference was suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) recoveries and precision were within acceptance limits. As such, the data has been reported and qualified with M1, M2 and R13 flags.

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

Sample Summary

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-86287-1	1707086-02	Water	07/12/17 06:40	07/18/17 16:26
550-86287-2	1707083-01	Water	07/12/17 06:00	07/18/17 16:26
550-86287-3	1707100-01	Water	07/14/17 06:00	07/18/17 16:26
550-86287-4	1707100-02	Water	07/14/17 06:00	07/18/17 16:26
550-86287-5	1707100-03	Water	07/14/17 06:00	07/18/17 16:26
550-86287-6	1707100-04	Solid	07/14/17 06:00	07/18/17 16:26
550-86287-7	1707102-01	Water	07/14/17 06:00	07/18/17 16:26
550-86287-8	1707102-02	Water	07/14/17 06:00	07/18/17 16:26
550-86287-9	1707102-03	Water	07/14/17 06:00	07/18/17 16:26
550-86287-10	1707102-04	Solid	07/14/17 06:00	07/18/17 16:26
550-86287-12	1707116-01	Water	07/17/17 09:40	07/18/17 16:26

Detection Summary

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Client Sample ID: 1707086-02 — Lab Sample ID: 550-86287-1

No Detections.

Client Sample ID: 1707083-01 — Lab Sample ID: 550-86287-2

No Detections.

Client Sample ID: 1707100-01 — Lab Sample ID: 550-86287-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hg	0.11	E4	0.20	0.080	ug/L	1		245.1	Total/NA

Client Sample ID: 1707100-02 — Lab Sample ID: 550-86287-4

No Detections.

Client Sample ID: 1707100-03 — Lab Sample ID: 550-86287-5

No Detections.

Client Sample ID: 1707100-04 — Lab Sample ID: 550-86287-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.87		0.43	0.43	mg/Kg	1	☼	7471B	Total/NA
Cyanide, Total	1.2	E4	3.0	1.2	mg/Kg	1	☼	9014	Total/NA

Client Sample ID: 1707102-01 — Lab Sample ID: 550-86287-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hg	0.16	E4	0.20	0.080	ug/L	1		245.1	Total/NA

Client Sample ID: 1707102-02 — Lab Sample ID: 550-86287-8

No Detections.

Client Sample ID: 1707102-03 — Lab Sample ID: 550-86287-9

No Detections.

Client Sample ID: 1707102-04 — Lab Sample ID: 550-86287-10

No Detections.

Client Sample ID: 1707116-01 — Lab Sample ID: 550-86287-12

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Client Sample ID: 1707086-02 — **Lab Sample ID: 550-86287-1**
Date Collected: 07/12/17 06:40 — **Matrix: Water**
Date Received: 07/18/17 16:26

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:37	1

Client Sample ID: 1707083-01 — **Lab Sample ID: 550-86287-2**
Date Collected: 07/12/17 06:00 — **Matrix: Water**
Date Received: 07/18/17 16:26

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:38	1

Client Sample ID: 1707100-01 — **Lab Sample ID: 550-86287-3**
Date Collected: 07/14/17 06:00 — **Matrix: Water**
Date Received: 07/18/17 16:26

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.11	E4	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:40	1

Client Sample ID: 1707100-02 — **Lab Sample ID: 550-86287-4**
Date Collected: 07/14/17 06:00 — **Matrix: Water**
Date Received: 07/18/17 16:26

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:41	1

Client Sample ID: 1707100-03 — **Lab Sample ID: 550-86287-5**
Date Collected: 07/14/17 06:00 — **Matrix: Water**
Date Received: 07/18/17 16:26

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.080	ug/L		07/18/17 21:34	07/19/17 17:10	1

Client Sample ID: 1707100-04 — **Lab Sample ID: 550-86287-6**
Date Collected: 07/14/17 06:00 — **Matrix: Solid**
Date Received: 07/18/17 16:26

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	86.9		0.1	0.1	%			07/19/17 09:34	1
Percent Solids	13.1		0.1	0.1	%			07/19/17 09:34	1

Client Sample ID: 1707100-04 — **Lab Sample ID: 550-86287-6**
Date Collected: 07/14/17 06:00 — **Matrix: Solid**
Date Received: 07/18/17 16:26 — **Percent Solids: 13.1**

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.87		0.43	0.43	mg/Kg	☼	07/18/17 20:34	07/26/17 12:50	1

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Client Sample ID: 1707100-04 — **Lab Sample ID: 550-86287-6**
Date Collected: 07/14/17 06:00 — **Matrix: Solid**
Date Received: 07/18/17 16:26 — **Percent Solids: 13.1**

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	1.2	E4	3.0	1.2	mg/Kg	☼	07/21/17 12:12	07/25/17 09:07	1

Client Sample ID: 1707102-01 — **Lab Sample ID: 550-86287-7**
Date Collected: 07/14/17 06:00 — **Matrix: Water**
Date Received: 07/18/17 16:26

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.16	E4	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:43	1

Client Sample ID: 1707102-02 — **Lab Sample ID: 550-86287-8**
Date Collected: 07/14/17 06:00 — **Matrix: Water**
Date Received: 07/18/17 16:26

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:44	1

Client Sample ID: 1707102-03 — **Lab Sample ID: 550-86287-9**
Date Collected: 07/14/17 06:00 — **Matrix: Water**
Date Received: 07/18/17 16:26

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	0.20	0.080	ug/L		07/18/17 21:34	07/19/17 17:11	1

Client Sample ID: 1707102-04 — **Lab Sample ID: 550-86287-10**
Date Collected: 07/14/17 06:00 — **Matrix: Solid**
Date Received: 07/18/17 16:26

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	98.7		0.1	0.1	%			07/19/17 09:34	1
Percent Solids	1.3		0.1	0.1	%			07/19/17 09:34	1

Client Sample ID: 1707102-04 — **Lab Sample ID: 550-86287-10**
Date Collected: 07/14/17 06:00 — **Matrix: Solid**
Date Received: 07/18/17 16:26 — **Percent Solids: 1.3**

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	4.4	4.4	mg/Kg	☼	07/18/17 20:34	07/26/17 12:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	29	11	mg/Kg	☼	07/26/17 13:30	07/27/17 07:55	1

Client Sample Results

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Client Sample ID: 1707116-01
Date Collected: 07/17/17 09:40
Date Received: 07/18/17 16:26

Lab Sample ID: 550-86287-12
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.20	0.080	ug/L		07/18/17 21:30	07/19/17 19:48	1

Method Summary

Client: Pima County WWTP
Project/Site: Mercury group #3

TestAmerica Job ID: 550-86287-1

Method	Method Description	Protocol	Laboratory
245.1	Mercury (CVAA)	EPA	TAL PHX
7471B	Mercury (CVAA)	SW846	TAL PHX
2540G	SM 2540G	SM22	TAL PHX
9014	Cyanide	SW846	TAL PHX

Protocol References:

EPA = US Environmental Protection Agency

SM22 = SM22

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

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

86287

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

7/31/2017

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 3 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☑ 2 weeks			Lab Sampling:
Project Name: Mercury group #3	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-01544	☐ 1 day			

550-86287 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Mercury	Sample Specific Notes:
Green Valley WRF effluent 25000-0960									Wastewater
-01 1707086-02	7/12/17	0640	Grab	WW	1	N		1	
Agua Nueva WRF plant effluent 26107-7100									Wastewater
-02 1707083-01	7/12/17	0600	Comp	WW	1	N		1	
Tres Rios WRF raw influent 20001-0130									
-03 1707100-01	7/14/17	0600	Comp	WW	1	N		1	Wastewater
Tres Rios WRF final effluent #3 20001-7030									
-04 1707100-02	7/14/17	0600	Comp	WW	1	N		1	Wastewater

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

3.6°C on ice

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	07-18-17 1308	Michael Boat	7	18/17 1308
Michael Boat	7/18	17 1626			
			Received in Laboratory by:	TA	7/18/17 16:26

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

86281

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

7/31/2017

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	2 of 3 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☒ 2 weeks			Lab Sampling:
Project Name: Mercury group #3	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-01544	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Mercury	Dissolved mercury	Cyanide mg/kg	Mercury mg/kg	Total % solids for mg/kg	Sample Specific Notes:
Tres Rios WRF final effluent #3 20001-7030													Wastewater
-05 1707100-03	7/14/17	0600	Comp	WW	1	Y			1				
Tres Rios WRF dewatered cake 20001-5703													Biosolids mg/kg dry weight
-06 1707100-04	7/14/17	0600	Comp	~~WW~~ BS	3	N				1	1	1	
				07-11-17									
Agua Nueva WRF plant influent 26107-0100													Wastewater
-07 1707102-01	7/14/17	0600	Comp	WW	1	N		1					
Agua Nueva WRF plant effluent 26107-7100													Wastewater
-08 1707102-02	7/14/17	0600	Comp	WW	1	N		1					

Preservation Legend: 1=Ice, 2=HCl, 3=H_2SO_4, 4=HNO_3, 5=NaOH, 6=Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☑Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:
3.6 on ice

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	07-18-17 1308	[signature]	7/18/17	1308
[signature]	7/18/17	1620			
			Received in Laboratory by:	TA	7/18/17 16:20

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Page 23 of 25

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

86287

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	3 of 3 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☑ 2 weeks			Lab Sampling:
Project Name: Mercury group #3	☑ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-01544	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Mercury	Dissolved mercury	Cyanide mg/kg	Mercury mg/kg	Total % solids for mg/kg	Sample Specific Notes:
Agua Nueva WRF plant effluent 26107-7100													Wastewater
-09 1707102-03	7/14/17	0600	Comp	WW	1	Y			1				2 week TAT
Agua Nueva thickened sludge pump 26107-0600													Biosolids mg/kg dry weight
-10 1707102-04	7/14/17	0600	Comp	BS	3	N				1	1	1	2 week TAT
Water Innovation Challenge S12 65811-0112													Drinking water
-11 1707094-01	7/13/17	1015	Grab	DW	1	N		1					1 WEEK TAT PLEASE
Agua Nueva WRF well SC-01R 26107-9009													Groundwater
-12 1707116-01	7/17/17	0940	Grab	W	1	N		1					

Preservative Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☑Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:
3.6°C on ice

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ | Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	07-18-17 1308	Mike Rozat	7/18/17	1308
Mike Rozat	7/18/17	1620			
			Received in Laboratory by:	LA	7/18/17 16:20

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

7/31/2017

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Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-86287-1

Login Number: 86287
List Number: 1
Creator: Gravlin, Andrea

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1707102-04

PROJECT & LOCATION: Agua Nueva WRF - Thickened Sludge Pump (Quarterly)

PROJECT-LOCATION NUMBER: 26107-0600 (XXXXX-XXXX)

SAMPLE START DATE: 07/13/2017 (MM/DD/YY OR MM/DD/YYYY) SAMPLE START TIME: 0600 (Military time) CLIENT: IWC

SAMPLE END DATE: 07/14/2017 (MM/DD/YY OR MM/DD/YYYY) SAMPLE END TIME: 0600 (Military time) SAMPLER(S): Silva Valencia, Riccaboni, Wichert (Print Last Name(s) Only)

Permit Type: ☐ APP ■ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury contract	×		☐	■
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	×		☐	■
TCLP Metals			☐	☐
503 Metals **			☐	■
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total contract	☐	■
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	☐
Dioxin GC/SIM/MS Scan	☐	■
Organochlorine Pesticides & PCBs	☐	■
Purgeable Organics (GCMS)	■	☐
Semivolatile Organics (GCMS)	☐	■
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total 1 of 2 contract	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
The lab shall composite the four discrete Purgeable Organics and Acrolein/Acrylonitrile samples.
Cyanide and mercury sent to Test America, GOS
07-14-17 10#18-01544

Septum Blank Prep Date & Initials: 05-05-17 LEJ

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	7.13.17	1500
Relinquished by:	Received by:	Date:	Time: (Military time)
[signature]	Refrigerator	7.14.17	0130
Relinquished by:	Received by:	Date:	Time: (Military time)
Refrigerator	[signature]	7.14.17	0600
Relinquished by:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	07.14.17	0836
Relinquished by:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	7/18/17	1308

Sample Integrity/Preservation:
# of Bottles Delivered: (10) GOS
Transported on Ice: ☒ YES ☐ NO

Lab Receipt
Temperature: 4 °C
Initials: GOS
Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☒	☐	☐
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
WATER QUALITY
SAMPLE COLLECTION REPORT

SAMPLE LOCATION: Agua Nueva WRF – Thickened Sludge Pump LIMS: 1707102-04
LOCATION ID: 26107 – 0600 SAMPLERS: Silva, Valencia, Riccaboni, Wickert
Last names only, primary sampler first
SAMPLE DATE: 07-14-17

Sample D or C	Parameter	Frequency	AUTO MAN	Volume Submitted	Bottle/Preservation
C	Semivolatile Organics	Hand Composite	Man	1000 ml	Amber Glass/None/Ice
C	Organochlorine Pest & PCB's		Man	1000 ml	Amber Glass/None/Ice
C	Dioxin		Man	1000 ml	Amber Glass/None/Ice
C	Metals (T) + Molybdenum x2	4 Aliquots for the duration of the discharge	Man	1000 ml	Dissolved Metals/None/Ice
C	Cyanide (T)		Man	1000 ml	Dissolved Metals/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
To be Composited by the Laboratory					
D	Purgeable Organics	Hand Composite	Man	4 X 40	None/Ice
D	Acrolein/Acrylonitrile		Man	4 X 40	None/Ice
		4 Aliquots for the duration of the discharge			

2.2L Aliquot

	Time
Aliquot #1	0615
Aliquot #2	1225
Aliquot #3	1800
Aliquot #4	2350

Comments:	Thickened Sludge Pump samples are not preserved.
	All Composites including Cyanide can be poured off at the end of the sampling event
	Two Total Solids samples are required. One for our lab, one for the contract lab

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): ~~1705~~ 1707200-01 GOS 07-27-17

PROJECT & LOCATION: Agua Nueva WRF - Thickened Sludge Pump (Quarterly)

PROJECT-LOCATION NUMBER: 26107-0600 (XXXXX-XXXX)

SAMPLE START DATE: _____ MM/DD/YY OR MM/DD/YYYY

SAMPLE START TIME: _____ (Military time)

CLIENT: CRAO/Water Quality

SAMPLE END DATE: 07-27-2017 MM/DD/YY OR MM/DD/YYYY

SAMPLE END TIME: 1335 (Military time)

SAMPLER(S): Silva (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ■ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other _____

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury			☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *			☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other PFOA / PFOS contract	■	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	☐	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ °C
☐ Temperature *SM 2550 B*	_____	°C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions: Sent to Test America GOS 07-27-17 PO# 18-02835

Septum Blank Prep Date & Initials: _____ _____

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	07-27-17	1343
[signature]	[signature]	7/31/17	1140

Sample Integrity/Preservation:

# of Bottles Delivered: 1 GOS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 17 °C

Initials: GOS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☒	☐	☐
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)

** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Joe Doranski	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6032	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Silva and Martinez
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6032 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☒ 2 weeks			Lab Sampling:
Project Name: PFOA and friends	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-02835	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 637 PFOA and PFOS	total % solids for mg/kg	Cyanide mg/kg	Mercury mg/kg	Mercury	Sample Specific Notes:
Green Valley WRF wet haul sludge 25000-1962													SL - sludge
1707197-01	7/27/17	0905	Grab	SL	2	N		2	1				mg/kg dry weight
1707198-01	7/27/17	0900	Grab	SL	2	N			1	1			mg/kg dry weight
Agua Nueva WRF thickened sludge pump 26107-0600													SL - sludge
1707200-01	7/27/17	1335	Grab	SL	1	N		1	1				mg/kg dry weight

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

LEJ 07-31-17

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd:_____ Corr'd:_____	Therm ID No.:_____
Relinquished by: Greg Spence for samplers	Company: PC CRAO Lab	Date/Time: 1140	Received by: Michael Root	Company: TA	Date/Time: 7/31/17 1140
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time: m 7/31/17
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY

WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1707197-01, 1707198-01, 1707200-01**	**DO**	**18-02835**
CONTRACT LAB	**TestAmerica PHX, Sac**	**SAMPLE GROUP**	**PFOA and friends**
ANALYSES	**PFOA, PFOS, TS, Cn**	**REPORT ID**	**550-87023-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	NA
DO received in Pima Core?	NA
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	NA
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	NA
Semivolatiles & Volatiles: Check that all analytes were delivered?	Y
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	Y
Was Belinda Gamboa-Felix notified of any exceedences?	NA
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	NA
Report states if zeolite treatment was utilized?	NA
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	NA
Chemistry data included?	NA
Reference Toxicant Test Results and Control Chart within limits?	NA

PMSD Determination included and within acceptable range? (minimum acceptable= 13)				NA
End Points include TUc, NOEC, LOEC, and IC25?				NA
Statistics verify endpoints				NA
Control Charts Updated to include month of analysis				NA
Reviewer Initials:	**SN**	**Review Date:**	**8-22-17**	

PEER/FINAL REVIEW:				PR	FR
LIMS/Excel data matches printed CL report?				✓	
Analysis dates are correct?				✓	
Correct Data Qualifiers included if necessary.				✓	
CRAO report shows result is from Contract Lab?				✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?				✓	
DO received in Pima Core			8-22-17 TB		
Analysis set to Reported?					✓
Peer Reviewer Initials:	TB	**Review Date:**	8-22-17		
Biomonitor Supervisor Initials:	N/A	**Review Date:**	N/A		
Final Reviewer Initials:	JEC	**Review Date:**	9.1.17		

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**
1707197-01	Analyzed by EPA 537 "modified." Prep method: "Shake."	NA
1707200-01	Analyzed by EPA 537 "modified." Prep method: "Shake."	NA

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-87023-1
TestAmerica Sample Delivery Group: Various
Client Project/Site: PFOA and friends

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Joseph Doranski

Authorized for release by:
8/21/2017 12:00:27 PM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Qualifiers

LCMS

Qualifier	Qualifier Description
S6	Surrogate recovery was below laboratory acceptance limits and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

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)

Case Narrative

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Job ID: 550-87023-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-87023-1

Comments
No additional comments.

Receipt
The samples were received on 7/31/2017 2:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

LCMS
Method(s) 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit for 13C2-PFTeDA: 1707197-01 (550-87023-1) and 1707200-01 (550-87023-3). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

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

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

Organic Prep
Method(s) SHAKE: Sample came in as a liquid, per the client's request, the sample was treated as a solid. Sample was weighed out at 5 g in the centrifuge tube.

1707200-01 (550-87023-3)

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

Sample Summary

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-87023-1	1707197-01	Solid	07/27/17 09:05	07/31/17 14:30
550-87023-2	1707198-01	Solid	07/27/17 09:00	07/31/17 14:30
550-87023-3	1707200-01	Solid	07/27/17 13:35	07/31/17 14:30

Detection Summary

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Client Sample ID: 1707197-01 — Lab Sample ID: 550-87023-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.010		0.0063	0.0023	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.0083		0.0063	0.0032	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.0031	E4	0.0063	0.0026	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.036		0.0063	0.0018	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.0057	E4	0.0063	0.0034	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.016		0.0063	0.0038	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.0081		0.0063	0.0037	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.041		0.0063	0.0040	mg/Kg	1	☼	537 (modified)	Total/NA
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.017	E4	0.063	0.012	mg/Kg	1	☼	537 (modified)	Total/NA
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.044	E4	0.063	0.041	mg/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: 1707198-01 — Lab Sample ID: 550-87023-2

No Detections.

Client Sample ID: 1707200-01 — Lab Sample ID: 550-87023-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorodecanoic acid (PFDA)	0.0080	E4	0.015	0.0044	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.019		0.015	0.0090	mg/Kg	1	☼	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Client Sample ID: 1707197-01

Date Collected: 07/27/17 09:05
Date Received: 07/31/17 14:30

Lab Sample ID: 550-87023-1

Matrix: Solid
Percent Solids: 3.1

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	0.010		0.0063	0.0023	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluoroheptanoic acid (PFHpA)	ND	E8	0.0063	0.0028	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorooctanoic acid (PFOA)	0.0083		0.0063	0.0032	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorononanoic acid (PFNA)	0.0031	E4	0.0063	0.0026	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorodecanoic acid (PFDA)	0.036		0.0063	0.0018	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluoroundecanoic acid (PFUnA)	0.0057	E4	0.0063	0.0034	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorododecanoic acid (PFDoA)	0.016		0.0063	0.0038	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorotridecanoic Acid (PFTriA)	ND	E8	0.0063	0.0029	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorotetradecanoic acid (PFTeA)	ND	E8	0.0063	0.0018	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorobutanesulfonic acid (PFBS)	ND	E8	0.0063	0.0033	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorohexanesulfonic acid (PFHxS)	0.0081		0.0063	0.0037	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorooctanesulfonic acid (PFOS)	0.041		0.0063	0.0040	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.017	E4	0.063	0.012	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.044	E4	0.063	0.041	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*52*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C4 PFOA	*68*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C5 PFNA	*80*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C2 PFDA	*73*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C2 PFUnA	*49*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C2 PFDoA	*22*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
18O2 PFHxS	*66*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C4 PFOS	*74*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C4-PFHpA	*65*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
d3-NMeFOSAA	*69*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
d5-NEtFOSAA	*62*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C3-PFBS	*46*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C2-PFTeDA	*5*	*S6*	*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	96.9		0.1	0.1	%			08/01/17 08:37	1
Percent Solids	3.1		0.1	0.1	%			08/01/17 08:37	1

Client Sample ID: 1707198-01

Date Collected: 07/27/17 09:00
Date Received: 07/31/17 14:30

Lab Sample ID: 550-87023-2

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	96.7		0.1	0.1	%			08/01/17 08:37	1
Percent Solids	3.3		0.1	0.1	%			08/01/17 08:37	1

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Client Sample ID: 1707198-01

Date Collected: 07/27/17 09:00
Date Received: 07/31/17 14:30

Lab Sample ID: 550-87023-2
Matrix: Solid
Percent Solids: 3.3

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	12	4.6	mg/Kg	☼	08/02/17 11:30	08/03/17 12:35	1

Client Sample ID: 1707200-01

Date Collected: 07/27/17 13:35
Date Received: 07/31/17 14:30

Lab Sample ID: 550-87023-3
Matrix: Solid
Percent Solids: 1.3

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND	E8	0.015	0.0054	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluoroheptanoic acid (PFHpA)	ND	E8	0.015	0.0067	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorooctanoic acid (PFOA)	ND	E8	0.015	0.0078	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorononanoic acid (PFNA)	ND	E8	0.015	0.0064	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorodecanoic acid (PFDA)	**0.0080**	**E4**	0.015	0.0044	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluoroundecanoic acid (PFUnA)	ND	E8	0.015	0.0081	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorododecanoic acid (PFDoA)	ND	E8	0.015	0.0093	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorotridecanoic Acid (PFTriA)	ND	E8	0.015	0.0071	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorotetradecanoic acid (PFTeA)	ND	E8	0.015	0.0044	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorobutanesulfonic acid (PFBS)	ND	E8	0.015	0.0079	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorohexanesulfonic acid (PFHxS)	**0.019**		0.015	0.0090	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorooctanesulfonic acid (PFOS)	ND	E8	0.015	0.0097	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	E8	0.15	0.030	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	E8	0.15	0.10	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*70*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C4 PFOA	*92*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C5 PFNA	*98*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C2 PFDA	*82*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C2 PFUnA	*66*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C2 PFDoA	*42*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
18O2 PFHxS	*89*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C4 PFOS	*80*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C4-PFHpA	*93*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
d3-NMeFOSAA	*76*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
d5-NEtFOSAA	*75*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C3-PFBS	*78*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C2-PFTeDA	*18*	*S6*	*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**98.7**		0.1	0.1	%			08/10/17 15:41	1
Percent Solids	**1.3**		0.1	0.1	%			08/10/17 15:41	1

TestAmerica Phoenix

Isotope Dilution Summary

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Method: 537 (modified) - Perfluorinated Hydrocarbons

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		3C2 PFHx	3C4 PFO/	3C5 PFN/	3C2 PFD/	3C2 PFUn	3C2 PFDo	8O2 PFHx	3C4 PFO:
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
550-87023-1	1707197-01	52	68	80	73	49	22	66	74
550-87023-3	1707200-01	70	92	98	82	66	42	89	80
LCS 320-177823/2-A	Lab Control Sample	88	95	89	85	77	61	91	85
MB 320-177823/1-A	Method Blank	89	104	93	90	82	61	93	88

		Percent Isotope Dilution Recovery (Acceptance Limits)				
		3C4-PFHp	-NMeFOS/	-NEtFOS/	3C3-PFB:	C2-PFTeI
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
550-87023-1	1707197-01	65	69	62	46	5 S6
550-87023-3	1707200-01	93	76	75	78	18 S6
LCS 320-177823/2-A	Lab Control Sample	99	70	70	83	32
MB 320-177823/1-A	Method Blank	108	72	74	87	25

Surrogate Legend

13C2 PFHxA = 13C2 PFHxA
13C4 PFOA = 13C4 PFOA
13C5 PFNA = 13C5 PFNA
13C2 PFDA = 13C2 PFDA
13C2 PFUnA = 13C2 PFUnA
13C2 PFDoA = 13C2 PFDoA
18O2 PFHxS = 18O2 PFHxS
13C4 PFOS = 13C4 PFOS
13C4-PFHpA = 13C4-PFHpA
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA
13C3-PFBS = 13C3-PFBS
13C2-PFTeDA = 13C2-PFTeDA

TestAmerica Phoenix

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

87023

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8/21/2017

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Joe Doranski	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6032	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Silva and Martinez
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6032 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☒ 2 weeks			Lab Sampling:
Project Name: PFOA and friends	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-02835	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 537 PFOA and PFOS	total % solids for mg/kg	Cyanide mg/kg	Mercury mg/kg	Mercury	Sample Specific Notes:
Green Valley WRF wet haul sludge 25000-1962													SL - sludge
-01 1707197-01	7/27/17	0905	Grab	SL	2	N		2	1				mg/kg dry weight
-02 1707198-01	7/27/17	0900	Grab	SL	2	N			1	1			mg/kg dry weight
Agua Nueva WRF thickened sludge pump 26107-0600													SL - sludge
-03 1707200-01	7/27/17	1335	Grab	SL	1	N		1	1				mg/kg dry weight

550-87023 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

LEJ 07-31-17

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd: 2.6 | Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	1140	Mike Root	TA	7/31/17 1140
Mike Root		7/31/17 1430			7/31/17
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				TA	7/31/17 14:30

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

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TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Eshelman, Linda	Carrier Tracking No(s):	COC No: 550-18367.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: linda.eshelman@testamericainc.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-87023-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 8/7/2017			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: PFOA and friends	Project #: 55001656			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/Shake_Bath_14D PFAS, Method 537 List	Moisture/ Percent moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
1707197-01 (550-87023-1)	7/27/17	09:05 Arizona		Solid			X		1	
1707200-01 (550-87023-3)	7/27/17	13:35 Arizona		Solid			X	X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*		*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[illegible] 08-21-17	15:40 PM	TAB	Brian Husong	8/21/17 1110	TALS
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.4

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-87023-1
SDG Number: Various

Login Number: 87023
List Number: 1
Creator: Gravlin, Andrea

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-87023-1
SDG Number: Various

Login Number: 87023
List Number: 2
Creator: Turpen, Troy

List Source: TestAmerica Sacramento
List Creation: 08/03/17 11:36 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	984136
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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?	False	Received project as a subcontract.
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	

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 12/13/2017
Laboratory License: AZO159

Sample Analysis Report

Agua Nueva WRF

October 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Pratt

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

2·7·18
Date

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Chlorinated Effluent	1710052-01	Water	10/6/2017 10:55:00	10/6/2017 11:57:00	Q6

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1710049-01	C	Dimethyl phthalate	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	0.58	4.00	D1, D7	SJM
1710049-01	C	Di-n-butyl phthalate	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	2.50	12.00	D1, D7	SJM
1710049-01	C	Di-n-octyl phthalate	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	2.55	12.00	D1, D7	SJM
1710049-01	C	Fluoranthene	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	1.32	4.00	D1, D7	SJM
1710049-01	C	Fluorene	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	1.54	4.00	D1, D7	SJM
1710049-01	C	Hexachlorobenzene	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	0.62	4.00	D1, D7	SJM
1710049-01	C	Hexachlorobutadiene	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	1.01	4.00	D1, D7	SJM
1710049-01	C	Hexachlorocyclopentadiene	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	4.23	12.00	D1, D7	SJM
1710049-01	C	Hexachloroethane	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	1.26	4.00	D1, D7	SJM
1710049-01	C	Indeno(1,2,3-cd)pyrene	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	2.83	12.00	D1, D7	SJM
1710049-01	C	Isophorone	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	1.66	4.00	D1, D7	SJM
1710049-01	C	Naphthalene	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	1.77	4.00	D1, D7	SJM
1710049-01	C	n-Decane	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	1.95	4.00	D1, D7	SJM
1710049-01	C	Nitrobenzene	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	2.10	12.00	D1, D7	SJM
1710049-01	C	N-Nitrosodimethylamine	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	2.09	12.00	D1, D7, PC3	SJM
1710049-01	C	N-Nitrosodi-n-propylamine	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	2.43	12.00	D1, D7	SJM
1710049-01	C	N-Nitrosodiphenylamine	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	6.08	20.00	D1, D7, V1	SJM
1710049-01	C	n-Octadecane	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	2.18	12.00	D1, D7	SJM
1710049-01	C	Pentachlorophenol	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	4.02	12.00	D1, D7	SJM
1710049-01	C	Phenanthrene	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	1.63	4.00	D1, D7	SJM
1710049-01	C	Phenol	10/06/17 6:00	EPA 625	10/16/17 21:04	**16.2**	ug/L	2.59	12.00	D1, D7	SJM
1710049-01	C	Pyrene	10/06/17 6:00	EPA 625	10/16/17 21:04	**ND**	ug/L	1.38	4.00	D1, D7	SJM
1710049-01	C	1,2-Diphenylhydrazine	10/06/17 6:00	EPA 8270C	10/16/17 21:04	**ND**	ug/L	0.98	4.00	D1, D7	SJM
1710049-01RE1	C	Copper	10/06/17 6:00	EPA 200.8	11/7/17 18:12	**51.8**	ug/L	0.36	2.00	D1	JB
1710049-01RE1	C	Zinc	10/06/17 6:00	EPA 200.8	11/7/17 18:12	**151**	ug/L	0.23	2.00	D2	JB
Thickened Sludge Pump (26107-0600)											
1710049-03	C	Antimony	10/06/17 6:00	EPA 6010D	10/25/17 15:59	**ND**	mg/kg dry		15.63		MLB
1710049-03	C	Arsenic	10/06/17 6:00	EPA 6010D	10/25/17 15:59	**ND**	mg/kg dry		15.63		MLB
1710049-03	C	Beryllium	10/06/17 6:00	EPA 6010D	10/25/17 15:59	**ND**	mg/kg dry		3.13		MLB
1710049-03	C	Cadmium	10/06/17 6:00	EPA 6010D	10/25/17 15:59	**ND**	mg/kg dry		6.25		MLB
1710049-03	C	Chromium	10/06/17 6:00	EPA 6010D	10/25/17 15:59	**ND**	mg/kg dry		15.63		MLB
1710049-03	C	Copper	10/06/17 6:00	EPA 6010D	10/25/17 15:59	**47.6**	mg/kg dry		15.63		MLB
1710049-03	C	Lead	10/06/17 6:00	EPA 6010D	10/25/17 15:59	**ND**	mg/kg dry		15.63		MLB
1710049-03	C	Mercury	10/06/17 6:00	EPA 7471B	10/31/17 10:26	**0.59**	mg/kg dry		0.00414		DML
1710049-03	C	Molybdenum	10/06/17 6:00	EPA 6010D	10/25/17 15:59	**ND**	mg/kg dry		6.25		MLB
1710049-03	C	Nickel	10/06/17 6:00	EPA 6010D	10/25/17 15:59	**ND**	mg/kg dry		15.63		MLB
1710049-03	C	Selenium	10/06/17 6:00	EPA 6010D	10/25/17 15:59	**ND**	mg/kg dry		31.25		MLB
1710049-03	C	Silver	10/06/17 6:00	EPA 6010D	10/26/17 17:04	**0.591**	mg/kg dry		1.56		MLB
1710049-03	C	Thallium	10/06/17 6:00	EPA 6010D	10/27/17 15:58	**ND**	mg/kg dry		15.63		MLB
1710049-03	C	Zinc	10/06/17 6:00	EPA 6010D	10/25/17 15:59	**121**	mg/kg dry		15.63		MLB
1710049-03	C	% Solids	10/06/17 6:00	SM 2540G	10/7/17 13:06	**1.21**	%		0.01		SDR
1710049-03	C	Acrolein	10/06/17 6:00	EPA 624	10/11/17 19:08	**ND**	mg/kg dry	0.00299	8.28		SRM
1710049-03	C	Acrylonitrile	10/06/17 6:00	EPA 624	10/11/17 19:08	**ND**	mg/kg dry	0.000650	8.28		SRM
1710049-03	C	4,4-DDD	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00006	0.00199	D1, D7	KLH
1710049-03	C	4,4-DDE	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00003	0.00199	D1, D7	KLH
1710049-03	C	4,4-DDT	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00006	0.00199	D1, D7	KLH
1710049-03	C	Aldrin	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00006	0.00199	D1, D7	KLH
1710049-03	C	alpha-BHC	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00004	0.00199	D1, D7	KLH
1710049-03	C	beta-BHC	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00009	0.00199	D1, D7	KLH
1710049-03	C	Chlordane	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00025	0.02	D1, D7	KLH
1710049-03	C	delta-BHC	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00007	0.00199	D1, D7	KLH
1710049-03	C	Dieldrin	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00015	0.00398	D1, D7	KLH
1710049-03	C	Endosulfan I	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00004	0.00199	D1, D7	KLH
1710049-03	C	Endosulfan II	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00003	0.00199	D1, D7	KLH
1710049-03	C	Endosulfan sulfate	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00004	0.00199	D1, D7	KLH
1710049-03	C	Endrin	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00010	0.00199	D1, D7	KLH
1710049-03	C	Endrin aldehyde	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00011	0.00199	D1, D7	KLH
1710049-03	C	gamma-BHC (Lindane)	10/06/17 6:00	EPA 625	11/7/17 17:27	**ND**	mg/kg dry	0.00007	0.00199	D1, D7	KLH

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1710049-03	C	Heptachlor	10/06/17 6:00	EPA 625	11/7/17 17:27	ND	mg/kg dry	0.00005	0.00199	D1, D7	KLH
1710049-03	C	Heptachlor Epoxide	10/06/17 6:00	EPA 625	11/7/17 17:27	ND	mg/kg dry	0.00004	0.00199	D1, D7	KLH
1710049-03	C	PCB 1016	10/06/17 6:00	EPA 625	11/7/17 17:27	ND	mg/kg dry	0.00006	0.00398	D1, D7	KLH
1710049-03	C	PCB 1221	10/06/17 6:00	EPA 625	11/7/17 17:27	ND	mg/kg dry	0.00017	0.01	D1, D7	KLH
1710049-03	C	PCB 1232	10/06/17 6:00	EPA 625	11/7/17 17:27	ND	mg/kg dry	0.00007	0.01	D1, D7	KLH
1710049-03	C	PCB 1242	10/06/17 6:00	EPA 625	11/7/17 17:27	ND	mg/kg dry	0.00013	0.01	D1, D7	KLH
1710049-03	C	PCB 1248	10/06/17 6:00	EPA 625	11/7/17 17:27	ND	mg/kg dry	0.00010	0.01	D1, D7	KLH
1710049-03	C	PCB 1254	10/06/17 6:00	EPA 625	11/7/17 17:27	ND	mg/kg dry	0.00019	0.01	D1, D7	KLH
1710049-03	C	PCB 1260	10/06/17 6:00	EPA 625	11/7/17 17:27	ND	mg/kg dry	0.00007	0.00398	D1, D7	KLH
1710049-03	C	Total PCBs	10/06/17 6:00	EPA 625	11/7/17 17:27	ND	mg/kg dry	0.00016	0.01	D1, D7	KLH
1710049-03	C	Toxaphene	10/06/17 6:00	EPA 625	11/7/17 17:27	ND	mg/kg dry	0.00094	0.03	D1, D7	KLH
1710049-03	C	Methoxychlor	10/06/17 6:00	EPA 8270C	11/7/17 17:27	ND	mg/kg dry		0.00199	D1, D7	KLH
1710049-03	C	1,1,1-Trichloroethane	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0002	0.00083		SRM
1710049-03	C	1,1,2,2-Tetrachloroethane	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.00006	0.00083		SRM
1710049-03	C	1,1,2-Trichloroethane	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.00009	0.00083		SRM
1710049-03	C	1,1-Dichloroethane	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0002	0.00083		SRM
1710049-03	C	1,1-Dichloroethene	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0001	0.00083		SRM
1710049-03	C	1,2-Dichlorobenzene	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.00008	0.00083		SRM
1710049-03	C	1,2-Dichloroethane	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.00009	0.00083		SRM
1710049-03	C	1,2-Dichloropropane	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0001	0.00083		SRM
1710049-03	C	1,3-Dichlorobenzene	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.00008	0.00083		SRM
1710049-03	C	1,4-Dichlorobenzene	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0002	0.00083		SRM
1710049-03	C	2-Chloroethyl vinyl ether	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0003	0.00166		SRM
1710049-03	C	Benzene	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0001	0.00083		SRM
1710049-03	C	Bromodichloromethane	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0002	0.00083		SRM
1710049-03	C	Bromoform	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0003	0.00083		SRM
1710049-03	C	Bromomethane	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0001	0.00083		SRM
1710049-03	C	Carbon Tetrachloride	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0004	0.00083		SRM
1710049-03	C	Chlorobenzene	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.00006	0.00083		SRM
1710049-03	C	Chloroethane	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0002	0.00083		SRM
1710049-03	C	Chloroform	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0001	0.00083		SRM
1710049-03	C	Chloromethane	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0002	0.00083		SRM
1710049-03	C	cis-1,3-Dichloropropene	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.00009	0.00083		SRM
1710049-03	C	Dibromochloromethane	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.00006	0.00083		SRM
1710049-03	C	Ethyl Benzene	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.00009	0.00083		SRM
1710049-03	C	Methylene Chloride	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0002	0.00083		SRM
1710049-03	C	Tetrachloroethene	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0002	0.00083		SRM
1710049-03	C	Toluene	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0001	0.00083		SRM
1710049-03	C	Total Trihalomethanes	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0003	0.00083		SRM
1710049-03	C	trans-1,2-Dichloroethene	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0001	0.00083		SRM
1710049-03	C	trans-1,3-Dichloropropene	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0001	0.00083		SRM
1710049-03	C	Trichloroethene	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0001	0.00083		SRM
1710049-03	C	Trichlorofluoromethane	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0003	0.00083		SRM
1710049-03	C	Vinyl chloride	10/06/17 6:00	EPA 624	10/9/17 14:33	ND	mg/kg dry	0.0002	0.00083		SRM
1710049-03	C	1,2,4-Trichlorobenzene	10/06/17 6:00	EPA 8260	10/9/17 14:33	ND	mg/kg dry		0.00083		SRM
1710049-03	C	1,2-Dibromo-3-chloropropane	10/06/17 6:00	EPA 8260	10/9/17 14:33	ND	mg/kg dry		0.00166		SRM
1710049-03	C	1,2-Dibromoethane	10/06/17 6:00	EPA 8260	10/9/17 14:33	ND	mg/kg dry		0.00083		SRM
1710049-03	C	cis-1,2-Dichloroethene	10/06/17 6:00	EPA 8260	10/9/17 14:33	ND	mg/kg dry		0.00083		SRM
1710049-03	C	m,p-Xylenes	10/06/17 6:00	EPA 8260	10/9/17 14:33	ND	mg/kg dry		0.00166		SRM
1710049-03	C	o-Xylene	10/06/17 6:00	EPA 8260	10/9/17 14:33	ND	mg/kg dry		0.00083		SRM
1710049-03	C	Styrene	10/06/17 6:00	EPA 8260	10/9/17 14:33	ND	mg/kg dry		0.00083		SRM
1710049-03	C	Xylenes, total	10/06/17 6:00	EPA 8260	10/9/17 14:33	ND	mg/kg dry		0.00166		SRM
1710049-03	C	2,3,7,8-TCDD - Dioxin Scan	10/06/17 6:00	EPA 625	11/3/17 12:37	ND	ug/kg dry		2.07		SJM
1710049-03	C	1,2,4-Trichlorobenzene	10/06/17 6:00	EPA 625	10/16/17 22:27	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	2,3-Dichloroaniline	10/06/17 6:00	EPA 625	10/16/17 22:27	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1710049-03	C	2,4,6-Trichlorophenol	10/06/17 6:00	EPA 625	10/16/17 22:27	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	2,4-Dichlorophenol	10/06/17 6:00	EPA 625	10/16/17 22:27	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	2,4-Dimethylphenol	10/06/17 6:00	EPA 625	10/16/17 22:27	ND	mg/kg dry	0.004	0.01	D1, D7	SJM
1710049-03	C	2,4-Dinitrophenol	10/06/17 6:00	EPA 625	10/16/17 22:27	ND	mg/kg dry	0.009	0.01	D1, D7	SJM
1710049-03	C	2,4-Dinitrotoluene	10/06/17 6:00	EPA 625	10/16/17 22:27	ND	mg/kg dry	0.002	0.01	D1, D7	SJM

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1710049-03	C	2,6-Dinitrotoluene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	2-Chloronaphthalene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	2-Chlorophenol	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	2-Methyl-4,6-dinitrophenol	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1710049-03	C	2-Methylphenol	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	2-Nitrophenol	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710049-03	C	3,3-Dichlorobenzidine	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.01	D1, D7, V1	SJM
1710049-03	C	4-Bromophenyl phenyl ether	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	4-Chloro-3-methylphenol	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710049-03	C	4-Chlorophenyl phenyl ether	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	4-Methylphenol	10/06/17 6:00	EPA 625	10/16/17 22:27	**18.64**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	4-Nitrophenol	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1710049-03	C	Acenaphthene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	Acenaphthylene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	Anthracene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	Benzidine	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.007	0.01	D1, D7	SJM
1710049-03	C	Benzo[a]anthracene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	Benzo[a]pyrene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	Benzo[b]fluoranthene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	Benzo[ghi]perylene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710049-03	C	Benzo[k]fluoranthene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710049-03	C	bis(2-chloroethoxy)methane	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	bis(2-chloroethyl)ether	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710049-03	C	bis(2-chloroisopropyl)ether	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	bis(2-ethylhexyl)phthalate	10/06/17 6:00	EPA 625	10/16/17 22:27	**10.93**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710049-03	C	Butylbenzylphthalate	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	Carbazole	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710049-03	C	Chrysene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	Dibenzo(a,h)anthracene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710049-03	C	Diethyl phthalate	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710049-03	C	Dimethyl phthalate	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1710049-03	C	Di-n-butyl phthalate	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710049-03	C	Di-n-octyl phthalate	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710049-03	C	Fluoranthene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	Fluorene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	Hexachlorobenzene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1710049-03	C	Hexachlorobutadiene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	Hexachlorocyclopentadiene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1710049-03	C	Hexachloroethane	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	Indeno(1,2,3-cd)pyrene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710049-03	C	Isophorone	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	Naphthalene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	n-Decane	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	Nitrobenzene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710049-03	C	N-Nitrosodimethylamine	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1710049-03	C	N-Nitrosodi-n-propylamine	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710049-03	C	N-Nitrosodiphenylamine	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.006	0.01	D1, D7, V1	SJM
1710049-03	C	n-Octadecane	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710049-03	C	Pentachlorophenol	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1710049-03	C	Phenanthrene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710049-03	C	Phenol	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710049-03	C	Pyrene	10/06/17 6:00	EPA 625	10/16/17 22:27	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	1,2-Diphenylhydrazine	10/06/17 6:00	EPA 8270C	10/17/17 13:21	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710049-03	C	Cyanide, Total	10/06/17 6:00	9014	10/20/17 17:53	**ND**	mg/Kg dry	12	32	E8	NEL *

* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.

1710049-03	C	Percent Solids	10/06/17 6:00	2540G	10/11/17 08:15	**1.2**	%	0.1	0.1		YET *

* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.

Chlorinated Effluent (26107-7000)

1710052-01	D	Nitrate/Nitrite	10/06/17 10:55	EPA 353.2	10/10/17 10:37	**0.40**	mg/L	0.02	0.20		KMT

Qualifier Definitions

A	Absence
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of target analyte.
D4	Minimum Reporting Limit (MRL) adjusted to reflect sample amount received and analyzed.
D7	Minimum Reporting Limit adjusted to reflect sample dilution.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H6	The filtration was not done within the required 15 minutes of sampling, the sample was filtered in the laboratory.
J	Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
M5	Analyte concentration was determined by the method of standard addition (MSA).
N7	Additional analysis was not performed based on the "Total" result which was below the requested analyte's MCL/Action level/Trigger Level.
NA	Not Analyzed
NC	Not Calculable
PC3	Semi-quantitation is included in the case narrative.
Q6	Sample was received above recommended temperature.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

Semi-Quantitation
Method: 625
1710049-01

Compound Name	Concentration-ug/L
2-Butoxyethanol	138
Bnezoic Acid	194
Benzeneacetic Acid	128
N,N-Dimethyl-1-dodecanamine	538
Dodecanoic Acid	104
Tetradecanoic Acid	151
Palmitic Acid	25604
Oleic Acid	30996
Stearic Acid	11816
Squalene	189

SJM 11/02/17

Semi-Quantitation
Method: 625
1710049-03

Compound Name	Concentration-mg/Kg
N,N-Dimethyl-1-dodecanamine	652
Tetradecanoic Acid	305
Palmitic Acid	5973
Oleic Acid	79959
Stearic Acid	18899

SJM 11/02/17

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1710049-03

PROJECT & LOCATION: Agua Nueva WRF - Thickened Sludge Pump (Quarterly)

PROJECT-LOCATION NUMBER: 26107-0600 (XXXXX-XXXX)

SAMPLE START DATE: 10-05-2017 (MM/DD/YY OR MM/DD/YYYY) SAMPLE START TIME: 0600 (Military time) CLIENT: IWC

SAMPLE END DATE: 10-06-2017 (MM/DD/YY OR MM/DD/YYYY) SAMPLE END TIME: 0600 (Military time) SAMPLER(S): Silva, Valencia, Riccaboni, Martinez (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ■ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	×		☐	■
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	×		☐	■
TCLP Metals			☐	☐
503 Metals **			☐	■
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total (contract)	☐	■
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	☐
Dioxin GC/SIM/MS Scan	☐	■
Organochlorine Pesticides & PCBs	☐	■
Purgeable Organics (GCMS)	■	☐
Semivolatile Organics (GCMS)	☐	■
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total (1 of 2 contract)	☐	■
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:
The lab shall composite the four discrete Purgeable Organics and Acrolein/Acrylonitrile samples.
Cyanide and 1 of 2 PBOJ sent to Test America.
GOJ 10-06-17 PO# 18-010457
624+, 625+, 625P+ GOJ 10-06-17

Septum Blank Prep Date & Initials: 10-03-17 LEJ

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	10.5.2017	1500
Relinquished by:	Received by:	Date:	Time: (Military time)
[signature]	Refrigerator	10.6.17	0130
Relinquished by:	Received by:	Date:	Time: (Military time)
Refrigerator	[signature]	10-6-17	0600
Relinquished by:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	10-06-17	0825
Relinquished by:	Received by:	Date:	Time: (Military time)
[signature]	Mike Rost	12/07 10/10/17	

Sample Integrity/Preservation:

# of Bottles Delivered: (9) GOJ

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 5 °C

Initials: GOJ

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☒	☐	☐
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
WATER QUALITY
SAMPLE COLLECTION REPORT

SAMPLE LOCATION: Agua Nueva WRF – Thickened Sludge Pump LIMS: 1710049-03
LOCATION ID: 26107 – 0600 SAMPLERS: Silva, Valencia, Riccaboni, Martinez
Last names only, primary sampler first
SAMPLE DATE: 10-6-17

Sample D or C	Parameter	Frequency	AUTO MAN	Volume Submitted	Bottle/Preservation
C	Semivolatile Organics	Hand Composite	Man	1000 ml	Amber Glass/None/Ice
C	Organochlorine Pest & PCB's		Man	1000 ml	Amber Glass/None/Ice
C	Dioxin		Man	1000 ml	Amber Glass/None/Ice
C	Metals (T) + Molybdenum	4 Aliquots for the duration of the discharge	Man	1000 ml	Dissolved Metals/None/Ice
C	Cyanide (T)		Man	1000 ml	Dissolved Metals/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
To be Composited by the Laboratory					
D	Purgeable Organics	Hand Composite	Man	4 X 40	None/Ice
D	Acrolein/Acrylonitrile	4 Aliquots for the duration of the discharge	Man	4 X 40	None/Ice

Grab a 2L Aliquot.

		Time
Aliquot #1	2L	0605
Aliquot #2	2L	1220
Aliquot #3	2L	
Aliquot #4	2L	

Comments:	Thickened Sludge Pump samples are not preserved.
	All Composites including Cyanide can be poured off at the end of the sampling event
	Two Total Solids samples are required. One for our lab, one for the contract lab

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Joe Doranski	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6032	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6032 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☑ 2 weeks			Lab Sampling:
Project Name: Agua Nueva	☐ 1 week			
Site: Agua Nueva WRF	☐ 2 days			Job / SDG No.:
P O # 18-010457	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total cyanide mg/kg dry	total % solids	Sample Specific Notes:
Agua Nueva WRF thickened sludge pump 26107-0600										SL -sludge
1710049-03	10/6/17	0600	Comp	SL	2	N		1	1	mg/kg dry

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ | Therm ID No.:_____

Relinquished by: Greg Spence for samplers	Company: PC CRAO Lab	Date/Time: 10/10/17 1207	Received by: Mike Rosa	Company: 1207	Date/Time: 10/10/17
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY
WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1710049-03**	**DO**	**18-010457**
CONTRACT LAB	**TestAmerica PHX**	**SAMPLE GROUP**	**Agua Nueva WRF**
ANALYSES	**Total cyanide sludge, % total solids**	**REPORT ID**	**550-91227-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for the reported methods?	Y
Check that DO matches COC in types and number of tests?	NA
DO received in Pima Core?	Y
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	NA
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	NA
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	Y
Was Belinda Gamboa-Felix notified of any exceedences?	NA
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	NA
Report states if zeolite treatment was utilized?	NA
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	NA
Chemistry data included?	NA
Reference Toxicant Test Results and Control Chart within limits?	NA

PMSD Determination included and within acceptable range? (minimum acceptable= 13)				NA
End Points include TUc, NOEC, LOEC, and IC25?				NA
Statistics verify endpoints				NA
Control Charts Updated to include month of analysis				NA
Reviewer Initials:	**JD**	**Review Date:**	**11-13-17**	

PEER/FINAL REVIEW:				PR	FR
LIMS/Excel data matches printed CL report?				JHQ	
Analysis dates are correct?				JHQ	
Correct Data Qualifiers included if necessary.				JHQ	
CRAO report shows result is from Contract Lab?				✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?				✓	
DO received in Pima Core				✓	
Analysis set to Reported?					✓
Peer Reviewer Initials:	JHQ	**Review Date:**	11-13-17		
Biomonitor Supervisor Initials:	N/A	**Review Date:**			
Final Reviewer Initials:	JEC	**Review Date:**	11·16·17		

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-91227-1
TestAmerica Sample Delivery Group: Agua Nueva WRF
Client Project/Site: Agua Nueva

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Joseph Doranski

Authorized for release by:
10/26/2017 2:17:44 PM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: Agua Nueva

TestAmerica Job ID: 550-91227-1
SDG: Agua Nueva WRF

Qualifiers

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

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)

Case Narrative

Client: Pima County WWTP
Project/Site: Agua Nueva

TestAmerica Job ID: 550-91227-1
SDG: Agua Nueva WRF

Job ID: 550-91227-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-91227-1

Comments
No additional comments.

Receipt
The sample was received on 10/10/2017 1:55 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.7° C.

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

Sample Summary

Client: Pima County WWTP
Project/Site: Agua Nueva

TestAmerica Job ID: 550-91227-1
SDG: Agua Nueva WRF

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-91227-1	1710049-03	Waste	10/06/17 06:00	10/10/17 13:55

Detection Summary

Client: Pima County WWTP
Project/Site: Agua Nueva

TestAmerica Job ID: 550-91227-1
SDG: Agua Nueva WRF

Client Sample ID: 1710049-03 **Lab Sample ID: 550-91227-1**

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: Agua Nueva

TestAmerica Job ID: 550-91227-1
SDG: Agua Nueva WRF

Client Sample ID: 1710049-03 **Lab Sample ID: 550-91227-1**
Date Collected: 10/06/17 06:00 **Matrix: Waste**
Date Received: 10/10/17 13:55

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	1.2		0.1	0.1	%			10/11/17 08:15	1

Client Sample ID: 1710049-03 **Lab Sample ID: 550-91227-1**
Date Collected: 10/06/17 06:00 **Matrix: Waste**
Date Received: 10/10/17 13:55 **Percent Solids: 1.2**

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	32	12	mg/Kg	☼	10/18/17 12:00	10/20/17 17:53	1

TestAmerica Phoenix

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

91227

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

10/26/2017

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Joe Doranski	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6032	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6032 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☑ 2 weeks			Lab Sampling:
Project Name: Agua Nueva	☐ 1 week			
Site: Agua Nueva WRF	☐ 2 days			Job / SDG No.:
P O # 18-010457	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Total cyanide mg/kg dry	total % solids	Sample Specific Notes:
Agua Nueva WRF thickened sludge pump 26107-0600										SL -sludge
1710049-03	10/6/17	0600	Comp	SL	2	N		1	1	mg/kg dry

550-91227 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

1.7°C pc

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	10-6-17/1207	Mike Root	1207	10/10/17
Mike Root 1355	10/10/17				
			Received in Laboratory by:		10-17 1355

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Page 13 of 14

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-91227-1
SDG Number: Agua Nueva WRF

Login Number: 91227
List Number: 1
Creator: Vilaboy, Monica

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

SECTION 6

AVRA VALLEY WRF
AZPDES NO. AZ0024121

2017 PREPARER FORM

AND

SAMPLING AND ANALYSES
PRIORITY POLLUTANTS
TCLP
HAZARDOUSNESS

ANNUAL BIOSOLIDS REPORT 2017

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ANNUAL BIOSOLIDS REPORT 2017

REGIONAL WATER
RECLAMATION DEPARTMENT

TREATMENT DIVISION

PIMA COUNTY
TUCSON, ARIZONA

PIMA COUNTY
WASTEWATER RECLAMATION

ARIZONA
DEPARTMENT OF ENVIRONMENTAL QUALITY
AZPDES Individual Permits Unit
1110 W Washington Street
Phoenix, Arizona 85007
(602) 771-4689 (voicemail) (602) 771-4505 (fax)
Email to: biosolids@azdeq.gov

BIOSOLIDS OR SEWAGE SLUDGE ANNUAL REPORT FORM

1. Program Information: All preparers (Generators) and Land Applicators Must complete the following.

Reporting Start Date:1/1/2017	**Reporting End Date: 12/31/2017**
Date:2/16/2018	**AZPDES Permit # (if applicable):AZ00024121** **Pima County Avra Valley WRF** **10000 W. Snyder Hill Road, Tucson AZ 85735**
Company name (Preparer / Applicator): Preparer, Pima County Regional Water Reclamation Department	
Contact Name: Houssam Eljerdi	**Title: Technical Services Manager**
Address: 7101 N. Casa Grande Highway **Phone:** (520) 724 - 6100	Tucson, AZ 85743 - 8618 **E-mail: Houssam.eljerdi@pima.gov**

Please select one of the following options pertaining to your obligation to submit a Biosolids Annual Report. My facility is a:

☒ POTW with a design flow equal to or greater than 1 MGD Per Day

☐ POTW that serves 10,000 people or more

☐ Class I Sludge Management Facility as defined by 40 CFR 503.9

☐ Biosolids Applicator (Complete Section 5 only)

☒ Other AZPDES Permit # 24121; APP Permit # 100642

What is the estimated total of volume of biosolids or sewage sludge generated at your facility (in dry metric tons)?

540 (Five Hundred and Forty) metric dry tons

No Storage

Pima County Transports the Avra Valley WRF sludge by tanker truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Agua Nueva WRF

Were all biosolids removed from your facility sent to a landfill for disposal? No

If yes, provide the name and address of the landfill(s). Not Applicable

If all biosolids or sewage sludge was sent to a landfill for disposal, you do not need to complete the remainder of this form, as it is only applicable to facilities preparing Biosolids or sewage sludge for land application.

Certification: I certify, under penalty of law, that the information and descriptions, have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

Signature:	Date:
Title: John W. Sherlock; Deputy Director - Treatment	February 16, 2018

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

2. Generator/Preparers - Biosolids Storage and Treatment Processes

2.1 Please check the box next to the following biosolids or sewage sludge storage practices and treatment processes used on the sewage sludge or biosolids generated or produced at your facility during the reporting period.

Storage Practices

☐ Biosolids are stored in lined lagoons or impoundments

☐ Biosolids stored directly on the ground

Physical Treatment Processes

☒ Preliminary Operations (e.g. sludge grinding, degritting, blending

☒ Thickening (e.g. gravity floatation, centrifugation, belt filter press, vacuum filter)

☐ Sludge lagoon

Pathogen Reduction Operations (PSRP)

☐ Aerobic Digestion

☐ Air Drying (or "sludge drying beds")

☐ Anaerobic Digestion

☐ Lower Temperature Composting

☐ Lime Stabilization

Process to Further Reduce Pathogens (PFRP)

☐ Higher Temperature Composting

☐ Heat Drying (e.g. flash dryer, spray dryer, rotary dryer)

☐ Heat Treatment (Liquid sewage sludge is heated to temp of 356 °F (180 °C) or higher for 30 minutes

☐ Thermophilic Aerobic Digestion

☐ Beta Ray Irradiation

☐ Gamma Ray Irradiation

☐ Pasteurization

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

3. Generators/Preparers: Disposition of Biosolids or Sewage Treatment Sludge:

3.1 At the beginning of the year, did you have any biosolids or sewage sludge stored on site or remaining from previous years? Include any amount that is being stored anywhere. No

If yes provide the following information:

	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	**No Storage** **Pima County Transports the Sludge from Avra Valley WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Agua Nueva WRF**	Not applicable

3.2 At the end of the year, are any biosolids or sewage sludge stored on site? No

If yes, provide the following information:

	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	**No Storage** **Pima County Transports the Sludge from Avra Valley WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Agua Nueva WRF**	Not applicable

3.3 Were biosolids or sewage sludge received from another facility during the year, such as another wastewater treatment plant or another APP permitted facility for further processing? No

If yes provide the following information for each facility. Click the plus sign to create as many tables as needed.

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

Name of Facility	Not Applicable	
Location:	Not Applicable	
	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	Not Applicable	Not applicable
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	Not applicable	Not applicable

Enter any content that you want to repeat, including other content controls. You can also insert this control around table rows in order to repeat parts of a table.

3.4. Were biosolids removed from your facility for land application? Include all recipients, including haulers, name, phone number, land applicators, composters, drying facilities, EQB bagging facilities, bulk composting, etc.

Name of Facility	**None** **Pima County Transports the Sludge from Avra Valley WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Agua Nueva WRF**	
Management Practice Type:	Not Applicable	
Handler or Preparer Type:	Not Applicable	
Management Practice Detail:	Not Applicable	
Bag or Bulk Container:	Not Applicable	
	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not Applicable	Not applicable
Pathogen Reduction Method	Not Applicable	Not Applicable
Vector Attraction Reduction Method	Not Applicable	Not Applicable
Storage Locations	Not Applicable	Not Applicable

4. Generators/Preparers : Biosolids or Sewage Sludge Analytical Methods

Arizona regulations specify that representative samples of sewage sludge that is land applied, placed on a surface disposal site, or fired in s sewage sludge incinerator, must be collected and analyzed.

These regulations specify the analytical methods that must be used to analyzed samples of sewage sludge.

Parameter	*Method Number or Author*	*Results (if tested)*	*Comments (required if other)*
Pathogens			
Ascaris ova.	Not applicable	Not applicable	Not applicable
Fecal Coliform	Not Applicable	Not Applicable	Not Applicable
Helminth ova.	Not Applicable	Not Applicable	Not Applicable
Salmonella sp. Bacteria	Not Applicable	Not Applicable	Not Applicable
Total Cultural Viruses	Not Applicable	Not Applicable	Not Applicable
Metals			
Arsenic	EPA Method 6010 - Arsenic (ICP-OES)	< 16.41 / < 22.22 / 11.9	Mean / Maximum / Minimum
Beryllium	EPA Method 6010D	< 3.08 / < 4.44 / < 1.57	Mean / Maximum / Minimum
Cadmium	EPA Method 6010 - Cadmium (ICP-OES)	< 6.16 / < 8.89 / 3.14	Mean / Maximum / Minimum
Chromium	EPA Method 6010 - Chromium (ICP-OES)	< 13.41 / < 22.22 / 1.2	Mean / Maximum / Minimum
Copper	EPA Method 6010 - Copper (ICP-OES)	165 / 218 / 119	Mean / Maximum / Minimum
Lead	EPA Method 6010 - Lead (ICP-OES)	< 15.39 / < 22.22 / < 7.85	Mean / Maximum / Minimum
Mercury	EPA Method 7471 - Mercury (CVAA)	< 1.79 / < 5.50 / 0.46	Mean / Maximum / Minimum
Molybdenum	EPA Method 6010 - Molybdenum (ICP-OES)	< 8.03 / 9.1 / 6.41	Mean / Maximum / Minimum
Nickel	EPA Method 6010 - Nickel (ICP-OES)	< 16.53 / 24.3 / 10.3	Mean / Maximum / Minimum
Selenium	EPA Method 6010 - Selenium (ICP-OES)	< 30.79 / < 44.45 / < 15.69	Mean / Maximum / Minimum
Zinc	EPA Method 6010 - Zinc (ICP-OES)	451 / 571 / 219	Mean / Maximum / Minimum
Nitrogen Compounds			
Ammonia Nitrogen	Not Applicable	Not Applicable	Not Applicable
Nitrate Nitrogen	Not Applicable	Not Applicable	Not Applicable
Nitrogen	Not Applicable	Not Applicable	Not Applicable
Organic Nitrogen	Not Applicable	Not Applicable	Not Applicable
Total Kjeldahl Nitrogen	Not Applicable	Not Applicable	Not Applicable

Other Analytes			
Fixed Solids	Not applicable	Not applicable	Not applicable
Paint Filter Test	Not Applicable	Not applicable	Not applicable
pH	Not Applicable	Not Applicable	Not Applicable
Specific Oxygen Uptake Rate	Not Applicable	Not Applicable	Not Applicable
TCLP	Other TCLP Analytical Method	**Total Amount Does Not Exceed 20X TCLP Screening Value.** **Sample Analysis Results Included in Section 5 of this Report**	Click here to enter text.
Temperature	Not applicable	Not applicable	Not applicable
Total Solids	Standard Method 2540 - Total Solids	Wet Hauled Sludge % Solids Content **2.32 / 3.58 / 0.58**	Mean / Maximum / Minimum
Volatile Solids	Not applicable	Not applicable	Not applicable
No Analytical Methods Used	Not applicable	Not applicable	Not applicable

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 04/06/2017
Laboratory License: AZO159

Sample Analysis Report

Avra Valley WRF

January 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Chaft

5·8·17
Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701128-01	D	E. Coli	01/18/17 7:09	SM 9223B	1/19/17 13:26	<1	MPN/100 mL		1.0		JEL
1701179-01	D	E. Coli	01/25/17 7:20	SM 9223B	1/26/17 12:49	<1	MPN/100 mL		1.0		JAH
Wet Haul Sludge (25003-1573)											
1701026-03	D	% Solids	01/04/17 7:25	SM 2540G	1/5/17 13:28	**2.21**	%		0.01		JGB
1701026-03	D	% Solids, Total Volatile	01/04/17 7:25	SM 2540G	1/5/17 15:41	**82.8**	%		0.01		JGB
1701140-01	D	Antimony	01/19/17 9:00	EPA 6010D	1/24/17 16:10	**ND**	mg/kg dry		7.85		MLB
1701140-01	D	Arsenic	01/19/17 9:00	EPA 6010D	1/25/17 13:01	**11.9**	mg/kg dry		7.85		MLB
1701140-01	D	Beryllium	01/19/17 9:00	EPA 6010D	1/24/17 16:10	**ND**	mg/kg dry		1.57		MLB
1701140-01	D	Cadmium	01/19/17 9:00	EPA 6010D	1/24/17 16:10	**ND**	mg/kg dry		3.14		MLB
1701140-01	D	Chromium	01/19/17 9:00	EPA 6010D	1/24/17 16:10	**10.9**	mg/kg dry		7.85		MLB
1701140-01	D	Copper	01/19/17 9:00	EPA 6010D	1/24/17 16:10	**119**	mg/kg dry		7.85		MLB
1701140-01	D	Lead	01/19/17 9:00	EPA 6010D	1/24/17 16:10	**ND**	mg/kg dry		7.85		MLB
1701140-01	D	Mercury	01/19/17 9:00	EPA 7471B	2/2/17 10:39	**0.46**	mg/kg dry		0.02		DML
1701140-01	D	Molybdenum	01/19/17 9:00	EPA 6010D	1/24/17 16:10	**6.41**	mg/kg dry		3.14		MLB
1701140-01	D	Nickel	01/19/17 9:00	EPA 6010D	1/24/17 16:10	**10.3**	mg/kg dry		7.85		MLB
1701140-01	D	Selenium	01/19/17 9:00	EPA 6010D	1/24/17 16:10	**ND**	mg/kg dry		15.69		MLB
1701140-01	D	Silver	01/19/17 9:00	EPA 6010D	1/25/17 13:01	**1.09**	mg/kg dry		0.78		MLB
1701140-01	D	Arsenic	01/19/17 9:00	TCLP/EPA 6010D	2/7/17 15:52	**ND**	mg/L		0.03		MLB
1701140-01	D	Barium	01/19/17 9:00	TCLP/EPA 6010D	2/7/17 15:52	**0.175**	mg/L		0.03		MLB
1701140-01	D	Cadmium	01/19/17 9:00	TCLP/EPA 6010D	2/7/17 15:52	**ND**	mg/L		0.01		MLB
1701140-01	D	Chromium	01/19/17 9:00	TCLP/EPA 6010D	2/7/17 15:52	**ND**	mg/L		0.03		MLB
1701140-01	D	Lead	01/19/17 9:00	TCLP/EPA 6010D	2/7/17 15:52	**ND**	mg/L		0.03		MLB
1701140-01	D	Mercury	01/19/17 9:00	TCLP/EPA 7470	2/7/17 11:19	**ND**	mg/L		0.0002		DML
1701140-01	D	Selenium	01/19/17 9:00	TCLP/EPA 6010D	2/7/17 15:52	**ND**	mg/L		0.03		MLB
1701140-01	D	Silver	01/19/17 9:00	TCLP/EPA 6010D	2/7/17 17:04	**ND**	mg/L		0.0026		MLB
1701140-01	D	Thallium	01/19/17 9:00	EPA 6010D	1/25/17 14:16	**ND**	mg/kg dry		7.85		MLB
1701140-01	D	Zinc	01/19/17 9:00	EPA 6010D	1/24/17 17:36	**569**	mg/kg dry		7.85		MLB
1701140-01	D	% Solids	01/19/17 9:00	SM 2540G	1/20/17 13:02	**2.20**	%		0.01		DEB
1701140-01	D	Acrolein	01/19/17 9:00	EPA 624	1/24/17 11:41	**ND**	mg/kg dry	0.00299	4.53		JOB
1701140-01	D	Acrylonitrile	01/19/17 9:00	EPA 624	1/24/17 11:41	**ND**	mg/kg dry	0.000650	4.53		JOB
1701140-01	D	4,4-DDD	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00006	0.00110	D1, D7	KLH
1701140-01	D	4,4-DDE	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00003	0.00110	D1, D7	KLH
1701140-01	D	4,4-DDT	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00006	0.00110	D1, D7	KLH
1701140-01	D	Aldrin	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00006	0.00110	D1, D7	KLH
1701140-01	D	alpha-BHC	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00004	0.00110	D1, D7	KLH
1701140-01	D	beta-BHC	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00009	0.00110	D1, D7	KLH
1701140-01	D	Chlordane	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00025	0.01	D1, D7	KLH
1701140-01	D	delta-BHC	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00007	0.00110	D1, D7	KLH
1701140-01	D	Dieldrin	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00015	0.00220	D1, D7	KLH
1701140-01	D	Endosulfan I	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00004	0.00110	D1, D7	KLH
1701140-01	D	Endosulfan II	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00003	0.00110	D1, D7	KLH
1701140-01	D	Endosulfan sulfate	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00004	0.00110	D1, D7	KLH
1701140-01	D	Endrin	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00010	0.00110	D1, D7	KLH
1701140-01	D	Endrin aldehyde	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00011	0.00110	D1, D7, N1	KLH
1701140-01	D	gamma-BHC (Lindane)	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00007	0.00110	D1, D7	KLH
1701140-01	D	Heptachlor	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00005	0.00110	D1, D7	KLH
1701140-01	D	Heptachlor Epoxide	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00004	0.00110	D1, D7	KLH
1701140-01	D	PCB 1016	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00006	0.00220	D1, D7	KLH
1701140-01	D	PCB 1221	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00017	0.01	D1, D7	KLH
1701140-01	D	PCB 1232	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00007	0.01	D1, D7	KLH
1701140-01	D	PCB 1242	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00013	0.01	D1, D7	KLH
1701140-01	D	PCB 1248	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00010	0.01	D1, D7	KLH
1701140-01	D	PCB 1254	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00019	0.01	D1, D7	KLH
1701140-01	D	PCB 1260	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00007	0.00220	D1, D7	KLH
1701140-01	D	Total PCBs	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00016	0.01	D1, D7	KLH
1701140-01	D	Toxaphene	01/19/17 9:00	EPA 625	1/25/17 16:30	**ND**	mg/kg dry	0.00094	0.02	D1, D7	KLH
1701140-01	D	Methoxychlor	01/19/17 9:00	EPA 8270C	1/25/17 16:30	**ND**	mg/kg dry		0.00110	D1, D7	KLH

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701140-01	D	1,1,1-Trichloroethane	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0002	0.00046		SRM
1701140-01	D	1,1,2,2-Tetrachloroethane	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.00006	0.00046		SRM
1701140-01	D	1,1,2-Trichloroethane	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.00009	0.00046		SRM
1701140-01	D	1,1-Dichloroethane	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0002	0.00046		SRM
1701140-01	D	1,1-Dichloroethene	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0001	0.00046		SRM
1701140-01	D	1,2-Dichlorobenzene	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.00008	0.00046		SRM
1701140-01	D	1,2-Dichloroethane	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.00009	0.00046		SRM
1701140-01	D	1,2-Dichloropropane	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0001	0.00046		SRM
1701140-01	D	1,3-Dichlorobenzene	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.00008	0.00046		SRM
1701140-01	D	1,4-Dichlorobenzene	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0002	0.00046		SRM
1701140-01	D	2-Chloroethyl vinyl ether	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0003	0.00091		SRM
1701140-01	D	Benzene	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0001	0.00046		SRM
1701140-01	D	Bromodichloromethane	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0002	0.00046		SRM
1701140-01	D	Bromoform	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0003	0.00046		SRM
1701140-01	D	Bromomethane	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0001	0.00046		SRM
1701140-01	D	Carbon Tetrachloride	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0004	0.00046		SRM
1701140-01	D	Chlorobenzene	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.00006	0.00046		SRM
1701140-01	D	Chloroethane	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0002	0.00046		SRM
1701140-01	D	Chloroform	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0001	0.00046		SRM
1701140-01	D	Chloromethane	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0002	0.00046		SRM
1701140-01	D	cis-1,3-Dichloropropene	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.00009	0.00046		SRM
1701140-01	D	Dibromochloromethane	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.00006	0.00046		SRM
1701140-01	D	Ethyl Benzene	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.00009	0.00046		SRM
1701140-01	D	Methylene Chloride	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0002	0.00046		SRM
1701140-01	D	Tetrachloroethene	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0002	0.00046		SRM
1701140-01	D	Toluene	01/19/17 9:00	EPA 624	1/24/17 16:32	**31.551**	mg/kg dry	0.0001	0.00046		SRM
1701140-01	D	Total Trihalomethanes	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0003	0.00046		SRM
1701140-01	D	trans-1,2-Dichloroethene	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0001	0.00046		SRM
1701140-01	D	trans-1,3-Dichloropropene	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0001	0.00046		SRM
1701140-01	D	Trichloroethene	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0001	0.00046		SRM
1701140-01	D	Trichlorofluoromethane	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0003	0.00046		SRM
1701140-01	D	Vinyl chloride	01/19/17 9:00	EPA 624	1/24/17 16:32	**ND**	mg/kg dry	0.0002	0.00046		SRM
1701140-01	D	1,2,4-Trichlorobenzene	01/19/17 9:00	EPA 8260	1/24/17 16:32	**ND**	mg/kg dry		0.00046		SRM
1701140-01	D	1,2-Dibromo-3-chloropropane	01/19/17 9:00	EPA 8260	1/24/17 16:32	**ND**	mg/kg dry		0.00091		SRM
1701140-01	D	1,2-Dibromoethane	01/19/17 9:00	EPA 8260	1/24/17 16:32	**ND**	mg/kg dry		0.00046		SRM
1701140-01	D	cis-1,2-Dichloroethene	01/19/17 9:00	EPA 8260	1/24/17 16:32	**ND**	mg/kg dry		0.00046		SRM
1701140-01	D	m,p-Xylenes	01/19/17 9:00	EPA 8260	1/24/17 16:32	**ND**	mg/kg dry		0.00091		SRM
1701140-01	D	Methyl Ethyl Ketone	01/19/17 9:00	EPA 8260	1/24/17 16:32	**5.66**	mg/kg dry		0.00050		SRM
1701140-01	D	o-Xylene	01/19/17 9:00	EPA 8260	1/24/17 16:32	**ND**	mg/kg dry		0.00046		SRM
1701140-01	D	Styrene	01/19/17 9:00	EPA 8260	1/24/17 16:32	**ND**	mg/kg dry		0.00046		SRM
1701140-01	D	Xylenes, total	01/19/17 9:00	EPA 8260	1/24/17 16:32	**ND**	mg/kg dry		0.00091		SRM
1701140-01	D	2,3,7,8-TCDD - Dioxin Scan	01/19/17 9:00	EPA 625	1/26/17 14:33	**ND**	ug/kg dry		1.14		SJM
1701140-01	D	1,2,4-Trichlorobenzene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	2,3-Dichloroaniline	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701140-01	D	2,4,6-Trichlorophenol	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	2,4-Dichlorophenol	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701140-01	D	2,4-Dimethylphenol	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1701140-01	D	2,4-Dinitrophenol	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.009	0.02	D1, D7	SJM
1701140-01	D	2,4-Dinitrotoluene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701140-01	D	2,6-Dinitrotoluene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	2-Chloronaphthalene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	2-Chlorophenol	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	2-Methyl-4,6-dinitrophenol	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1701140-01	D	2-Methylphenol	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	2-Nitrophenol	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701140-01	D	3,3-Dichlorobenzidine	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701140-01	D	4-Bromophenyl phenyl ether	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	4-Chloro-3-methylphenol	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701140-01	D	4-Chlorophenyl phenyl ether	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	4-Methylphenol	01/19/17 9:00	EPA 625	2/1/17 14:31	**367.1**	mg/kg dry	0.002	0.00200	D1, D2, D7	SJM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701140-01	D	4-Nitrophenol	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1701140-01	D	Acenaphthene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	Acenaphthylene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	Anthracene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	Benzidine	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.007	0.01	D1, D7	SJM
1701140-01	D	Benzo[a]anthracene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	Benzo[a]pyrene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	Benzo[b]fluoranthene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	Benzo[ghi]perylene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701140-01	D	Benzo[k]fluoranthene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701140-01	D	bis(2-chloroethoxy)methane	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	bis(2-chloroethyl)ether	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701140-01	D	bis(2-chloroisopropyl)ether	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	bis(2-ethylhexyl)phthalate	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701140-01	D	Butylbenzylphthalate	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	Carbazole	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701140-01	D	Chrysene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	Dibenzo(a,h)anthracene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701140-01	D	Diethyl phthalate	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701140-01	D	Dimethyl phthalate	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1701140-01	D	Di-n-butyl phthalate	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701140-01	D	Di-n-octyl phthalate	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701140-01	D	Fluoranthene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	Fluorene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	Hexachlorobenzene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1701140-01	D	Hexachlorobutadiene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	Hexachlorocyclopentadiene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1701140-01	D	Hexachloroethane	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	Indeno(1,2,3-cd)pyrene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701140-01	D	Isophorone	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	Naphthalene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	n-Decane	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	Nitrobenzene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701140-01	D	N-Nitrosodimethylamine	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1701140-01	D	N-Nitrosodi-n-propylamine	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701140-01	D	N-Nitrosodiphenylamine	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.006	0.01	D1, D7	SJM
1701140-01	D	n-Octadecane	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701140-01	D	Pentachlorophenol	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1701140-01	D	Phenanthrene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	Phenol	01/19/17 9:00	EPA 625	1/31/17 17:49	**11.11**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701140-01	D	Pyrene	01/19/17 9:00	EPA 625	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	1,2-Diphenylhydrazine	01/19/17 9:00	EPA 8270C	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	1,4-Dichlorobenzene	01/19/17 9:00	EPA 8270C	1/31/17 17:49	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701140-01	D	2,4,5-Trichlorophenol	01/19/17 9:00	EPA 8270C	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.03	D1, D7	SJM
1701140-01	D	3 & 4-Methylphenol	01/19/17 9:00	EPA 8270C	1/31/17 17:49	**478**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701140-01	D	Pyridine	01/19/17 9:00	EPA 8270C	1/31/17 17:49	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701140-01	D	Chlordane	01/19/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	1.38	3.00	N7	KLH
1701140-01	D	Endrin	01/19/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.200	0.50	N7	KLH
1701140-01	D	gamma-BHC (Lindane)	01/19/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.270	0.50	N7	KLH
1701140-01	D	Heptachlor	01/19/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.270	0.50	N7	KLH
1701140-01	D	Heptachlor Epoxide	01/19/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.290	0.50	N7	KLH
1701140-01	D	Methoxychlor	01/19/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.270	0.50	N7	KLH
1701140-01	D	Toxaphene	01/19/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	3.79	6.00	N7	KLH
1701140-01	D	1,1-Dichloroethene	01/19/17 9:00	TCLP/EPA 8260B	1/24/17 16:32	**NA**	ug/L	0.110	0.50	N7	SRM
1701140-01	D	1,2-Dichloroethane	01/19/17 9:00	TCLP/EPA 8260B	1/24/17 16:32	**NA**	ug/L	0.0900	0.50	N7	SRM
1701140-01	D	1,4-Dichlorobenzene	01/19/17 9:00	TCLP/EPA 8260B	1/24/17 16:32	**NA**	ug/L	0.170	0.50	N7	SRM
1701140-01	D	Benzene	01/19/17 9:00	TCLP/EPA 8260B	1/24/17 16:32	**NA**	ug/L	0.110	0.50	N7	SRM
1701140-01	D	Carbon Tetrachloride	01/19/17 9:00	TCLP/EPA 8260B	1/24/17 16:32	**NA**	ug/L	0.340	0.50	N7	SRM
1701140-01	D	Chlorobenzene	01/19/17 9:00	TCLP/EPA 8260B	1/24/17 16:32	**NA**	ug/L	0.0600	0.50	N7	SRM
1701140-01	D	Chloroform	01/19/17 9:00	TCLP/EPA 8260B	1/24/17 16:32	**NA**	ug/L	0.140	0.50	N7	SRM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701140-01	D	Hexachlorobutadiene	01/19/17 9:00	TCLP/EPA 8260B	1/24/17 16:32	**NA**	ug/L	0.230	0.50	N7	SRM
1701140-01	D	Methyl Ethyl Ketone	01/19/17 9:00	TCLP/EPA 8260B	1/24/17 16:32	**NA**	ug/L	0.290	0.50	N7	SRM
1701140-01	D	Tetrachloroethene	01/19/17 9:00	TCLP/EPA 8260B	1/24/17 16:32	**NA**	ug/L	0.180	0.50	N7	SRM
1701140-01	D	Trichloroethene	01/19/17 9:00	TCLP/EPA 8260B	1/24/17 16:32	**NA**	ug/L	0.130	0.50	N7	SRM
1701140-01	D	Vinyl chloride	01/19/17 9:00	TCLP/EPA 8260B	1/24/17 16:32	**NA**	ug/L	0.210	0.50	N7	SRM
1701140-01	D	1,4-Dichlorobenzene	01/19/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.37	2.00	N7	SJM
1701140-01	D	2,4,5-Trichlorophenol	01/19/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	2.46	10.00	N7	SJM
1701140-01	D	2,4,6-Trichlorophenol	01/19/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.14	5.00	N7	SJM
1701140-01	D	2,4-Dinitrotoluene	01/19/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.44	5.00	N7	SJM
1701140-01	D	2-Methylphenol	01/19/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.09	2.00	N7	SJM
1701140-01	D	3 & 4-Methylphenol	01/19/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.07	4.00	N7	SJM
1701140-01	D	Hexachlorobenzene	01/19/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	0.610	2.00	N7	SJM
1701140-01	D	Hexachlorobutadiene	01/19/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	0.880	2.00	N7	SJM
1701140-01	D	Hexachloroethane	01/19/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.09	2.00	N7	SJM
1701140-01	D	Nitrobenzene	01/19/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.84	5.00	N7	SJM
1701140-01	D	Pentachlorophenol	01/19/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	6.10	10.00	N7	SJM
1701140-01	D	Pyridine	01/19/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.55	2.00	N7	SJM
1701140-01	D	2,4-D	01/19/17 9:00	8151A	2/6/17 18:42	**ND**	ug/L	2.1	40	E8	DAW*
1701140-01	D	Silvex (2,4,5-TP)	01/19/17 9:00	8151A	2/6/17 18:42	**ND**	ug/L	1.7	10	E8	DAW*
* Analysis Performed by:TestAmerica Denver - See attached contract lab report for official results.											
1701140-01	D	Cyanide, Total	01/19/17 9:00	9014	1/27/17 18:36	**ND**	mg/Kg dry	7.1	18	E8, M2, R13	JCB *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1701140-01	D	Percent Solids	01/19/17 9:00	2540G	1/24/17 14:25	**2.2**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1701140-01	D	Percent Moisture	01/19/17 9:00	2540G	1/24/17 14:25	**97.8**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											

Well AV-06 (25003-2500)

1701139-01	D	Depth to Water	01/19/17 10:40	NA	1/19/17 10:40	**297.1**	Feet				SMPLR
1701139-01	D	Specific Conductance	01/19/17 10:40	SM 2510B	1/19/17 10:40	**755**	uS/cm		1.00		SMPLR
1701139-01	D	pH	01/19/17 10:40	SM4500 H B	1/19/17 10:40	**7.4**	pH Units				SMPLR
1701139-01	D	Temp at time of pH, °C	01/19/17 10:40	SM4500 H B	1/19/17 10:40	**25.8**	°C				SMPLR
1701139-01	D	Antimony	01/19/17 10:40	EPA 200.8	2/27/17 15:49	**ND**	ug/L	0.18	1.00		JB
1701139-01	D	Arsenic	01/19/17 10:40	EPA 200.8	2/27/17 15:49	**1.17**	ug/L	0.13	1.00		JB
1701139-01	D	Beryllium	01/19/17 10:40	EPA 200.8	2/27/17 15:49	**ND**	ug/L	0.30	1.00		JB
1701139-01	D	Cadmium	01/19/17 10:40	EPA 200.8	2/27/17 15:49	**ND**	ug/L	0.13	1.00		JB
1701139-01	D	Calcium	01/19/17 10:40	EPA 200.7	1/27/17 11:48	**63.6**	mg/L	0.08	4.00		MLB
1701139-01	D	Chloride	01/19/17 10:40	SM4500-Cl-E	1/20/17 12:07	**121**	mg/L	1.00	4.00	M2	MGA
1701139-01	D	Chromium	01/19/17 10:40	EPA 200.8	2/27/17 15:49	**0.39**	ug/L	0.09	1.00	J	JB
1701139-01	D	Copper	01/19/17 10:40	EPA 200.8	2/27/17 15:49	**ND**	ug/L	0.43	1.00		JB
1701139-01	D	Cyanide	01/19/17 10:40	SM4500-CN-E	1/23/17 14:27	**ND**	ug/L	1.75	5.00		MGA
1701139-01	D	Cyanide Amenable	01/19/17 10:40	SM 4500-CN-G	1/23/17 14:27	**NA**	ug/L	1.75	5.00	N7	MGA
1701139-01	D	Fluoride	01/19/17 10:40	SM4500-F-C	1/29/17 12:00	**0.13**	mg/L	0.02	0.10		KKH
1701139-01	D	Hardness	01/19/17 10:40	SM 2340B	1/27/17 11:48	**183**	mg/L	0.19	9.99		MLB
1701139-01	D	Iron	01/19/17 10:40	EPA 200.7	1/27/17 12:58	**465**	ug/L	7.43	25.00		MLB
1701139-01	D	Lead	01/19/17 10:40	EPA 200.8	2/27/17 15:49	**ND**	ug/L	0.10	1.00		JB
1701139-01	D	Magnesium	01/19/17 10:40	EPA 200.7	1/27/17 11:48	**5.95**	mg/L	0.01	2.00		MLB
1701139-01	D	Manganese	01/19/17 10:40	EPA 200.8	2/27/17 15:49	**20.5**	ug/L	0.15	1.00		JB
1701139-01	D	Mercury	01/19/17 10:40	EPA 245.1	1/27/17 11:14	**ND**	ug/L	0.10	0.20		DML
1701139-01	D	Nickel	01/19/17 10:40	EPA 200.8	2/27/17 15:49	**0.29**	ug/L	0.25	1.00	J	JB
1701139-01	D	Nitrate	01/19/17 10:40	Calculated	1/24/17 10:30	**2.12**	mg/L	0.04	0.20		MGA
1701139-01	D	Nitrate/Nitrite	01/19/17 10:40	EPA 353.2	1/24/17 10:30	**2.18**	mg/L	0.04	0.20		KKH
1701139-01	D	Nitrite	01/19/17 10:40	SM4500-NO2 B	1/20/17 15:07	**0.06**	mg/L	0.02	0.20	J	MGA
1701139-01	D	Total Kjeldahl Nitrogen	01/19/17 10:40	EPA 351.2	1/23/17 11:57	**ND**	mg/L	0.52	0.80		KKH
1701139-01	D	Nitrogen Total Water	01/19/17 10:40	Calculated	1/24/17 10:30	**2.18**	mg/L	0.52	0.80		KKH
1701139-01	D	Potassium	01/19/17 10:40	EPA 200.7	1/27/17 14:44	**3.98**	mg/L	0.13	2.00		MLB
1701139-01	D	Selenium	01/19/17 10:40	EPA 200.8	2/27/17 15:49	**1.01**	ug/L	0.75	1.00		JB
1701139-01	D	Silver	01/19/17 10:40	EPA 200.8	2/27/17 15:49	**ND**	ug/L	0.10	1.00		JB
1701139-01	D	Sodium	01/19/17 10:40	EPA 200.7	1/27/17 11:48	**82.6**	mg/L	1.17	4.00		MLB
1701139-01	D	Sulfate	01/19/17 10:40	SM4500-SO4 F	1/27/17 12:34	**45.7**	mg/L	12.4	50.00	M1, J	MGA

RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

1701139-01
EPA Method 624 and 8260 Volatiles. MS/MSD RPD exceeded the method acceptance limit. Recovery met acceptance criteria. SRM 01/30/17

1701140-01
EPA Methods 625 Pesticides: Target analytes flagged with N1 for this method failed the matrix spike RPD from the same extraction batch but the spike was performed on a different sample. KLH 01/26/17

Semi-Quantitation
Method: 625
1701140-01

Compound Name	Concentration-mg/Kg
Benzeneacetic Acid	177
Palmitic Acid	5168
Oleic Acid	4556
Stearic Acid	1084

SJM 02/07/17

1701197-01
EPA Method 624 and 8260 Volatiles. MS/MSD RPD exceeded the method acceptance limit. Recovery met acceptance criteria. SRM 01/30/17

Semi-Quantitation
Method: 624
1701197-01

Compound Name	Concentration-ug/L
Acetone	174.95

SRM 02/02/17

Semi-Quantitation
Method: 625
1701197-01

Compound Name	Concentration-ug/L
Benzoic Acid	81
N,N-Dimethyl-1-dodecanamine	340
Tetradecanoic Acid	72
Palmitic Acid	14015
Oleic Acid	17929
Stearic Acid	5320
Squalene	95

SJM 02/10/17

1701197-01
EPA Method 625/625+ Pesticides: Target analytes flagged with N1 for this method failed the matrix spike RPD from the same extraction batch but the spike was performed on a different sample. KH 2/28/17

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1701026-03

PROJECT & LOCATION: Avra Valley RWRF Wet Haul Sludge

PROJECT-LOCATION NUMBER: **25003-1573** (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: _____ (Military time)

CLIENT: **Sub Regional Facilities**

SAMPLE END DATE: 01-04-2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0725 (Military time)

SAMPLER(S): BIRD (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ☐ 503 ☐ AZPDES ☐ Reuse ■ Process Control ☐ IWC ☐ Air ☐ Other _____

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	☐	☐	☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	■	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ °C
☐ Temperature *SM 2550 B*	_____	°C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions:

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Grady C. Bird	Sample Refrigerator	1-4-17	0732
Sample Refrigerator	Bert Meyer	1-4-17	1055
Bert Meyer	Joseph Doerr	1-4-17	1157
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 1

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 25 °C

Initials: JLD

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1701140-01

PROJECT & LOCATION: Avra Valley Wet Haul Sludge (Annual)

PROJECT-LOCATION NUMBER: **25003-1573** (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: _____ (Military time)

CLIENT: **IWC**

SAMPLE END DATE: 01-19-2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0900 (Military time)

SAMPLER(S): Silva, Riccaboni, Echanove (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ■ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other _____

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	×		■	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	×		■	☐
TCLP Metals			■	☐
503 Metals **			■	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total (contract)	■	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	☐
Dioxin GC/SIM/MS Scan	■	☐
Organochlorine Pesticides & PCBs	■	☐
Purgeable Organics (GCMS)	■	☐
Semivolatile Organics (GCMS)	■	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	■	☐
TCLP Pesticides	■	☐
TCLP Semivolatile Organics	■	☐
TCLP Volatile Organics	■	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total (1 of 2 contract)	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ °C
☐ Temperature *SM 2550 B*	_____	°C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions: Cyanide, TCLP herbicides and 1 of 2 T%S sent to Test America. COS 01-19-17 PO#17-21166

Septum Blank Prep Date & Initials: 12-13-16 | lej

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	01-19-17	1200
[signature]	[signature]	1/20/17	1226
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 14

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 5.0 °C

Initials: LEJ

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☒	☐
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

PIMA COUNTY WASTEWATER MANAGEMENT
INDUSTRIAL WASTEWATER CONTROL SECTION
SAMPLE COLLECTION FIELD NOTES

1701140-01

SAMPLE LOCATION: **Avra Valley Wet Haul Sludge**

LOCATION ID: **25003-1573** SAMPLERS: Silva Riccaboni Echanove SAMPLE DATE: 1-19-17

Last names only, primary sampler first.

SAMPLE D or C	PARAMETER	START TIME	END TIME	FREQUENCY	Time Flow	Auto Man.	Volume Submitted	BOTTLE TYPE	PRESERVATION
D	Priority Pollutant Metals		0900	Grab	N/A		1000ml	DM Plastic	Ice
D	503 Metals							DM Plastic	Ice
D	Cyanide, Total						1000 ml	DM Plastic	Ice
D	Organochlorine Pesticides						1000 ml	Amber	Ice
D	Semivolatile Organics						1000 ml	Amber	Ice
D	Dioxin Scan						1000 ml	Amber	Ice
D	Solids, Total						1000 ml	Gen Purpose	Ice
D	Solids, Total						1000 ml	Gen Purpose	Ice
D	TCLP Herbicides (Cont Lab)						1000 ml	Amber	Ice
D	TCLP Pesticides						1000 ml	Amber	Ice
D	TCLP Semivolatile Organics						1000 ml	Amber	Ice
D	TCLP Volatile Organics						40 ml	Septum	Ice
D	TCLP Volatile Organics						40 ml	Septum	Ice
D	TCLP Volatile Organics						40 ml	Septum	Ice
D	TCLP Volatile Organics						40 ml	Septum	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice

pH METER CALIBRATION LOG

Time	Model #	Serial #	Auto/Man.	Buffer	Reading	Buffer	Reading	Temp.	Slope	Initials
		N/A								

FIELD MEASUREMENTS

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials
	N/A								

Notes:

EQUIPMENT USED: ■ **Grab Sampler** ☐ Automatic Sampler ☐ Electric Pump ☐ Other _____

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: AV biosolids	☐ 1 week			
Site: Avra Valley	☐ 2 days			Job / SDG No.:
P O # 17-21166	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry			TCLP herbicides												Sample Specific Notes:
Avra Valley WRF - wet haul sludge 25003-1573																								
1701140-01	1/19/2017	0900	Grab	BS	3	N		1	1			1												BS - biosolids

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	PC CRAO	01-19-17 / 1200	[signature]	PC CRAO	01-19-17 / 1200
[signature]	PC CRAO	01-20-17 1226	[signature]	TA	1/20/17 12:26
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

PIMA COUNTY

WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1701140-01**	**DO**	**17-21166**
CONTRACT LAB	**TestAmerica PHX, DEN**	**SAMPLE GROUP**	**AV Biosolids**
ANALYSES	**TS, CN, Herbicides**	**REPORT ID**	**550-76207-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	NA
DO received in Pima Core?	NA
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	NA
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Tom Berry? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	Y
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	Y
Was Tom Berry notified of any exceedences?	NA
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	NA
Report states if zeolite treatment was utilized?	NA
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	NA
Chemistry data included?	NA
Reference Toxicant Test Results and Control Chart within limits?	NA
PMSD Determination included and within acceptable range? (minimum acceptable= 13)	NA

End Points include TUc, NOEC, LOEC, and IC25?				NA
Statistics verify endpoints				NA
Control Charts Updated to include month of analysis				NA
Reviewer Initials:	**SN**	**Review Date:**	**2-10-17**	

PEER/FINAL REVIEW:				PR	FR
LIMS/Excel data matches printed CL report?				✓	
Analysis dates are correct?				✓	
Correct Data Qualifiers included if necessary.				✓	
CRAO report shows result is from Contract Lab?				✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?				✓	
DO received in Pima Core				✓	
Analysis set to Reported?					
Peer Reviewer Initials:		**Review Date:**	2-21-17		
Biomonitor Supervisor Initials:	NA	**Review Date:**	NA		
Final Reviewer Initials:	BAE	**Review Date:**	02/21/17		

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-76207-1
TestAmerica Sample Delivery Group: Avra Valley
Client Project/Site: AV biosolids

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Nancy Powell

Authorized for release by:
2/9/2017 10:50:17 AM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
R13	MS/MSD RPD exceeded the method acceptance limit. Matrix spike recovery was outside acceptance criteria. Batch precision and accuracy were demonstrated.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 550-76207-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-76207-1

Comments
No additional comments.

Receipt
The sample was received on 1/20/2017 2:45 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0° C.

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

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

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

Sample Summary

Client: Pima County WWTP
Project/Site: AV biosolids

TestAmerica Job ID: 550-76207-1
SDG: Avra Valley

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-76207-1	1701140-01	Solid	01/19/17 09:00	01/20/17 14:45

Detection Summary

Client: Pima County WWTP
Project/Site: AV biosolids

TestAmerica Job ID: 550-76207-1
SDG: Avra Valley

Client Sample ID: 1701140-01 **Lab Sample ID: 550-76207-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Pima County WWTP
Project/Site: AV biosolids

TestAmerica Job ID: 550-76207-1
SDG: Avra Valley

Client Sample ID: 1701140-01

Date Collected: 01/19/17 09:00
Date Received: 01/20/17 14:45

Lab Sample ID: 550-76207-1

Matrix: Solid

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND	E8	40	2.1	ug/L		02/01/17 16:00	02/06/17 18:42	1
Silvex (2,4,5-TP)	ND	E8	10	1.7	ug/L		02/01/17 16:00	02/06/17 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*28*		*10 - 131*	*02/01/17 16:00*	*02/06/17 18:42*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	97.8		0.1	0.1	%			01/24/17 14:25	1
Percent Solids	2.2		0.1	0.1	%			01/24/17 14:25	1

Client Sample ID: 1701140-01

Date Collected: 01/19/17 09:00
Date Received: 01/20/17 14:45

Lab Sample ID: 550-76207-1

Matrix: Solid
Percent Solids: 2.2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8 M2 R13	18	7.1	mg/Kg	☼	01/27/17 15:30	01/27/17 18:36	1

Surrogate Summary

Client: Pima County WWTP
Project/Site: AV biosolids

TestAmerica Job ID: 550-76207-1
SDG: Avra Valley

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**DCPA1 (10-131)**
280-93087-B-2-F MS	Matrix Spike	25
280-93087-B-2-G MSD	Matrix Spike Duplicate	41
550-76207-1	1701140-01	28
LB 280-360572/1-B	Method Blank	33
LCS 280-360572/2-B	Lab Control Sample	26

Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

76207

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

2/9/2017

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: AV biosolids	☐ 1 week			
Site: Avra Valley	☐ 2 days			Job / SDG No.:
P O # 17-21166	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry		TCLP herbicides	Sample Specific Notes:
Avra Valley WRF - wet haul sludge 25003-1573												
1701140-01	1/19/2017	0900	Grab	BS	3	N		1	1		1	BS - biosolids

550-76207 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☐Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

20.00 on ice

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ | Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	PC CRAO	01-19-17 / 1200		PC CRAO	01-19-17 / 1200
Relinquished by:	Company: PC CRAO	Date/Time: 01-20-17 1226	Received by:	Company: TA	Date/Time: 1/20/17 12:26
Relinquished by:	Company: TA	Date/Time: 1/20/17 14:45	Received in Laboratory by:	Company: TA	Date/Time: 1/20/17 14:45

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Eshelman, Linda	Carrier Tracking No(s):	COC No: 550-15960.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: linda.eshelman@testamericainc.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-76207-1
Address: 4955 Yarrow Street,	Due Date Requested: 1/27/2017			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: AV biosolids	Project #: 55001656			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8151A/1311_T TCLP 8151	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
1701140-01 (550-76207-1)	1/19/17	09:00 Arizona		Solid			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [illegible] 1-23-17	Date/Time: 1:00 PM	Company: LAB	Received by: [illegible]	Date/Time: 1-24-17 1015	Company: TAO
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 1.8 DR N5-C2 Transfer RH 1-24-17		

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-76207-1
SDG Number: Avra Valley

Login Number: 76207
List Number: 1
Creator: Doerr, Bret C

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-76207-1
SDG Number: Avra Valley

Login Number: 76207
List Number: 2
Creator: Pottruff, Reed W

List Source: TestAmerica Denver
List Creation: 01/24/17 12:48 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizoua 85745-9750, Phone (520) 724-6200

Report Date: 08/02/2017
Laboratory License: AZO159

Sample Analysis Report

Avra Valley WRF

April 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Ahrafft

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

9.29.17
Date

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704220-01	C	Endothall	04/28/17 6:00	548.1 LL	5/2/17 14:44	**ND**	ug/L	6.3	9.0	E8	DBM*
* Analysis Performed by:TestAmerica Savannah - See attached contract lab report for official results.											
1704220-01	C	Glyphosate	04/28/17 6:00	547 LL	5/6/17 22:49	**ND**	ug/L	5.0	6.0	E8	KMB*
* Analysis Performed by:TestAmerica Savannah - See attached contract lab report for official results.											
1704220-01	C	2,4-D	04/28/17 6:00	515.1 LL	5/3/17 23:54	**ND**	ug/L	0.075	0.10	E8	JCK *
1704220-01	C	Dalapon	04/28/17 6:00	515.1 LL	5/3/17 23:54	**ND**	ug/L	1.0	1.0	E8	JCK *
1704220-01	C	Dinoseb	04/28/17 6:00	515.1 LL	5/3/17 23:54	**ND**	ug/L	0.051	0.20	E8	JCK *
1704220-01	C	Pentachlorophenol	04/28/17 6:00	515.1 LL	5/3/17 23:54	**0.0097**	ug/L	0.0051	0.041	E4	JCK *
1704220-01	C	Picloram	04/28/17 6:00	515.1 LL	5/3/17 23:54	**ND**	ug/L	0.0099	0.10	E8	JCK *
1704220-01	C	Silvex (2,4,5-TP)	04/28/17 6:00	515.1 LL	5/3/17 23:54	**ND**	ug/L	0.061	0.20	E8	JCK *
* Analysis Performed by:TestAmerica Savannah - See attached contract lab report for official results.											
1704220-01	C	Alachlor	04/28/17 6:00	525.2	5/8/17 15:42	**ND**	ug/L	0.21	0.21	E8	NED*
1704220-01	C	Atrazine	04/28/17 6:00	525.2	5/8/17 15:42	**ND**	ug/L	0.10	0.10	E8	NED*
1704220-01	C	Benzo[a]pyrene	04/28/17 6:00	525.2	5/8/17 15:42	**ND**	ug/L	0.021	0.021	E8	NED*
1704220-01	C	Bis(2-ethylhexyl) phthalate	04/28/17 6:00	525.2	5/8/17 15:42	**ND**	ug/L	0.62	0.62	E8	NED*
1704220-01	C	Chlorpyrifos	04/28/17 6:00	525.2	5/8/17 15:42	**ND**	ug/L	0.52	0.52	E8	NED*
1704220-01	C	cis-Permethrin	04/28/17 6:00	525.2	5/8/17 15:42	**ND**	ug/L	0.52	0.52	E8	NED*
1704220-01	C	Di(2-ethylhexyl)adipate	04/28/17 6:00	525.2	5/8/17 15:42	**ND**	ug/L	0.62	0.62	E8, L5	NED*
1704220-01	C	Hexachlorobenzene	04/28/17 6:00	525.2	5/8/17 15:42	**ND**	ug/L	0.10	0.10	E8	NED*
1704220-01	C	Hexachlorocyclopentadiene	04/28/17 6:00	525.2	5/8/17 15:42	**ND**	ug/L	0.10	0.10	E8	NED*
1704220-01	C	Simazine	04/28/17 6:00	525.2	5/8/17 15:42	**ND**	ug/L	0.072	0.072	E8, L5	NED*
1704220-01	C	trans-Permethrin	04/28/17 6:00	525.2	5/8/17 15:42	**ND**	ug/L	0.52	0.52	E8, L5	NED*
* Analysis Performed by:TestAmerica Savannah - See attached contract lab report for official results.											

Final Effluent at the U.V. Channel (25003-1351)

1704036-02	D	E. Coli	04/05/17 6:57	SM 9223B	4/6/17 13:49	<1	MPN/100 mL		1.0		JGB
1704090-01	D	E. Coli	04/12/17 6:49	SM 9223B	4/13/17 12:11	<1	MPN/100 mL		1.0		JGB
1704138-01	D	E. Coli	04/19/17 7:00	SM 9223B	4/20/17 13:20	<1	MPN/100 mL		1.0		JEL
1704203-01	D	E. Coli	04/26/17 7:03	SM 9223B	4/27/17 12:41	<1	MPN/100 mL		1.0		ADP

Wet Haul Sludge (25003-1573)

1704036-05	D	% Solids	04/05/17 7:20	SM 2540G	4/6/17 12:36	**1.97**	%		0.01		ADP
1704036-05	D	% Solids, Total Volatile	04/05/17 7:20	SM 2540G	4/6/17 15:20	**85.2**	%		0.01		ADP
1704141-01	D	Antimony	04/19/17 8:00	EPA 6010D	4/27/17 13:58	**ND**	mg/kg dry		19.32		MLB
1704141-01	D	Arsenic	04/19/17 8:00	EPA 6010D	4/21/17 14:24	**ND**	mg/kg dry		19.32		MLB
1704141-01	D	Beryllium	04/19/17 8:00	EPA 6010D	4/21/17 14:24	**ND**	mg/kg dry		3.86		MLB
1704141-01	D	Cadmium	04/19/17 8:00	EPA 6010D	4/21/17 14:24	**ND**	mg/kg dry		7.73		MLB
1704141-01	D	Chromium	04/19/17 8:00	EPA 6010D	4/21/17 14:24	**ND**	mg/kg dry		19.32		MLB
1704141-01	D	Copper	04/19/17 8:00	EPA 6010D	4/27/17 13:58	**122**	mg/kg dry		19.32		MLB
1704141-01	D	Lead	04/19/17 8:00	EPA 6010D	4/27/17 15:33	**ND**	mg/kg dry		19.32		MLB
1704141-01	D	Mercury	04/19/17 8:00	EPA 7471B	4/25/17 10:15	**0.65**	mg/kg dry		0.02		DML
1704141-01	D	Molybdenum	04/19/17 8:00	EPA 6010D	4/21/17 14:24	**ND**	mg/kg dry		7.73		MLB
1704141-01	D	Nickel	04/19/17 8:00	EPA 6010D	4/21/17 14:24	**ND**	mg/kg dry		19.32		MLB
1704141-01	D	Selenium	04/19/17 8:00	EPA 6010D	4/21/17 14:24	**ND**	mg/kg dry		38.65		MLB
1704141-01	D	Silver	04/19/17 8:00	EPA 6010D	4/21/17 14:24	**1.38**	mg/kg dry		1.93		MLB
1704141-01	D	Thallium	04/19/17 8:00	EPA 6010D	4/27/17 13:58	**ND**	mg/kg dry		19.32		MLB
1704141-01	D	Zinc	04/19/17 8:00	EPA 6010D	4/21/17 14:24	**446**	mg/kg dry		19.32		MLB
1704141-01	D	% Solids	04/19/17 8:00	SM 2540G	4/20/17 13:22	**2.27**	%		0.01		DEB
1704141-01	D	Acrolein	04/19/17 8:00	EPA 624	4/24/17 12:52	**ND**	mg/kg dry	0.00299	4.40		JOB
1704141-01	D	Acrylonitrile	04/19/17 8:00	EPA 624	4/24/17 12:52	**ND**	mg/kg dry	0.000650	4.40		JOB
1704141-01	D	4,4-DDD	04/19/17 8:00	EPA 625	5/4/17 18:23	**ND**	mg/kg dry	0.00006	0.00106	D1, D7	KLH
1704141-01	D	4,4-DDE	04/19/17 8:00	EPA 625	5/4/17 18:23	**ND**	mg/kg dry	0.00003	0.00106	D1, D7	KLH
1704141-01	D	4,4-DDT	04/19/17 8:00	EPA 625	5/4/17 18:23	**ND**	mg/kg dry	0.00006	0.00106	D1, D7	KLH
1704141-01	D	Aldrin	04/19/17 8:00	EPA 625	5/4/17 18:23	**ND**	mg/kg dry	0.00006	0.00106	D1, D7, N1	KLH
1704141-01	D	alpha-BHC	04/19/17 8:00	EPA 625	5/4/17 18:23	**ND**	mg/kg dry	0.00004	0.00106	D1, D7	KLH
1704141-01	D	beta-BHC	04/19/17 8:00	EPA 625	5/4/17 18:23	**ND**	mg/kg dry	0.00009	0.00106	D1, D7	KLH

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704141-01	D	Chlordane	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00025	0.01	D1, D7	KLH
1704141-01	D	delta-BHC	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00007	0.00106	D1, D7	KLH
1704141-01	D	Dieldrin	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00015	0.00211	D1, D7	KLH
1704141-01	D	Endosulfan I	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00004	0.00106	D1, D7	KLH
1704141-01	D	Endosulfan II	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00003	0.00106	D1, D7	KLH
1704141-01	D	Endosulfan sulfate	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00004	0.00106	D1, D7	KLH
1704141-01	D	Endrin	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00010	0.00106	D1, D7	KLH
1704141-01	D	Endrin aldehyde	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00011	0.00106	D1, D7	KLH
1704141-01	D	gamma-BHC (Lindane)	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00007	0.00106	D1, D7	KLH
1704141-01	D	Heptachlor	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00005	0.00106	D1, D7	KLH
1704141-01	D	Heptachlor Epoxide	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00004	0.00106	D1, D7	KLH
1704141-01	D	PCB 1016	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00006	0.00211	D1, D7	KLH
1704141-01	D	PCB 1221	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00017	0.01	D1, D7	KLH
1704141-01	D	PCB 1232	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00007	0.01	D1, D7	KLH
1704141-01	D	PCB 1242	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00013	0.01	D1, D7	KLH
1704141-01	D	PCB 1248	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00010	0.01	D1, D7	KLH
1704141-01	D	PCB 1254	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00019	0.01	D1, D7	KLH
1704141-01	D	PCB 1260	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00007	0.00211	D1, D7	KLH
1704141-01	D	Total PCBs	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00016	0.01	D1, D7	KLH
1704141-01	D	Toxaphene	04/19/17 8:00	EPA 625	5/4/17 18:23	ND	mg/kg dry	0.00094	0.02	D1, D7	KLH
1704141-01	D	Methoxychlor	04/19/17 8:00	EPA 8270C	5/4/17 18:23	ND	mg/kg dry		0.00106	D1, D7	KLH
1704141-01	D	1,1,1-Trichloroethane	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0002	0.00440		SRM
1704141-01	D	1,1,2,2-Tetrachloroethane	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.00006	0.00440		SRM
1704141-01	D	1,1,2-Trichloroethane	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.00009	0.00440		SRM
1704141-01	D	1,1-Dichloroethane	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0002	0.00440		SRM
1704141-01	D	1,1-Dichloroethene	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0001	0.00440		SRM
1704141-01	D	1,2-Dichlorobenzene	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.00008	0.00440		SRM
1704141-01	D	1,2-Dichloroethane	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.00009	0.00440		SRM
1704141-01	D	1,2-Dichloropropane	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0001	0.00440		SRM
1704141-01	D	1,3-Dichlorobenzene	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.00008	0.00440		SRM
1704141-01	D	1,4-Dichlorobenzene	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0002	0.00440		SRM
1704141-01	D	2-Chloroethyl vinyl ether	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0003	0.01		SRM
1704141-01	D	Benzene	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0001	0.00440		SRM
1704141-01	D	Bromodichloromethane	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0002	0.00440		SRM
1704141-01	D	Bromoform	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0003	0.00440		SRM
1704141-01	D	Bromomethane	04/19/17 8:00	EPA 624	4/24/17 16:24	0.528	mg/kg dry	0.0001	0.00440		SRM
1704141-01	D	Carbon Tetrachloride	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0004	0.00440		SRM
1704141-01	D	Chlorobenzene	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.00006	0.00440		SRM
1704141-01	D	Chloroethane	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0002	0.00440		SRM
1704141-01	D	Chloroform	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0001	0.00440		SRM
1704141-01	D	Chloromethane	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0002	0.00440		SRM
1704141-01	D	cis-1,3-Dichloropropene	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.00009	0.00440		SRM
1704141-01	D	Dibromochloromethane	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.00006	0.00440		SRM
1704141-01	D	Ethyl Benzene	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.00009	0.00440		SRM
1704141-01	D	Methylene Chloride	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0002	0.00440		SRM
1704141-01	D	Tetrachloroethene	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0002	0.00440		SRM
1704141-01	D	Toluene	04/19/17 8:00	EPA 624	4/24/17 16:24	161.406	mg/kg dry	0.0001	0.00440		SRM
1704141-01	D	Total Trihalomethanes	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0003	0.00440		SRM
1704141-01	D	trans-1,2-Dichloroethene	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0001	0.00440		SRM
1704141-01	D	trans-1,3-Dichloropropene	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0001	0.00440		SRM
1704141-01	D	Trichloroethene	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0001	0.00440		SRM
1704141-01	D	Trichlorofluoromethane	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0003	0.00440		SRM
1704141-01	D	Vinyl chloride	04/19/17 8:00	EPA 624	4/24/17 16:24	ND	mg/kg dry	0.0002	0.00440		SRM
1704141-01	D	1,2,4-Trichlorobenzene	04/19/17 8:00	EPA 8260	4/24/17 16:24	ND	mg/kg dry		0.00440		SRM
1704141-01	D	1,2-Dibromo-3-chloropropane	04/19/17 8:00	EPA 8260	4/24/17 16:24	ND	mg/kg dry		0.01		SRM
1704141-01	D	1,2-Dibromoethane	04/19/17 8:00	EPA 8260	4/24/17 16:24	ND	mg/kg dry		0.00440		SRM
1704141-01	D	cis-1,2-Dichloroethene	04/19/17 8:00	EPA 8260	4/24/17 16:24	ND	mg/kg dry		0.00440		SRM
1704141-01	D	m,p-Xylenes	04/19/17 8:00	EPA 8260	4/24/17 16:24	ND	mg/kg dry		0.01		SRM
1704141-01	D	o-Xylene	04/19/17 8:00	EPA 8260	4/24/17 16:24	ND	mg/kg dry		0.00440		SRM
1704141-01	D	Styrene	04/19/17 8:00	EPA 8260	4/24/17 16:24	ND	mg/kg dry		0.00440		SRM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704141-01	D	Xylenes, total	04/19/17 8:00	EPA 8260	4/24/17 16:24	ND	mg/kg dry		0.01		SRM
1704141-01	D	2,3,7,8-TCDD - Dioxin Scan	04/19/17 8:00	EPA 625	5/10/17 15:11	ND	ug/kg dry		1.10		SJM
1704141-01	D	1,2,4-Trichlorobenzene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	2,3-Dichloroaniline	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704141-01	D	2,4,6-Trichlorophenol	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	2,4-Dichlorophenol	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	2,4-Dimethylphenol	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.004	0.01	D1, D7	SJM
1704141-01	D	2,4-Dinitrophenol	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.009	0.02	D1, D7	SJM
1704141-01	D	2,4-Dinitrotoluene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704141-01	D	2,6-Dinitrotoluene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	2-Chloronaphthalene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	2-Chlorophenol	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	2-Methyl-4,6-dinitrophenol	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.005	0.01	D1, D7	SJM
1704141-01	D	2-Methylphenol	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	2-Nitrophenol	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1704141-01	D	3,3-Dichlorobenzidine	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704141-01	D	4-Bromophenyl phenyl ether	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	4-Chloro-3-methylphenol	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704141-01	D	4-Chlorophenyl phenyl ether	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	4-Methylphenol	04/19/17 8:00	EPA 625	5/2/17 22:53	**544.7**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	4-Nitrophenol	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.005	0.01	D1, D7	SJM
1704141-01	D	Acenaphthene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	Acenaphthylene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	Anthracene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	Benzidine	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.007	0.01	D1, D7	SJM
1704141-01	D	Benzo[a]anthracene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	Benzo[a]pyrene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	Benzo[b]fluoranthene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	Benzo[ghi]perylene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1704141-01	D	Benzo[k]fluoranthene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704141-01	D	bis(2-chloroethoxy)methane	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	bis(2-chloroethyl)ether	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704141-01	D	bis(2-chloroisopropyl)ether	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	bis(2-ethylhexyl)phthalate	04/19/17 8:00	EPA 625	5/2/17 22:53	**30.90**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704141-01	D	Butylbenzylphthalate	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	Carbazole	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1704141-01	D	Chrysene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	Dibenzo(a,h)anthracene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1704141-01	D	Diethyl phthalate	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704141-01	D	Dimethyl phthalate	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1704141-01	D	Di-n-butyl phthalate	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704141-01	D	Di-n-octyl phthalate	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1704141-01	D	Fluoranthene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	Fluorene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	Hexachlorobenzene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1704141-01	D	Hexachlorobutadiene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	Hexachlorocyclopentadiene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.004	0.01	D1, D7	SJM
1704141-01	D	Hexachloroethane	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	Indeno(1,2,3-cd)pyrene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1704141-01	D	Isophorone	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	Naphthalene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	n-Decane	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	Nitrobenzene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704141-01	D	N-Nitrosodimethylamine	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1704141-01	D	N-Nitrosodi-n-propylamine	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704141-01	D	N-Nitrosodiphenylamine	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.006	0.01	D1, D7	SJM
1704141-01	D	n-Octadecane	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1704141-01	D	Pentachlorophenol	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.004	0.01	D1, D7	SJM
1704141-01	D	Phenanthrene	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704141-01	D	Phenol	04/19/17 8:00	EPA 625	5/2/17 22:53	ND	mg/kg dry	0.003	0.01	D1, D7	SJM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704141-01	D	Pyrene	04/19/17 8:00	EPA 625	5/2/17 22:53	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	1,2-Diphenylhydrazine	04/19/17 8:00	EPA 8270C	5/2/17 22:53	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704141-01	D	Cyanide, Total	04/19/17 8:00	9014	5/2/17 10:47	**8.7**	mg/Kg dry	7.3	19	E4	YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1704141-01	D	Percent Solids	04/19/17 8:00	2540G	4/21/17 13:05	**2.1**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1704141-01	D	Percent Moisture	04/19/17 8:00	2540G	4/21/17 13:05	**97.9**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											

Well AV-06 (25003-2500)

1704140-01	D	Depth to Water	04/19/17 10:20	NA	4/19/17 10:20	**294.8**	Feet				SMPLR
1704140-01	D	Chloride	04/19/17 10:20	SM4500-Cl-E	5/1/17 13:15	**100**	mg/L	1.00	4.00		MGA
1704140-01	D	Cyanide	04/19/17 10:20	SM4500-CN-E	4/21/17 12:53	**ND**	ug/L	1.75	5.00		DML
1704140-01	D	Cyanide Amenable	04/19/17 10:20	SM 4500-CN-G	4/21/17 12:53	**NA**	ug/L	1.75	5.00	N7	DML
1704140-01	D	Fluoride	04/19/17 10:20	SM4500-F-C	4/20/17 12:06	**0.16**	mg/L	0.02	0.10		KMT
1704140-01	D	Mercury	04/19/17 10:20	EPA 245.1	4/27/17 11:18	**ND**	ug/L	0.10	0.20		DML
1704140-01	D	Nitrate	04/19/17 10:20	Calculated	4/24/17 12:33	**2.18**	mg/L	0.02	0.20		DML
1704140-01	D	Nitrate/Nitrite	04/19/17 10:20	EPA 353.2	4/24/17 12:33	**2.24**	mg/L	0.02	0.20		KMT
1704140-01	D	Nitrite	04/19/17 10:20	SM4500-NO2 B	4/20/17 12:21	**0.06**	mg/L	0.02	0.20	J	DML
1704140-01	D	Total Kjeldahl Nitrogen	04/19/17 10:20	EPA 351.2	4/26/17 10:05	**ND**	mg/L	0.52	0.80		KKH
1704140-01	D	Nitrogen Total Water	04/19/17 10:20	Calculated	4/26/17 10:05	**2.24**	mg/L	0.52	0.80		KKH
1704140-01	D	Alkalinity Total	04/19/17 10:20	SM 2320B	4/26/17 14:14	**138**	mg/L		20.00		JRW
1704140-01	D	Bicarbonate Alkalinity	04/19/17 10:20	SM 2320B	4/26/17 14:14	**138**	mg/L		20.00		JRW
1704140-01	D	Coliform, Total	04/19/17 10:20	SM 9223B	4/20/17 13:37	**Absence**	CFU/100 ml				JEL
1704140-01	D	E. Coli	04/19/17 10:20	SM 9223B	4/20/17 13:37	**Absence**	CFU/100 ml				JEL
1704140-01	D	Total Dissolved Solids	04/19/17 10:20	SM 2540C	4/25/17 13:36	**440**	mg/L		10.00		JEL
1704140-01	D	Beryllium	04/19/17 10:20	200.7 Rev 4.4	7/12/17 17:25	**ND**	ug/L	0.20	1.0	E8	CJM *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1704140-01	D	Antimony	04/19/17 10:20	200.8	7/11/17 16:08	**ND**	ug/L	0.087	1.0	E8	TEK *
1704140-01	D	Arsenic	04/19/17 10:20	200.8	7/11/17 16:08	**0.98**	ug/L	0.84	1.0	E4	TEK *
1704140-01	D	Barium	04/19/17 10:20	200.8	7/11/17 16:08	**130**	ug/L	0.095	0.50		TEK *
1704140-01	D	Cadmium	04/19/17 10:20	200.8	7/11/17 16:08	**ND**	ug/L	0.065	0.10	E8	TEK *
1704140-01	D	Chromium	04/19/17 10:20	200.8	7/11/17 16:08	**ND**	ug/L	0.80	1.0	E8	TEK *
1704140-01	D	Lead	04/19/17 10:20	200.8	7/11/17 16:08	**ND**	ug/L	0.28	0.50	E8	TEK *
1704140-01	D	Nickel	04/19/17 10:20	200.8	7/11/17 16:08	**2.2**	ug/L	0.28	0.50		TEK *
1704140-01	D	Selenium	04/19/17 10:20	200.8	7/11/17 16:08	**0.63**	ug/L	0.11	0.50		TEK *
1704140-01	D	Silver	04/19/17 10:20	200.8	7/11/17 16:08	**ND**	ug/L	0.058	0.10	E8	TEK *
1704140-01	D	Thallium	04/19/17 10:20	200.8	7/11/17 16:08	**ND**	ug/L	0.055	0.10	E8	TEK *
1704140-01	D	Zinc	04/19/17 10:20	200.8	7/11/17 16:08	**230**	ug/L	3.0	13		TEK *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1704140-01RE1	D	Copper	04/19/17 10:20	200.8	7/14/17 11:28	**1.0**	ug/L	0.13	0.50		TEK *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											

FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

1704141-01
EPA Method 625/8270 Pesticides: Target analytes flagged with N1 for this method failed the matrix spike RPD from the same extraction batch but the spike was performed on a different sample. KLH 05/08/17

Semi-Quantitation
Method: 625
1704141-01

Compound Name	Concentration-mg/Kg
Palmitic Acid	9622
Oleic Acid	4369
Stearic Acid	2354

SJM 05/15/17

1704219- 01, 02
EPA Method 624 and 8260 Volatiles. Target analytes flagged with N1 failed the Matrix Spike from the same analytical batch for 1,1-Dichloroethane and Carbon Tetrachloride but the spike was performed on a different sample. The analyte was not detected in the samples. SRM 05/03/17

Semi-Quantitation
Method: 624
1704219-01

Compound Name	Concentration-ug/L
Acetone	388.68

SRM 05/04/17

1704219-01
EPA Method 625/8270 Pesticides: Target analytes flagged with N1 for this method failed the matrix spike RPD from the same extraction batch but the spike was performed on a different sample. KLH 05/08/17

Semi-Quantitation
Method: 625
1704219-01

Compound Name	Concentration-ug/L
Benzoic Acid	109
N,N-Dimethyl-1-dodecanamine	522
Tetradecanoic Acid	121
Armine DM 16D	115
Palmitic Acid	21966
Oleic Acid	20346
Stearic Acid	8400
Squalene	165

SJM 05/18/17

1704220-01
EPA 549.2 QC results outside acceptance criteria. Results are not reported. JD 7/03/17.

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1704036-05

PROJECT & LOCATION: Avra Valley RWRF Wet Haul Sludge

PROJECT-LOCATION NUMBER: **25003-1573** (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: _____ (Military time)

CLIENT: **Sub Regional Facilities**

SAMPLE END DATE: 04/05/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0720 (Military time)

SAMPLER(S): LENON (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ☐ 503 ☐ AZPDES ☐ Reuse ■ Process Control ☐ IWC ☐ Air ☐ Other _____

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	☐	☐	☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	■	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ ° C
☐ Temperature *SM 2550 B*	_____	° C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions:

Septum Blank Prep Date & Initials: _____ _____

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Sample Refrigerator	Sample Refrigerator	04/05/2017	0728
Sample Refrigerator	[signature]	4/5/17	1050
[signature]	[signature]	4-5-17	1200
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 1 cm

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 2 °C

Initials: CM

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1704141-01

PROJECT & LOCATION: Avra Valley Wet Haul Sludge (Quarterly)

PROJECT-LOCATION NUMBER: 25003-1573 (XXXXX-XXXX)

SAMPLE START DATE: (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: (Military time)

CLIENT: IWC

SAMPLE END DATE: 04-19-2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0800 (Military time)

SAMPLER(S): Silva, Riccaboni (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ■ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	×		■	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	×		■	☐
TCLP Metals			☐	☐
503 Metals **			■	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total (contract)	■	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	☐
Dioxin GC/SIM/MS Scan	■	☐
Organochlorine Pesticides & PCBs	■	☐
Purgeable Organics (GCMS)	■	☐
Semivolatile Organics (GCMS)	■	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total (½ contract)	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ ° C
☐ Temperature *SM 2550 B*		° C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:

Two Solids Total samples
Cyanide and 1 of 2 TKS sent to Test America. COS 04-17-17 DO# 17-30750

Septum Blank Prep Date & Initials: 04-04-2017 | lej

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
		04-19-17	1216
Relinquished by:	Received by:	Date: 4/20/17	Time: (Military time) 1217
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 9 COS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 5 °C

Initials: GOS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☒	☐	☐
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

PIMA COUNTY WASTEWATER MANAGEMENT
INDUSTRIAL WASTEWATER CONTROL SECTION
SAMPLE COLLECTION FIELD NOTES

1704141-01

SAMPLE LOCATION: **Avra Valley Wet Haul Sludge**

LOCATION ID: **25003-1573** SAMPLERS: Silva, Riccaboni SAMPLE DATE: 4-19-17

Last names only, primary sampler first.

SAMPLE D or C	PARAMETER	START TIME	END TIME	FREQUENCY	Time Flow	Auto Man.	Volume Submitted	BOTTLE TYPE	PRESERVATION
D	Priority Pollutant Metals		@	Grab			1000ml		
D	503 Metals		4-19-17	4-19-17				DM Plastic	Ice
D	Cyanide, Total			0800			1000 ml	DM Plastic	Ice
D	Organochlorine Pesticides						1000 ml	Amber	Ice
D	Semivolatile Organics						1000 ml	Amber	Ice
D	Dioxin Scan						1000 ml	Amber	Ice
D	Solids, Total						1000 ml	Gen Purpose	Ice
D	Solids, Total						1000 ml	Gen Purpose	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice

pH METER CALIBRATION LOG

Time	Model #	Serial #	Auto/Man.	Buffer	Reading	Buffer	Reading	Temp.	Slope	Initials
				N/A						

FIELD MEASUREMENTS

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials

Notes: All Samples are unpreserved

EQUIPMENT USED: ☐ **Grab Sampler** ☐ Automatic Sampler ☐ Electric Pump ☐ Other _____

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	___1___ of ___1___ COCs
2955 W. Calle Agua Nueva	**Analysis Turnaround Time**			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			**For Lab Use Only:**
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Avra Valley	☐ 1 week			
Site: Avra Valley	☐ 2 days			Job / SDG No.:
P O # 17- 30750	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry	Sample Specific Notes:
Avra Valley WRF wet haul sludge 25003-1573										
1704141-01	4/19/2017	0800	Grab	BS	2	N		1	1	BS - biosolids

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☐Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company: PC CRAO	Date/Time: 04-19-17/1216	Received by:	Company: PC CRAO	Date/Time: 04-19-17/1216
Relinquished by:	Company: PC CRAO	Date/Time: 04-20-17 1217	Received by:	Company: TA	Date/Time: 4/20/17 1217
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

PIMA COUNTY

WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1704141-01**	**DO**	**17-30750**
CONTRACT LAB	**Test America - Phoenix**	**SAMPLE GROUP**	**Avra Valley**
ANALYSES	**Total CN^-, %TS**	**REPORT ID**	**550-81460-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	N/A
DO received in Pima Core?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	N/A
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	N/A
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	N/A
Was Belinda Gamboa-Felix notified of any exceedences?	N/A
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	N/A
Report states if zeolite treatment was utilized?	N/A
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	N/A
Chemistry data included?	N/A
Reference Toxicant Test Results and Control Chart within limits?	N/A

PMSD Determination included and within acceptable range? (minimum acceptable= 13)			N/A
End Points include TUc, NOEC, LOEC, and IC25?			N/A
Statistics verify endpoints			N/A
Control Charts Updated to include month of analysis			N/A
Reviewer Initials:	**JD**	**Review Date:**	**5-08-17**

PEER/FINAL REVIEW:			PR	FR
LIMS/Excel data matches printed CL report?			✓	
Analysis dates are correct?			✓	
Correct Data Qualifiers included if necessary.			✓	
CRAO report shows result is from Contract Lab?			✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?			✓	
DO received in Pima Core			✓	
Analysis set to Reported?				✓
Peer Reviewer Initials:	[illegible]	**Review Date:**	5-11-17	
Biomonitor Supervisor Initials:	N/A	**Review Date:**	N/A	
Final Reviewer Initials:	JEC	**Review Date:**	5·24·17	

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-81460-1
TestAmerica Sample Delivery Group: Avra Valley
Client Project/Site: Avra Valley

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Nancy Powell

Authorized for release by:
5/4/2017 7:55:24 AM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 550-81460-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-81460-1

Comments
No additional comments.

Receipt
The sample was received on 4/20/2017 12:17 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.2° C.

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

Sample Summary

Client: Pima County WWTP
Project/Site: Avra Valley

TestAmerica Job ID: 550-81460-1
SDG: Avra Valley

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-81460-1	1704141-01	Solid	04/19/17 08:00	04/20/17 12:17

Detection Summary

Client: Pima County WWTP
Project/Site: Avra Valley

TestAmerica Job ID: 550-81460-1
SDG: Avra Valley

Client Sample ID: 1704141-01 — Lab Sample ID: 550-81460-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	8.7	E4	19	7.3	mg/Kg	1	☼	9014	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

81460

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

5/4/2017

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Avra Valley	☐ 1 week			
Site: Avra Valley	☐ 2 days			Job / SDG No.:
P O # 17- 30750	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry	Sample Specific Notes:
Avra Valley WRF wet haul sludge 25003-1573										
1704141-01 -D1	4/19/2017	0800	Grab	BS	2	N		1	1	BS - biosolids

550-81460 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☐Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

0.2°C

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	PC CRAO	04-19-17/1216	[signature]	PC CRAO	04-19-17/1216
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	PC CRAO	04-20-17 1217	[signature]	PA	4/20/17 1217
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-81460-1
SDG Number: Avra Valley

Login Number: 81460
List Number: 1
Creator: Gravlin, Andrea

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 10/27/2017
Laboratory License: AZO159

Sample Analysis Report

Avra Valley WRF

July 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Chratt

10·30·17
Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707133-01	D	Acenaphthene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.53	8.00	D1, D7	SJM
1707133-01	D	Acenaphthylene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.58	8.00	D1, D7	SJM
1707133-01	D	Anthracene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	2.00	8.00	D1, D7	SJM
1707133-01	D	Benzidine	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	6.52	40.00	D1, D7	SJM
1707133-01	D	Benzo[a]anthracene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.25	8.00	D1, D7	SJM
1707133-01	D	Benzo[a]pyrene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.96	8.00	D1, D7	SJM
1707133-01	D	Benzo[b]fluoranthene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.58	8.00	D1, D7	SJM
1707133-01	D	Benzo[ghi]perylene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	2.94	24.00	D1, D7	SJM
1707133-01	D	Benzo[k]fluoranthene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	2.29	24.00	D1, D7	SJM
1707133-01	D	bis(2-chloroethoxy)methane	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.98	8.00	D1, D7	SJM
1707133-01	D	bis(2-chloroethyl)ether	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	2.12	24.00	D1, D7	SJM
1707133-01	D	bis(2-chloroisopropyl)ether	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.80	8.00	D1, D7	SJM
1707133-01	D	bis(2-ethylhexyl)phthalate	07/19/17 9:30	EPA 625	8/10/17 11:25	**41.5**	ug/L	2.82	24.00	D1, D7	SJM
1707133-01	D	Butylbenzylphthalate	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.90	8.00	D1, D7	SJM
1707133-01	D	Carbazole	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	2.67	24.00	D1, D7	SJM
1707133-01	D	Chrysene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.14	8.00	D1, D7	SJM
1707133-01	D	Dibenzo(a,h)anthracene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	3.07	24.00	D1, D7	SJM
1707133-01	D	Diethyl phthalate	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	2.24	24.00	D1, D7	SJM
1707133-01	D	Dimethyl phthalate	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	0.58	8.00	D1, D7	SJM
1707133-01	D	Di-n-butyl phthalate	07/19/17 9:30	EPA 625	8/10/17 11:25	**6.47**	ug/L	2.50	24.00	D1, D7, J	SJM
1707133-01	D	Di-n-octyl phthalate	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	2.55	24.00	D1, D7	SJM
1707133-01	D	Fluoranthene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.32	8.00	D1, D7	SJM
1707133-01	D	Fluorene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.54	8.00	D1, D7	SJM
1707133-01	D	Hexachlorobenzene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	0.62	8.00	D1, D7	SJM
1707133-01	D	Hexachlorobutadiene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.01	8.00	D1, D7	SJM
1707133-01	D	Hexachlorocyclopentadiene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	4.23	24.00	D1, D7	SJM
1707133-01	D	Hexachloroethane	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.26	8.00	D1, D7	SJM
1707133-01	D	Indeno(1,2,3-cd)pyrene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	2.83	24.00	D1, D7	SJM
1707133-01	D	Isophorone	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.66	8.00	D1, D7	SJM
1707133-01	D	Naphthalene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.77	8.00	D1, D7	SJM
1707133-01	D	n-Decane	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.95	8.00	D1, D7	SJM
1707133-01	D	Nitrobenzene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	2.10	24.00	D1, D7	SJM
1707133-01	D	N-Nitrosodimethylamine	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	2.09	24.00	D1, D7	SJM
1707133-01	D	N-Nitrosodi-n-propylamine	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	2.43	24.00	D1, D7	SJM
1707133-01	D	N-Nitrosodiphenylamine	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	6.08	40.00	D1, D7	SJM
1707133-01	D	n-Octadecane	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	2.18	24.00	D1, D7	SJM
1707133-01	D	Pentachlorophenol	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	4.02	24.00	D1, D7	SJM
1707133-01	D	Phenanthrene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.63	8.00	D1, D7	SJM
1707133-01	D	Phenol	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	2.59	24.00	D1, D7	SJM
1707133-01	D	Pyrene	07/19/17 9:30	EPA 625	8/10/17 11:25	**ND**	ug/L	1.38	8.00	D1, D7	SJM
1707133-01	D	1,2-Diphenylhydrazine	07/19/17 9:30	EPA 8270C	8/10/17 11:25	**ND**	ug/L	0.98	8.00	D1, D7	SJM
1707133-01	D	Hg	07/19/17 9:30	245.1	7/28/17 16:28	**ND**	ug/L	0.080	0.20	E8	JTG *

* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.

1707133-02	D	Chromium (Dissolved)	07/19/17 9:30	EPA 200.8	9/6/17 15:45	**0.32**	ug/L	0.03	1.00	H6, J	JB
1707133-03	FB	Mercury	07/19/17 9:30	EPA 245.7	8/7/17 10:45	**ND**	ng/L	0.640	5.00		DCR

Final Effluent at the U.V. Channel (25003-1351)

1707030-01	D	E. Coli	07/05/17 7:20	SM 9223B	7/6/17 11:36	**<1**	MPN/100 mL		1.0		ADP
1707085-01	D	E. Coli	07/12/17 6:19	SM 9223B	7/13/17 12:28	**<1**	MPN/100 mL		1.0		SDR
1707131-01	D	E. Coli	07/19/17 7:26	SM 9223B	7/20/17 13:21	**<1**	MPN/100 mL		1.0		JEL
1707186-01	D	E. Coli	07/26/17 6:52	SM 9223B	7/27/17 12:21	**<1**	MPN/100 mL		1.0		ADP

Wet Haul Sludge (25003-1573)

1707030-03	D	% Solids	07/05/17 8:04	SM 2540G	7/6/17 13:25	**1.72**	%		0.01		CRM
1707030-03	D	% Solids, Total Volatile	07/05/17 8:04	SM 2540G	7/6/17 15:58	**82.6**	%		0.01		CRM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707134-01	D	Antimony	07/19/17 11:10	EPA 6010D	7/27/17 13:21	**ND**	mg/kg dry		22.22		MLB
1707134-01	D	Arsenic	07/19/17 11:10	EPA 6010D	7/27/17 10:50	**ND**	mg/kg dry		22.22		MLB
1707134-01	D	Beryllium	07/19/17 11:10	EPA 6010D	7/27/17 10:50	**ND**	mg/kg dry		4.44		MLB
1707134-01	D	Cadmium	07/19/17 11:10	EPA 6010D	7/27/17 10:50	**ND**	mg/kg dry		8.89		MLB
1707134-01	D	Chromium	07/19/17 11:10	EPA 6010D	7/27/17 10:50	**ND**	mg/kg dry		22.22		MLB
1707134-01	D	Copper	07/19/17 11:10	EPA 6010D	7/27/17 10:50	**202**	mg/kg dry		22.22		MLB
1707134-01	D	Lead	07/19/17 11:10	EPA 6010D	7/27/17 12:13	**ND**	mg/kg dry		22.22		MLB
1707134-01	D	Molybdenum	07/19/17 11:10	EPA 6010D	7/27/17 10:50	**ND**	mg/kg dry		8.89		MLB
1707134-01	D	Nickel	07/19/17 11:10	EPA 6010D	7/27/17 10:50	**24.3**	mg/kg dry		22.22		MLB
1707134-01	D	Selenium	07/19/17 11:10	EPA 6010D	7/27/17 10:50	**ND**	mg/kg dry		44.45		MLB
1707134-01	D	Silver	07/19/17 11:10	EPA 6010D	7/27/17 13:21	**ND**	mg/kg dry		2.22		MLB
1707134-01	D	Thallium	07/19/17 11:10	EPA 6010D	7/27/17 10:50	**ND**	mg/kg dry		22.22		MLB
1707134-01	D	% Solids	07/19/17 11:10	SM 2540G	7/20/17 13:05	**1.00**	%		0.01		ADP
1707134-01	D	Acrolein	07/19/17 11:10	EPA 624	7/24/17 16:25	**ND**	mg/kg dry	0.00103	0.01		JOB
1707134-01	D	Acrylonitrile	07/19/17 11:10	EPA 624	7/24/17 16:25	**ND**	mg/kg dry	0.00206	0.01		JOB
1707134-01	D	4,4-DDD	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00006	0.00249	D1, D7	KLH
1707134-01	D	4,4-DDE	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00003	0.00249	D1, D7	KLH
1707134-01	D	4,4-DDT	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00006	0.00249	D1, D7	KLH
1707134-01	D	Aldrin	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00006	0.00249	D1, D7	KLH
1707134-01	D	alpha-BHC	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00004	0.00249	D1, D7	KLH
1707134-01	D	beta-BHC	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00009	0.00249	D1, D7	KLH
1707134-01	D	Chlordane	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00025	0.02	D1, D7	KLH
1707134-01	D	delta-BHC	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00007	0.00249	D1, D7	KLH
1707134-01	D	Dieldrin	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00015	0.00498	D1, D7	KLH
1707134-01	D	Endosulfan I	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00004	0.00249	D1, D7	KLH
1707134-01	D	Endosulfan II	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00003	0.00249	D1, D7	KLH
1707134-01	D	Endosulfan sulfate	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00004	0.00249	D1, D7	KLH
1707134-01	D	Endrin	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00010	0.00249	D1, D7	KLH
1707134-01	D	Endrin aldehyde	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00011	0.00249	D1, D7	KLH
1707134-01	D	gamma-BHC (Lindane)	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00007	0.00249	D1, D7	KLH
1707134-01	D	Heptachlor	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00005	0.00249	D1, D7	KLH
1707134-01	D	Heptachlor Epoxide	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00004	0.00249	D1, D7	KLH
1707134-01	D	PCB 1016	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00006	0.00498	D1, D7	KLH
1707134-01	D	PCB 1221	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00017	0.01	D1, D7	KLH
1707134-01	D	PCB 1232	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00007	0.01	D1, D7	KLH
1707134-01	D	PCB 1242	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00013	0.01	D1, D7	KLH
1707134-01	D	PCB 1248	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00010	0.01	D1, D7	KLH
1707134-01	D	PCB 1254	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00019	0.01	D1, D7	KLH
1707134-01	D	PCB 1260	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00007	0.00498	D1, D7	KLH
1707134-01	D	Total PCBs	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00016	0.01	D1, D7	KLH
1707134-01	D	Toxaphene	07/19/17 11:10	EPA 625	8/8/17 19:31	**ND**	mg/kg dry	0.00094	0.04	D1, D7	KLH
1707134-01	D	Methoxychlor	07/19/17 11:10	EPA 8270C	8/8/17 19:31	**ND**	mg/kg dry		0.00249	D1, D7	KLH
1707134-01	D	1,1,1-Trichloroethane	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.0002	0.00100		SRM
1707134-01	D	1,1,2,2-Tetrachloroethane	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.00006	0.00100		SRM
1707134-01	D	1,1,2-Trichloroethane	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.00009	0.00100		SRM
1707134-01	D	1,1-Dichloroethane	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.0002	0.00100		SRM
1707134-01	D	1,1-Dichloroethene	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.0001	0.00100		SRM
1707134-01	D	1,2-Dichlorobenzene	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.00008	0.00100		SRM
1707134-01	D	1,2-Dichloroethane	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.00009	0.00100		SRM
1707134-01	D	1,2-Dichloropropane	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.0001	0.00100		SRM
1707134-01	D	1,3-Dichlorobenzene	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.00008	0.00100		SRM
1707134-01	D	1,4-Dichlorobenzene	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.0002	0.00100		SRM
1707134-01	D	2-Chloroethyl vinyl ether	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.0003	0.00200		SRM
1707134-01	D	Benzene	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.0001	0.00100		SRM
1707134-01	D	Bromodichloromethane	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.0002	0.00100		SRM
1707134-01	D	Bromoform	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.0003	0.00100		SRM
1707134-01	D	Bromomethane	07/19/17 11:10	EPA 624	7/20/17 12:29	**0.58**	mg/kg dry	0.0001	0.00100		SRM
1707134-01	D	Carbon Tetrachloride	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.0004	0.00100		SRM
1707134-01	D	Chlorobenzene	07/19/17 11:10	EPA 624	7/20/17 12:29	**ND**	mg/kg dry	0.00006	0.00100		SRM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707134-01	D	Chloroethane	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.0002	0.00100		SRM
1707134-01	D	Chloroform	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.0001	0.00100		SRM
1707134-01	D	Chloromethane	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.0002	0.00100		SRM
1707134-01	D	cis-1,3-Dichloropropene	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.00009	0.00100		SRM
1707134-01	D	Dibromochloromethane	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.00006	0.00100		SRM
1707134-01	D	Ethyl Benzene	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.00009	0.00100		SRM
1707134-01	D	Methylene Chloride	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.0002	0.00100		SRM
1707134-01	D	Tetrachloroethene	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.0002	0.00100		SRM
1707134-01	D	Toluene	07/19/17 11:10	EPA 624	7/20/17 12:29	**31.60**	mg/kg dry	0.0001	0.00100		SRM
1707134-01	D	Total Trihalomethanes	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.0003	0.00100		SRM
1707134-01	D	trans-1,2-Dichloroethene	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.0001	0.00100		SRM
1707134-01	D	trans-1,3-Dichloropropene	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.0001	0.00100		SRM
1707134-01	D	Trichloroethene	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.0001	0.00100		SRM
1707134-01	D	Trichlorofluoromethane	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.0003	0.00100		SRM
1707134-01	D	Vinyl chloride	07/19/17 11:10	EPA 624	7/20/17 12:29	ND	mg/kg dry	0.0002	0.00100		SRM
1707134-01	D	1,2,4-Trichlorobenzene	07/19/17 11:10	EPA 8260	7/20/17 12:29	ND	mg/kg dry		0.00100		SRM
1707134-01	D	1,2-Dibromo-3-chloropropane	07/19/17 11:10	EPA 8260	7/20/17 12:29	ND	mg/kg dry		0.00200		SRM
1707134-01	D	1,2-Dibromoethane	07/19/17 11:10	EPA 8260	7/20/17 12:29	ND	mg/kg dry		0.00100		SRM
1707134-01	D	cis-1,2-Dichloroethene	07/19/17 11:10	EPA 8260	7/20/17 12:29	ND	mg/kg dry		0.00100		SRM
1707134-01	D	m,p-Xylenes	07/19/17 11:10	EPA 8260	7/20/17 12:29	ND	mg/kg dry		0.00200		SRM
1707134-01	D	o-Xylene	07/19/17 11:10	EPA 8260	7/20/17 12:29	ND	mg/kg dry		0.00100		SRM
1707134-01	D	Styrene	07/19/17 11:10	EPA 8260	7/20/17 12:29	ND	mg/kg dry		0.00100		SRM
1707134-01	D	Xylenes, total	07/19/17 11:10	EPA 8260	7/20/17 12:29	ND	mg/kg dry		0.00200		SRM
1707134-01	D	2,3,7,8-TCDD - Dioxin Scan	07/19/17 11:10	EPA 625	8/2/17 16:47	ND	ug/kg dry		2.50		SJM
1707134-01	D	1,2,4-Trichlorobenzene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	2,3-Dichloroaniline	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1707134-01	D	2,4,6-Trichlorophenol	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	2,4-Dichlorophenol	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	2,4-Dimethylphenol	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.004	0.01	D1, D7	SJM
1707134-01	D	2,4-Dinitrophenol	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.009	0.01	D1, D7	SJM
1707134-01	D	2,4-Dinitrotoluene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1707134-01	D	2,6-Dinitrotoluene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	2-Chloronaphthalene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	2-Chlorophenol	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	2-Methyl-4,6-dinitrophenol	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.005	0.01	D1, D7	SJM
1707134-01	D	2-Methylphenol	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	2-Nitrophenol	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1707134-01	D	3,3-Dichlorobenzidine	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1707134-01	D	4-Bromophenyl phenyl ether	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	4-Chloro-3-methylphenol	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1707134-01	D	4-Chlorophenyl phenyl ether	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	4-Methylphenol	07/19/17 11:10	EPA 625	8/10/17 19:16	**464.0**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	4-Nitrophenol	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.005	0.01	D1, D7	SJM
1707134-01	D	Acenaphthene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	Acenaphthylene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	Anthracene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	Benzidine	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.007	0.01	D1, D7	SJM
1707134-01	D	Benzo[a]anthracene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	Benzo[a]pyrene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	Benzo[b]fluoranthene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	Benzo[ghi]perylene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1707134-01	D	Benzo[k]fluoranthene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1707134-01	D	bis(2-chloroethoxy)methane	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	bis(2-chloroethyl)ether	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.01	D1, D7	SJM
1707134-01	D	bis(2-chloroisopropyl)ether	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	bis(2-ethylhexyl)phthalate	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1707134-01	D	Butylbenzylphthalate	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	Carbazole	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.003	0.01	D1, D7	SJM
1707134-01	D	Chrysene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	Dibenzo(a,h)anthracene	07/19/17 11:10	EPA 625	8/10/17 19:16	ND	mg/kg dry	0.003	0.01	D1, D7	SJM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707134-01	D	Diethyl phthalate	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707134-01	D	Dimethyl phthalate	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1707134-01	D	Di-n-butyl phthalate	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707134-01	D	Di-n-octyl phthalate	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707134-01	D	Fluoranthene	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	Fluorene	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	Hexachlorobenzene	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1707134-01	D	Hexachlorobutadiene	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	Hexachlorocyclopentadiene	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1707134-01	D	Hexachloroethane	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	Indeno(1,2,3-cd)pyrene	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707134-01	D	Isophorone	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	Naphthalene	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	n-Decane	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	Nitrobenzene	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707134-01	D	N-Nitrosodimethylamine	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1707134-01	D	N-Nitrosodi-n-propylamine	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707134-01	D	N-Nitrosodiphenylamine	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.006	0.01	D1, D7	SJM
1707134-01	D	n-Octadecane	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707134-01	D	Pentachlorophenol	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1707134-01	D	Phenanthrene	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707134-01	D	Phenol	07/19/17 11:10	EPA 625	8/10/17 19:16	**26.75**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707134-01	D	Pyrene	07/19/17 11:10	EPA 625	8/10/17 19:16	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	1,2-Diphenylhydrazine	07/19/17 11:10	EPA 8270C	8/10/17 19:16	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707134-01	D	1,4-Dichlorobenzene	07/19/17 11:10	EPA 8270C	8/10/17 19:16	**ND**	mg/kg dry	0.005	0.01		SJM
1707134-01	D	2,4,5-Trichlorophenol	07/19/17 11:10	EPA 8270C	8/10/17 19:16	**ND**	mg/kg dry	0.003	0.01		SJM
1707134-01	D	3 & 4-Methylphenol	07/19/17 11:10	EPA 8270C	8/10/17 19:16	**ND**	mg/kg dry	0.001	0.01		SJM
1707134-01	D	Pyridine	07/19/17 11:10	EPA 8270C	8/10/17 19:16	**0.24**	mg/kg dry	0.002	0.00200		SJM
1707134-01	D	Cyanide, Total	07/19/17 11:10	9014	8/3/17 12:35	**ND**	mg/Kg dry	15	39	E8, H1	NEL *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707134-01	D	Mercury	07/19/17 11:10	7471B	8/4/17 15:21	**ND**	mg/Kg dry	5.5	5.5	E8	JTG *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707134-01	D	Percent Solids	07/19/17 11:10	2540G	7/25/17 11:32	**1.0**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707134-01	D	Percent Moisture	07/19/17 11:10	2540G	7/25/17 11:32	**99.0**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707134-01RE1	D	Zinc	07/19/17 11:10	EPA 6010D	7/27/17 10:58	**2190**	mg/kg dry		111.12	D2	MLB
1707134-02	D	Percent Solids	07/19/17 11:10	2540G	7/25/17 11:32	**1.0**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707134-02	D	Percent Moisture	07/19/17 11:10	2540G	7/25/17 11:32	**99.0**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707134-02	D	N-ethyl perfluorooctane sulfonam	07/19/17 11:10	537 (modified)	8/11/17 06:34	**ND**	mg/Kg dry	0.038	0.19	E8	CBW*
1707134-02	D	N-methyl perfluorooctane sulfona	07/19/17 11:10	537 (modified)	8/11/17 06:34	**ND**	mg/Kg dry	0.13	0.19	E8	CBW*
1707134-02	D	Perfluorobutanesulfonic acid (PFB	07/19/17 11:10	537 (modified)	8/11/17 06:34	**ND**	mg/Kg dry	0.010	0.019	E8	CBW*
1707134-02	D	Perfluorodecanoic acid (PFDA)	07/19/17 11:10	537 (modified)	8/11/17 06:34	**0.018**	mg/Kg dry	0.0055	0.019	E4	CBW*
1707134-02	D	Perfluorododecanoic acid (PFDoA	07/19/17 11:10	537 (modified)	8/11/17 06:34	**ND**	mg/Kg dry	0.012	0.019	E8	CBW*
1707134-02	D	Perfluoroheptanoic acid (PFHpA)	07/19/17 11:10	537 (modified)	8/11/17 06:34	**ND**	mg/Kg dry	0.0085	0.019	E8	CBW*
1707134-02	D	Perfluorohexanesulfonic acid (PF	07/19/17 11:10	537 (modified)	8/11/17 06:34	**0.012**	mg/Kg dry	0.011	0.019	E4	CBW*
1707134-02	D	Perfluorohexanoic acid (PFHxA)	07/19/17 11:10	537 (modified)	8/11/17 06:34	**0.0077**	mg/Kg dry	0.0069	0.019	E4	CBW*
1707134-02	D	Perfluorononanoic acid (PFNA)	07/19/17 11:10	537 (modified)	8/11/17 06:34	**ND**	mg/Kg dry	0.0080	0.019	E8	CBW*
1707134-02	D	Perfluorooctanesulfonic acid (PFO	07/19/17 11:10	537 (modified)	8/11/17 06:34	**0.044**	mg/Kg dry	0.012	0.019		CBW*
1707134-02	D	Perfluorooctanoic acid (PFOA)	07/19/17 11:10	537 (modified)	8/11/17 06:34	**ND**	mg/Kg dry	0.0099	0.019	E8	CBW*
1707134-02	D	Perfluorotetradecanoic acid (PFT	07/19/17 11:10	537 (modified)	8/11/17 06:34	**ND**	mg/Kg dry	0.0056	0.019	E8	CBW*
1707134-02	D	Perfluorotridecanoic Acid (PFTrD	07/19/17 11:10	537 (modified)	8/11/17 06:34	**ND**	mg/Kg dry	0.0089	0.019	E8	CBW*
1707134-02	D	Perfluoroundecanoic acid (PFUnA	07/19/17 11:10	537 (modified)	8/11/17 06:34	**ND**	mg/Kg dry	0.010	0.019	E8	CBW*
* Analysis Performed by:TestAmerica Sacramento - See attached contract lab report for official results.											

Case Narrative(s)

1707030-05
SM5310 TOC: Target analyte flagged with N1 failed the Matrix Spike from the same analysis batch, but the spike was performed on a different sample. JOB 07/2717.

Semi-Quantitation
Method: 625
1707134-01

Compound Name	Concentration-mg/Kg
Palmitic Acid	4143
Oleic Acid	1533
Stearic Acid	425

SJM 08/22/17

1707167-01
EPA 624+(8260): Log-in error resulted in the removal of the analysis request. JD 09/28/17

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

COPY

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TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Mercury group #4	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-01988	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 537 PFOA and PFOS	total % solids for mg/kg	Cyanide mg/kg	Mercury mg/kg	Mercury	Sample Specific Notes:
Avra Valley WRF wet haul sludge 25003-1573													
1707134-02	7/19/17	1110	Grab	SL	2	N		2	1				SL - sludge
1707134-01	7/19/17	1110	Grab	SL	3	N			1	1	1		mg/kg dry weight
													mg/kg dry weight
Avra Valley WRF final effluent 25003-1350													
1707133-01	7/19/17	0930	Grab	WW	1	N						1	WW - wastewater
Tres Rios WRF dewatered cake 20001-5703													
1707125-08	7/18/17	2205	Comp	BS	1	N		1	1				BS - biosolids
													mg/kg dry weight

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Greg Spence for samplers	PC CRAO Lab	07-21-17 1400	[signature]		7/21/17 1400
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

PIMA COUNTY

WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	1707125-08,1707133-01,1707134-01,-02	DO	18-01988
CONTRACT LAB	TestAmerica PHX, SAC	SAMPLE GROUP	Mercury group #4
ANALYSES	TS, Hg, CN, PFOA, PFOS	REPORT ID	550-86585-1

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	NA
DO received in Pima Core?	NA
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	NA
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	N
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	Y
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	Y
Was Belinda Gamboa-Felix notified of any exceedences?	NA
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	NA
Report states if zeolite treatment was utilized?	NA
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	NA
Chemistry data included?	NA

Reference Toxicant Test Results and Control Chart within limits?	NA
PMSD Determination included and within acceptable range? (minimum acceptable= 13)	NA
End Points include TUc, NOEC, LOEC, and IC25?	NA
Statistics verify endpoints	NA
Control Charts Updated to include month of analysis	NA

Reviewer Initials:	**SN**	**Review Date:**	**8-24-17**

PEER/FINAL REVIEW:	PR	FR
LIMS/Excel data matches printed CL report?	JD	
Analysis dates are correct?	JD	
Correct Data Qualifiers included if necessary.	JD	
CRAO report shows result is from Contract Lab?	JD	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?	JD	
DO received in Pima Core		
Analysis set to Reported?		QC

Peer Reviewer Initials:	JD	**Review Date:**	9-27-17
Biomonitor Supervisor Initials:	N/A	**Review Date:**	N/A
Final Reviewer Initials:	QC	**Review Date:**	9.29.17

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**
1707134-02 PFOA	Contract lab inquired whether to run sample as water or solid.	Email instruction from CRAO QA to analyze as solid. See email attached #1.
1707134-01, Total Cn	Sample analyzed after holding time expired.	Results qualified with H1. Samplers, DMU notified 8-23-17 SN See email attached #2.

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-86585-1
Client Project/Site: Mercury group #4

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Nancy Powell

Authorized for release by:
8/23/2017 8:22:39 AM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.testamericainc.com

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.

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Qualifiers

LCMS

Qualifier	Qualifier Description
S6	Surrogate recovery was below laboratory acceptance limits and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.

Metals

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H1	Sample analysis performed past holding time.

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)

Job ID: 550-86585-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-86585-1

Comments
No additional comments.

Receipt
The samples were received on 7/21/2017 3:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.8° C and 2.3° C.

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

LCMS
Method(s) 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit for 13C2-PFTeDA: 1707125-08 (550-86585-4), 1707134-02 (550-86585-5) and (320-29976-A-10-A). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

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

General Chemistry
Method(s) 9014: The following sample was analyzed outside of the 14 day hour analytical holding time for Total Cyanide by method EPA 9014 due to an analyst error; 1707134-01 (550-86585-6). The sample was extracted and distilled within the 14 day holding time, however, the instrument analysis was not preformed until the next day in which the the holding time had been exceeded. As such, the data has been reported and qualified with a H1 flag.

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

Organic Prep
Method(s) SHAKE: Sample is dark brown aqueous-like with strong odor. As per client instructions sample was prepared as a soil sample at a 5 gram aliquot.

1707134-02 (550-86585-5)

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

Sample Summary

Client: Pima County WWTP
Project/Site: Mercury group #4

TestAmerica Job ID: 550-86585-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-86585-3	1707133-01	Water	07/19/17 09:30	07/21/17 15:50
550-86585-4	1707125-08	Solid	07/18/17 22:05	07/21/17 15:50
550-86585-5	1707134-02	Solid	07/19/17 11:10	07/21/17 15:50
550-86585-6	1707134-01	Solid	07/19/17 11:10	07/21/17 15:50

5

Client Sample ID: 1707133-01

Lab Sample ID: 550-86585-3

No Detections.

Client Sample ID: 1707125-08

Lab Sample ID: 550-86585-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.0031		0.0013	0.00047	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.0019		0.0013	0.00068	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.0022		0.0013	0.00055	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.020		0.0013	0.00038	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.0034		0.0013	0.00071	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.012		0.0013	0.00081	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.0027		0.0013	0.00079	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.031		0.0013	0.00084	mg/Kg	1	☼	537 (modified)	Total/NA
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.014		0.013	0.0026	mg/Kg	1	☼	537 (modified)	Total/NA
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.028		0.013	0.0087	mg/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: 1707134-02

Lab Sample ID: 550-86585-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.0077	E4	0.019	0.0069	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.018	E4	0.019	0.0055	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.012	E4	0.019	0.011	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.044		0.019	0.012	mg/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: 1707134-01

Lab Sample ID: 550-86585-6

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: 1707133-01

Date Collected: 07/19/17 09:30
Date Received: 07/21/17 15:50

Lab Sample ID: 550-86585-3
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.20	0.080	ug/L		07/26/17 16:52	07/28/17 16:28	1

Client Sample ID: 1707125-08

Date Collected: 07/18/17 22:05
Date Received: 07/21/17 15:50

Lab Sample ID: 550-86585-4
Matrix: Solid
Percent Solids: 14.9

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	0.0031		0.0013	0.00047	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1
Perfluoroheptanoic acid (PFHpA)	ND	E8	0.0013	0.00059	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1
Perfluorooctanoic acid (PFOA)	0.0019		0.0013	0.00068	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1
Perfluorononanoic acid (PFNA)	0.0022		0.0013	0.00055	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1
Perfluorodecanoic acid (PFDA)	0.020		0.0013	0.00038	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1
Perfluoroundecanoic acid (PFUnA)	0.0034		0.0013	0.00071	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1
Perfluorododecanoic acid (PFDoA)	0.012		0.0013	0.00081	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1
Perfluorotridecanoic Acid (PFTriA)	ND	E8	0.0013	0.00061	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1
Perfluorotetradecanoic acid (PFTeA)	ND	E8	0.0013	0.00039	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1
Perfluorobutanesulfonic acid (PFBS)	ND	E8	0.0013	0.00069	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1
Perfluorohexanesulfonic acid (PFHxS)	0.0027		0.0013	0.00079	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1
Perfluorooctanesulfonic acid (PFOS)	0.031		0.0013	0.00084	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.014		0.013	0.0026	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.028		0.013	0.0087	mg/Kg	☼	07/26/17 17:21	08/11/17 06:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*36*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:20*	*1*
13C4 PFOA	*54*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:20*	*1*
13C5 PFNA	*62*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:20*	*1*
13C2 PFDA	*49*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:20*	*1*
13C2 PFUnA	*27*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:20*	*1*
13C2 PFDoA	*12*	*S6*	*25 - 150*	*07/26/17 17:21*	*08/11/17 06:20*	*1*
18O2 PFHxS	*56*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:20*	*1*
13C4 PFOS	*56*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:20*	*1*
13C4-PFHpA	*55*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:20*	*1*
d3-NMeFOSAA	*34*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:20*	*1*
d5-NEtFOSAA	*35*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:20*	*1*
13C3-PFBS	*54*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:20*	*1*
13C2-PFTeDA	*2*	*S6*	*25 - 150*	*07/26/17 17:21*	*08/11/17 06:20*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	85.1		0.1	0.1	%			07/26/17 16:05	1
Percent Solids	14.9		0.1	0.1	%			07/26/17 16:05	1

Client Sample ID: 1707134-02

Date Collected: 07/19/17 11:10
Date Received: 07/21/17 15:50

Lab Sample ID: 550-86585-5
Matrix: Solid
Percent Solids: 1.0

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	0.0077	E4	0.019	0.0069	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1
Perfluoroheptanoic acid (PFHpA)	ND	E8	0.019	0.0085	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1
Perfluorooctanoic acid (PFOA)	ND	E8	0.019	0.0099	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1
Perfluorononanoic acid (PFNA)	ND	E8	0.019	0.0080	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1
Perfluorodecanoic acid (PFDA)	0.018	E4	0.019	0.0055	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1
Perfluoroundecanoic acid (PFUnA)	ND	E8	0.019	0.010	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1
Perfluorododecanoic acid (PFDoA)	ND	E8	0.019	0.012	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1
Perfluorotridecanoic Acid (PFTriA)	ND	E8	0.019	0.0089	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1
Perfluorotetradecanoic acid (PFTeA)	ND	E8	0.019	0.0056	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1
Perfluorobutanesulfonic acid (PFBS)	ND	E8	0.019	0.010	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1
Perfluorohexanesulfonic acid (PFHxS)	0.012	E4	0.019	0.011	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1
Perfluorooctanesulfonic acid (PFOS)	0.044		0.019	0.012	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	E8	0.19	0.038	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	E8	0.19	0.13	mg/Kg	☼	07/26/17 17:21	08/11/17 06:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*62*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:34*	*1*
13C4 PFOA	*86*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:34*	*1*
13C5 PFNA	*94*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:34*	*1*
13C2 PFDA	*80*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:34*	*1*
13C2 PFUnA	*78*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:34*	*1*
13C2 PFDoA	*53*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:34*	*1*
18O2 PFHxS	*82*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:34*	*1*
13C4 PFOS	*77*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:34*	*1*
13C4-PFHpA	*92*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:34*	*1*
d3-NMeFOSAA	*89*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:34*	*1*
d5-NEtFOSAA	*94*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:34*	*1*
13C3-PFBS	*70*		*25 - 150*	*07/26/17 17:21*	*08/11/17 06:34*	*1*
13C2-PFTeDA	*9*	*S6*	*25 - 150*	*07/26/17 17:21*	*08/11/17 06:34*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	99.0		0.1	0.1	%			07/25/17 11:32	1
Percent Solids	1.0		0.1	0.1	%			07/25/17 11:32	1

Client Sample ID: 1707134-01

Date Collected: 07/19/17 11:10
Date Received: 07/21/17 15:50

Lab Sample ID: 550-86585-6
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	99.0		0.1	0.1	%			07/25/17 11:32	1
Percent Solids	1.0		0.1	0.1	%			07/25/17 11:32	1

Client Sample ID: 1707134-01
Date Collected: 07/19/17 11:10
Date Received: 07/21/17 15:50

Lab Sample ID: 550-86585-6
Matrix: Solid
Percent Solids: 1.0

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	E8	5.5	5.5	mg/Kg	☼	07/31/17 15:50	08/04/17 15:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8 H1	39	15	mg/Kg	☼	08/02/17 11:30	08/03/17 12:35	1

Isotope Dilution Summary

Client: Pima County WWTP
Project/Site: Mercury group #4

TestAmerica Job ID: 550-86585-1

Method: 537 (modified) - Perfluorinated Hydrocarbons

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		13C2 PFHxA	13C4 PFOA	13C5 PFNA	13C2 PFDA	3C2 PFUnA	3C2 PFDoA	18O2 PFHxS	13C4 PFOS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-29976-A-10-B MS	Matrix Spike	78	91	90	89	87	75	70	63
320-29976-A-10-C MSD	Matrix Spike Duplicate	66	80	78	76	70	50	52	48
550-86585-4	1707125-08	36	54	62	49	27	12 S6	56	56
550-86585-5	1707134-02	62	86	94	80	78	53	82	77
LCS 320-176133/2-A	Lab Control Sample	83	92	86	81	72	63	79	79
MB 320-176133/1-A	Method Blank	84	87	87	81	72	62	85	76

		Percent Isotope Dilution Recovery (Acceptance Limits)				
		3C4-PFHpA	d3-NMeFOSAA	d5-NEtFOSAA	13C3-PFBS	3C2-PFTeDA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-29976-A-10-B MS	Matrix Spike	97	85	79	59	36
320-29976-A-10-C MSD	Matrix Spike Duplicate	80	61	54	44	36
550-86585-4	1707125-08	55	34	35	54	2 S6
550-86585-5	1707134-02	92	89	94	70	9 S6
LCS 320-176133/2-A	Lab Control Sample	95	68	65	78	32
MB 320-176133/1-A	Method Blank	93	62	65	67	38

Surrogate Legend

13C2 PFHxA = 13C2 PFHxA
13C4 PFOA = 13C4 PFOA
13C5 PFNA = 13C5 PFNA
13C2 PFDA = 13C2 PFDA
13C2 PFUnA = 13C2 PFUnA
13C2 PFDoA = 13C2 PFDoA
18O2 PFHxS = 18O2 PFHxS
13C4 PFOS = 13C4 PFOS
13C4-PFHpA = 13C4-PFHpA
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA
13C3-PFBS = 13C3-PFBS
13C2-PFTeDA = 13C2-PFTeDA

Method Summary

Client: Pima County WWTP
Project/Site: Mercury group #4

TestAmerica Job ID: 550-86585-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Perfluorinated Hydrocarbons	EPA	TAL SAC
245.1	Mercury (CVAA)	EPA	TAL PHX
7471B	Mercury (CVAA)	SW846	TAL PHX
2540G	SM 2540G	SM22	TAL PHX
9014	Cyanide	SW846	TAL PHX
D 2216	Percent Moisture	ASTM	TAL SAC

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SM22 = SM22

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

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

86585

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

8/23/2017

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Cooler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			In Client:
(520) 724-6071 FAX	☐ 2 weeks			Sampling:
Project Name: Mercury group #4	☐ 1 week			
Site: Various	☐ 2 days			SDG No.:
P O # 18-01988	☐ 1 day			

550-86585 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 537 PFOA and PFOS	total % solids for mg/kg	Cyanide mg/kg	Mercury mg/kg	Mercury	Sample Specific Notes:
Avra Valley WRF wet haul sludge 25003-1573													SL - sludge
-01 1707134-02	7/19/17	1110	Grab	SL	2	N		2	1				mg/kg dry weight
-02 1707134-01	7/19/17	1110	Grab	SL	3	N			1	1	1		mg/kg dry weight
Avra Valley WRF final effluent 25003-1350													WW - wastewater
-03 1707133-01	7/19/17	0930	Grab	WW	1	N						1	
Tres Rios WRF dewatered cake 20001-5703													BS - biosolids
-04 1707125-08	7/18/17	2205	Comp	BS	1	N		1	1				mg/kg dry weight

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

0.8°C, 2.3°C PC

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	07-21-17 1400	Michael Root		7/21/17 1400
Relinquished by: Michael Root	Company:	7/21/17 1550	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 7-21-17 1550

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Eshelman, Linda	Carrier Tracking No(s):	COC No: 550-18271.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: linda.eshelman@testamericainc.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-86585-1
Address: 880 Riverside Parkway,	Due Date Requested: 7/28/2017			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #			
Email:	WO #			
Project Name: General CRAO Lab	Project #: 55001656			
Site:	SSOW#			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/Shake_Bath_14D PFAS, Method 537 List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
1707125-08 (550-86585-4)	7/18/17	22:05 Arizona		Solid			X	1	
1707134-02 (550-86585-5)	7/18/17	11:10 Arizona		Solid			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*		*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[illegible] 07-24-17	16:35	TAL	Brian Hwang	7/25/2017 0930	TAWS
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
Δ Yes Δ No		

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-86585-1

Login Number: 86585
List Number: 1
Creator: Gravlin, Andrea

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-86585-1

Login Number: 86585
List Number: 2
Creator: Aguayo, Alonso

List Source: TestAmerica Sacramento
List Creation: 07/25/17 01:10 PM

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	983941
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (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	

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Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1701030-03

PROJECT & LOCATION: Avra Valley RWRF Wet Haul Sludge

PROJECT-LOCATION NUMBER: **25003-1573** (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: _____ (Military time)

CLIENT: **Sub Regional Facilities**

SAMPLE END DATE: 07/05/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0804 (Military time)

SAMPLER(S): LENON (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ☐ 503 ■ Process Control ☐ Other _____

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	☐	☐	☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	■	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ ° C
☐ Temperature *SM 2550 B*	_____	° C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions:

Septum Blank Prep Date & Initials: _____ _____

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Sample Refrigerator	Sample Refrigerator	07/05/2017	0808
Relinquished by:	Received by:	Date:	Time: (Military time)
		7/5/17	1018
Relinquished by:	Received by:	Date:	Time: (Military time)
		07-05-17	1109
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

of Bottles Delivered: 1 GOS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 5 °C

Initials: GOS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

** Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
*** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1707134-01

PROJECT & LOCATION: Avra Valley Wet Haul Sludge (Quarterly)

PROJECT-LOCATION NUMBER: **25003-1573** (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: _____ (Military time)

CLIENT: **IWC**

SAMPLE END DATE: 7.19.17 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 1110 (Military time)

SAMPLER(S): Riccaboni, Silva (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ■ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other _____

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury contract	×		■	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	×		■	☐
TCLP Metals			☐	☐
503 Metals **			■	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total contract	■	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	☐
Dioxin GC/SIM/MS Scan	■	☐
Organochlorine Pesticides & PCBs	■	☐
Purgeable Organics (GCMS)	■	☐
Semivolatile Organics (GCMS)	■	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total 1 of 2 contract	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ ° C
☐ Temperature *SM 2550 B*	_____	° C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions: Mercury, cyanide and 1 of 2 TM's sent to Test America, GOS 07-19-17 DO#18-01988

Septum Blank Prep Date & Initials: 06-26-17 LEJ

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
R. Riccaboni Jr.	[illegible]	07-19-17	1308
Relinquished by:	Received by:	Date:	Time: (Military time)
		7/21/17	1400
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 10 GOS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 3 ° C

Initials: GOS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☒	☐	☐
Received from a refrigerator?	☐	☒	☐

** Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
*** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

PIMA COUNTY WASTEWATER MANAGEMENT
INDUSTRIAL WASTEWATER CONTROL SECTION
SAMPLE COLLECTION FIELD NOTES

1707134-01

SAMPLE LOCATION: **Avra Valley Wet Haul Sludge**

LOCATION ID: **25003-1573** SAMPLERS: Riccaboni, Silva SAMPLE DATE: 7.19.17

Last names only, primary sampler first.

SAMPLE D or C	PARAMETER	START TIME	END TIME	FREQUENCY	Time Flow	Auto Man.	Volume Submitted	BOTTLE TYPE	PRESERVATION
D	Priority Pollutant Metals	—	1110	GRAB			1000ml	DM Plastic	Ice
D	503 Metals								
D	Cyanide, Total						1000 ml	DM Plastic	Ice
D	Organochlorine Pesticides						1000 ml	Amber	Ice
D	Semivolatile Organics						1000 ml	Amber	Ice
D	Dioxin Scan						1000 ml	Amber	Ice
D	Solids, Total						1000 ml	Gen Purpose	Ice
D	Solids, Total						1000 ml	Gen Purpose	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice

pH METER CALIBRATION LOG

Time	Model #	Serial #	Auto/Man.	Buffer	Reading	Buffer	Reading	Temp.	Slope	Initials
				N/A						

FIELD MEASUREMENTS

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials
		N/A							

Notes: All Samples are unpreserved

EQUIPMENT USED: ☐ **Grab Sampler** ☐ Automatic Sampler ☐ Electric Pump ☐ Other _____

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

COPY

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Various
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Mercury group #4	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-01988	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 537 PFOA and PFOS	total % solids for mg/kg	Cyanide mg/kg	Mercury mg/kg	Mercury	Sample Specific Notes:
Avra Valley WRF wet haul sludge 25003-1573													SL - sludge
1707134-02	7/19/17	1110	Grab	SL	2	N		2	1				mg/kg dry weight
1707134-01	7/19/17	1110	Grab	SL	3	N			1	1	1		mg/kg dry weight
Avra Valley WRF final effluent 25003-1350													WW - wastewater
1707133-01	7/19/17	0930	Grab	WW	1	N						1	
Tres Rios WRF dewatered cake 20001-5703													BS - biosolids
1707125-08	7/18/17	2205	Comp	BS	1	N		1	1				mg/kg dry weight

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ | Therm ID No.:_____

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Greg Spence for samplers	PC CRAO Lab	07-21-17 1400	[illegible]		7/21/17 1400
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1707134-02

PROJECT & LOCATION: Avra Valley Wet Haul Sludge (Quarterly)

PROJECT-LOCATION NUMBER: 25003-1573 (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: _____ (Military time)

CLIENT: IWC

SAMPLE END DATE: 07-19-2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 1110 (Military time)

SAMPLER(S): Silva, Riccaboni (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ■ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other _____

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury			☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *			☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other **PFOA / PFAS** contract	■	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total contract	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ °C
☐ Temperature *SM 2550 B*	_____	°C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions:

To be sent to Contract Lab. Test America. GCS
07-19-17 DO#18-01988

Septum Blank Prep Date & Initials: _____ _____

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	07-19-17	1308
[signature]	[signature]	7/21/17	1400
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of Bottles Delivered: 2 GCS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 3 °C

Initials: GCS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☒	☐	☐
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

PIMA COUNTY
WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 02/13/2018
Laboratory License: AZO159

Sample Analysis Report

Avra Valley WRF

4th Quarter 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Chaffee

2.13.18
Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
Wet Haul Sludge (25003-1573)											
1710051-01	D	% Solids	10/06/17 8:20	SM 2540G	10/7/17 13:06	**1.56**	%		0.01		SDR
1710051-01	D	% Solids, Total Volatile	10/06/17 8:20	SM 2540G	10/7/17 15:44	**78.7**	%		0.01		SDR
1710139-01	D	Antimony	10/19/17 11:40	EPA 6010D	10/25/17 16:11	**ND**	mg/kg dry		12.18		MLB
1710139-01	D	Arsenic	10/19/17 11:40	EPA 6010D	10/25/17 16:11	**ND**	mg/kg dry		12.18		MLB
1710139-01	D	Beryllium	10/19/17 11:40	EPA 6010D	10/25/17 16:11	**ND**	mg/kg dry		2.44		MLB
1710139-01	D	Cadmium	10/19/17 11:40	EPA 6010D	10/25/17 16:11	**ND**	mg/kg dry		4.87		MLB
1710139-01	D	Chromium	10/19/17 11:40	EPA 6010D	10/25/17 16:11	**12.2**	mg/kg dry		12.18		MLB
1710139-01	D	Copper	10/19/17 11:40	EPA 6010D	10/25/17 16:11	**218**	mg/kg dry		12.18		MLB
1710139-01	D	Lead	10/19/17 11:40	EPA 6010D	10/25/17 16:11	**ND**	mg/kg dry		12.18		MLB
1710139-01	D	Mercury	10/19/17 11:40	EPA 7471B	10/31/17 10:34	**0.56**	mg/kg dry		0.00293		DML
1710139-01	D	Molybdenum	10/19/17 11:40	EPA 6010D	10/25/17 16:11	**9.10**	mg/kg dry		4.87		MLB
1710139-01	D	Nickel	10/19/17 11:40	EPA 6010D	10/25/17 16:11	**ND**	mg/kg dry		12.18		MLB
1710139-01	D	Selenium	10/19/17 11:40	EPA 6010D	10/25/17 16:11	**ND**	mg/kg dry		24.35		MLB
1710139-01	D	Silver	10/19/17 11:40	EPA 6010D	10/26/17 17:14	**ND**	mg/kg dry		1.22		MLB
1710139-01	D	Thallium	10/19/17 11:40	EPA 6010D	10/27/17 16:09	**ND**	mg/kg dry		12.18		MLB
1710139-01	D	Zinc	10/19/17 11:40	EPA 6010D	10/25/17 16:11	**571**	mg/kg dry		12.18		MLB
1710139-01	D	% Solids	10/19/17 11:40	SM 2540G	10/20/17 13:34	**1.71**	%		0.01		DEB
1710139-01	D	Acrolein	10/19/17 11:40	EPA 624	10/24/17 15:44	**ND**	mg/kg dry	0.00360	0.01		SRM
1710139-01	D	Acrylonitrile	10/19/17 11:40	EPA 624	10/24/17 15:44	**ND**	mg/kg dry	0.00280	0.01		SRM
1710139-01	D	4,4-DDD	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00006	0.00124	D1, D7	KLH
1710139-01	D	4,4-DDE	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00003	0.00124	D1, D7	KLH
1710139-01	D	4,4-DDT	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00006	0.00124	D1, D7	KLH
1710139-01	D	Aldrin	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00006	0.00124	D1, D7	KLH
1710139-01	D	alpha-BHC	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00004	0.00124	D1, D7	KLH
1710139-01	D	beta-BHC	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00009	0.00124	D1, D7	KLH
1710139-01	D	Chlordane	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00025	0.01	D1, D7	KLH
1710139-01	D	delta-BHC	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00007	0.00124	D1, D7	KLH
1710139-01	D	Dieldrin	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00015	0.00248	D1, D7	KLH
1710139-01	D	Endosulfan I	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00004	0.00124	D1, D7	KLH
1710139-01	D	Endosulfan II	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00003	0.00124	D1, D7, L5	KLH
1710139-01	D	Endosulfan sulfate	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00004	0.00124	D1, D7	KLH
1710139-01	D	Endrin	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00010	0.00124	D1, D7	KLH
1710139-01	D	Endrin aldehyde	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00011	0.00124	D1, D7	KLH
1710139-01	D	gamma-BHC (Lindane)	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00007	0.00124	D1, D7	KLH
1710139-01	D	Heptachlor	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00005	0.00124	D1, D7	KLH
1710139-01	D	Heptachlor Epoxide	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00004	0.00124	D1, D7, N1	KLH
1710139-01	D	PCB 1016	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00006	0.00248	D1, D7	KLH
1710139-01	D	PCB 1221	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00017	0.01	D1, D7	KLH
1710139-01	D	PCB 1232	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00007	0.01	D1, D7	KLH
1710139-01	D	PCB 1242	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00013	0.01	D1, D7	KLH
1710139-01	D	PCB 1248	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00010	0.01	D1, D7	KLH
1710139-01	D	PCB 1254	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00019	0.01	D1, D7	KLH
1710139-01	D	PCB 1260	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00007	0.00248	D1, D7	KLH
1710139-01	D	Total PCBs	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00016	0.01	D1, D7	KLH
1710139-01	D	Toxaphene	10/19/17 11:40	EPA 625	11/7/17 18:15	**ND**	mg/kg dry	0.00094	0.02	D1, D7	KLH
1710139-01	D	Methoxychlor	10/19/17 11:40	EPA 8270C	11/7/17 18:15	**ND**	mg/kg dry		0.00124	D1, D7	KLH
1710139-01	D	1,1,1-Trichloroethane	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0002	0.00059		SRM
1710139-01	D	1,1,2,2-Tetrachloroethane	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.00006	0.00059		SRM
1710139-01	D	1,1,2-Trichloroethane	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.00009	0.00059		SRM
1710139-01	D	1,1-Dichloroethane	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0002	0.00059		SRM
1710139-01	D	1,1-Dichloroethene	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0001	0.00059		SRM
1710139-01	D	1,2-Dichlorobenzene	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.00008	0.00059		SRM
1710139-01	D	1,2-Dichloroethane	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.00009	0.00059		SRM
1710139-01	D	1,2-Dichloropropane	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0001	0.00059		SRM
1710139-01	D	1,3-Dichlorobenzene	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.00008	0.00059		SRM
1710139-01	D	1,4-Dichlorobenzene	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0002	0.00059		SRM
1710139-01	D	2-Chloroethyl vinyl ether	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0003	0.00117		SRM
1710139-01	D	Benzene	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0001	0.00059		SRM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1710139-01	D	Bromodichloromethane	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0002	0.00059		SRM
1710139-01	D	Bromoform	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0003	0.00059		SRM
1710139-01	D	Bromomethane	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0001	0.00059		SRM
1710139-01	D	Carbon Tetrachloride	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0004	0.00059		SRM
1710139-01	D	Chlorobenzene	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.00006	0.00059		SRM
1710139-01	D	Chloroethane	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0002	0.00059		SRM
1710139-01	D	Chloroform	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0001	0.00059		SRM
1710139-01	D	Chloromethane	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0002	0.00059		SRM
1710139-01	D	cis-1,3-Dichloropropene	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.00009	0.00059		SRM
1710139-01	D	Dibromochloromethane	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.00006	0.00059		SRM
1710139-01	D	Ethyl Benzene	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.00009	0.00059		SRM
1710139-01	D	Methylene Chloride	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0002	0.00059		SRM
1710139-01	D	Tetrachloroethene	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0002	0.00059		SRM
1710139-01	D	Toluene	10/19/17 11:40	EPA 624	10/22/17 16:28	**77.13**	mg/kg dry	0.0001	0.00059		SRM
1710139-01	D	Total Trihalomethanes	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0003	0.00059		SRM
1710139-01	D	trans-1,2-Dichloroethene	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0001	0.00059		SRM
1710139-01	D	trans-1,3-Dichloropropene	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0001	0.00059		SRM
1710139-01	D	Trichloroethene	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0001	0.00059		SRM
1710139-01	D	Trichlorofluoromethane	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0003	0.00059		SRM
1710139-01	D	Vinyl chloride	10/19/17 11:40	EPA 624	10/22/17 16:28	**ND**	mg/kg dry	0.0002	0.00059		SRM
1710139-01	D	1,2,4-Trichlorobenzene	10/19/17 11:40	EPA 8260	10/22/17 16:28	**ND**	mg/kg dry		0.00059		SRM
1710139-01	D	1,2-Dibromo-3-chloropropane	10/19/17 11:40	EPA 8260	10/22/17 16:28	**ND**	mg/kg dry		0.00117		SRM
1710139-01	D	1,2-Dibromoethane	10/19/17 11:40	EPA 8260	10/22/17 16:28	**ND**	mg/kg dry		0.00059		SRM
1710139-01	D	cis-1,2-Dichloroethene	10/19/17 11:40	EPA 8260	10/22/17 16:28	**ND**	mg/kg dry		0.00059		SRM
1710139-01	D	m,p-Xylenes	10/19/17 11:40	EPA 8260	10/22/17 16:28	**ND**	mg/kg dry		0.00117		SRM
1710139-01	D	o-Xylene	10/19/17 11:40	EPA 8260	10/22/17 16:28	**ND**	mg/kg dry		0.00059		SRM
1710139-01	D	Styrene	10/19/17 11:40	EPA 8260	10/22/17 16:28	**ND**	mg/kg dry		0.00059		SRM
1710139-01	D	Xylenes, total	10/19/17 11:40	EPA 8260	10/22/17 16:28	**ND**	mg/kg dry		0.00117		SRM
1710139-01	D	2,3,7,8-TCDD - Dioxin Scan	10/19/17 11:40	EPA 625	11/3/17 13:16	**ND**	ug/kg dry		1.46		SJM
1710139-01	D	1,2,4-Trichlorobenzene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	2,3-Dichloroaniline	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710139-01	D	2,4,6-Trichlorophenol	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	2,4-Dichlorophenol	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	2,4-Dimethylphenol	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1710139-01	D	2,4-Dinitrophenol	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.009	0.01	D1, D7	SJM
1710139-01	D	2,4-Dinitrotoluene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710139-01	D	2,6-Dinitrotoluene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	2-Chloronaphthalene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	2-Chlorophenol	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	2-Methyl-4,6-dinitrophenol	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1710139-01	D	2-Methylphenol	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	2-Nitrophenol	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710139-01	D	3,3-Dichlorobenzidine	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710139-01	D	4-Bromophenyl phenyl ether	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	4-Chloro-3-methylphenol	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710139-01	D	4-Chlorophenyl phenyl ether	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	4-Methylphenol	10/19/17 11:40	EPA 625	11/1/17 19:44	**712.8**	mg/kg dry	0.002	0.00200	D1, D2, D7	SJM
1710139-01	D	4-Nitrophenol	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1710139-01	D	Acenaphthene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	Acenaphthylene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	Anthracene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	Benzidine	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.007	0.01	D1, D7	SJM
1710139-01	D	Benzo[a]anthracene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	Benzo[a]pyrene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	Benzo[b]fluoranthene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	Benzo[ghi]perylene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710139-01	D	Benzo[k]fluoranthene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710139-01	D	bis(2-chloroethoxy)methane	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	bis(2-chloroethyl)ether	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710139-01	D	bis(2-chloroisopropyl)ether	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1710139-01	D	bis(2-ethylhexyl)phthalate	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710139-01	D	Butylbenzylphthalate	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	Carbazole	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710139-01	D	Chrysene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	Dibenzo(a,h)anthracene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710139-01	D	Diethyl phthalate	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710139-01	D	Dimethyl phthalate	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1710139-01	D	Di-n-butyl phthalate	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710139-01	D	Di-n-octyl phthalate	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710139-01	D	Fluoranthene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	Fluorene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	Hexachlorobenzene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1710139-01	D	Hexachlorobutadiene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	Hexachlorocyclopentadiene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1710139-01	D	Hexachloroethane	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	Indeno(1,2,3-cd)pyrene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710139-01	D	Isophorone	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	Naphthalene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	n-Decane	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	Nitrobenzene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710139-01	D	N-Nitrosodimethylamine	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1710139-01	D	N-Nitrosodi-n-propylamine	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710139-01	D	N-Nitrosodiphenylamine	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.006	0.01	D1, D7	SJM
1710139-01	D	n-Octadecane	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710139-01	D	Pentachlorophenol	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1710139-01	D	Phenanthrene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710139-01	D	Phenol	10/19/17 11:40	EPA 625	11/1/17 21:06	**26.74**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710139-01	D	Pyrene	10/19/17 11:40	EPA 625	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	1,2-Diphenylhydrazine	10/19/17 11:40	EPA 8270C	11/1/17 21:06	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710139-01	D	Cyanide, Total	10/19/17 11:40	9014	11/2/17 16:54	**ND**	mg/Kg dry	9.3	24	E8	NEL *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1710139-01	D	Percent Solids	10/19/17 11:40	2540G	10/23/17 10:42	**1.6**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1711072-01	D	% Solids	11/08/17 12:40	SM 2540G	11/12/17 12:10	**2.06**	%		0.01		JAH
1711072-01	D	% Solids, Total Volatile	11/08/17 12:40	SM 2540G	11/12/17 15:00	**83.9**	%		0.01		JAH
1712055-02	D	% Solids	12/07/17 7:34	SM 2540G	12/8/17 13:31	**1.63**	%		0.01		JEL
1712055-02	D	% Solids, Total Volatile	12/07/17 7:34	SM 2540G	12/8/17 15:46	**80.5**	%		0.01		JEL

Qualifier Definitions

D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of target analyte.
D7	Minimum Reporting Limit adjusted to reflect sample dilution.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
L5	The associated blank spike recovery was above laboratory/method acceptance limits. This analyte was not detected in the sample.
N1	See case narrative.
PC3	Semi-quantitation is included in the case narrative.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

1710139-01
EPA Method 625/8270 Pesticides: Target analytes flagged with N1 for this method failed the matrix spike RPD from the same extraction batch but the spike was performed on a different sample. KLH 11/09/17

Semi-Quantitation
Method: 625
1710139-01

Compound Name	Concentration-mg/Kg
Benzeneacetic Acid	449
Palmitic Acid	11052
Oleic Acid	6632
Stearic Acid	2327

SJM 11/27/17

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

COPY

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1710051-01

PROJECT & LOCATION: Avra Valley RWRF Wet Haul Sludge

PROJECT-LOCATION NUMBER: 25003-1573 (00000-X000)

SAMPLE START DATE: _____ (MMDDYY OR MMDDYYYY)

SAMPLE START TIME: _____ (Military time)

CLIENT: Sub Regional Facilities

SAMPLE END DATE: 10-06-2017 (MMDDYY OR MMDDYYYY)

SAMPLE END TIME: 0820 (Military time)

SAMPLER(S): BIRD (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ☐ 503 ☐ AZPDES ☐ Reuse ■ Process Control ☐ IWC ☐ Air ☐ Other _____

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	☐	☐	☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	■	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ °C
☐ Temperature *SM 2550 B*	_____	°C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions:

Septum Blank Prep Date & Initials: _____ _____

Chain of Custody Record (Signatures Only)

Relinquished by	Received by	Date	Time (Military time)
Brady C. Bird	Sample Refrigerator	10-6-17	0826
Sample Refrigerator	[signature]	10/6/17	1005
[signature]	[signature]	10/06/17	1125

Sample Integrity/Preservation

of Bottles Delivered: 1

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 3.0 °C

Initials: LEJ

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

COPY

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1710139-01

PROJECT & LOCATION: Avra Valley Wet Haul Sludge (Quarterly)

PROJECT-LOCATION NUMBER: 25003-1573 (XXXXX.XXXX)

SAMPLE START DATE: (MM/DD/YY OR MMDDYYYY)

SAMPLE START TIME: (Military time)

CLIENT: IWC

SAMPLE END DATE: 10-19-2017 (MM/DD/YY OR MMDDYYYY)

SAMPLE END TIME: 1140 (Military time)

SAMPLER(S): Silva, Tomchak (First Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ■ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	×		■	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	×		■	☐
TCLP Metals			☐	☐
503 Metals **			■	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total contract	■	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	☐
Dioxin GC/SIM/MS Scan	■	☐
Organochlorine Pesticides & PCBs	■	☐
Purgeable Organics (GCMS)	■	☐
Semivolatile Organics (GCMS)	■	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total 1052 contract	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions: Cyanide and 1052 TS sent to Test America. JD 10-19-17 PO# 18-011692

Septum Blank Prep Date & Initials: 9-12-17 + 10-3-17 LCj

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Joseph Damato	Joseph Damato	10/19/17	1300
Joseph Damato	Michael Rozat	10/20/17	1223
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

of Bottles Delivered: 9 MD

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 0.9 °C

Initials: MD

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☒	☐	☐
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

PIMA COUNTY WASTEWATER MANAGEMENT
INDUSTRIAL WASTEWATER CONTROL SECTION
SAMPLE COLLECTION FIELD NOTES

1710129-01 COPY

SAMPLE LOCATION: **Avra Valley Wet Haul Sludge**

LOCATION ID: **25003-1573** SAMPLERS: Silva, Tomchak (Last names only, primary sampler first.) SAMPLE DATE: 10-19-17

SAMPLE D or C	PARAMETER	START TIME	END TIME	FREQUENCY	Time Flow	Auto Man.	Volume Submitted	BOTTLE TYPE	PRESERVATION
D	Priority Pollutant Metals	10-19-17	1140	Grab			1000ml		
D	503 Metals							DM Plastic	Ice
D	Cyanide, Total						1000 ml	DM Plastic	Ice
D	Organochlorine Pesticides						1000 ml	Amber	Ice
D	Semivolatile Organics						1000 ml	Amber	Ice
D	Dioxin Scan						1000 ml	Amber	Ice
D	Solids, Total						1000 ml	Gen Purpose	Ice
D	Solids, Total						1000 ml	Gen Purpose	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Purgeable Organics						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice
D	Acrolein and Acrylonitrile						40 ml	Septum	Ice

pH METER CALIBRATION LOG

Time	Model #	Serial #	Auto/Man.	Buffer	Reading	Buffer	Reading	Temp.	Slope	Initials
			N/A							

FIELD MEASUREMENTS

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials
	N/A								

Notes: All Samples are unpreserved

EQUIPMENT USED: ☐ Grab Sampler ☐ Automatic Sampler ☐ Electric Pump ☐ Other _____

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

COPY

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Joe Doranski	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6032	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6032 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☑ 2 weeks			Lab Sampling:
Project Name: GV and AV sludge	☐ 1 week			
Site: various	☐ 2 days			Job / SDG No.:
P O # 18-011692	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total cyanide mg/kg dry	total % solids	Sample Specific Notes:
Green Valley WRF wet haul sludge 25000-1962										SL -sludge
1710141-01	10/19/17	0845	Grab	SL	2	N		1	1	mg/kg dry
Avra Valley WRF wet haul sludge 25003-1573										
1710139-01	10/19/17	1140	Grab	SL	2	N		1	1	mg/kg dry

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	10-20-17/1223	[illegible]	10/20/17	10-20-17/1223

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

COPY

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1711072-01

PROJECT & LOCATION: Avra Valley RWRF Wet Haul Sludge

PROJECT-LOCATION NUMBER: 25003-1573 (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: _____ (Military time)

CLIENT: Sub Regional Facilities

SAMPLE END DATE: 11/08/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 1240 (Military time)

SAMPLER(S): LENON (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ☐ 503 ☒ Process Control ☐ Other _____

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	☐	☐	☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	■	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ °C
☐ Temperature *SM 2550 B*	_____	°C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions:

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Sample Refrigerator	Sample Refrigerator	11/08/2017	1247
Sample Refrigerator	[signature]	11/9/17	1019
[signature]	[signature]	11-09-17	1101
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation

of Bottles Delivered: 1 coc

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 2 °C

Initials: GDS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

COPY

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1712056-02

PROJECT & LOCATION: Avra Valley RWRF Wet Haul Sludge

PROJECT-LOCATION NUMBER: 25003-1573 (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: _____ (Military time)

CLIENT: Sub Regional Facilities

SAMPLE END DATE: 12/07/2017 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0734 (Military time)

SAMPLER(S): CORNELIUS (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ☐ 503 ☐ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	☐	☐	☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	■	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Sample Refrigerator	Sample Refrigerator	12-7-17	0740
Sample Refrigerator	[signature]	12/7/17	1112
[signature]	Michelle Jeanne	12-07-17	1202

Sample Integrity/Preservation

of Bottles Delivered: 1

Transported on Ice: ☒ YES ☐ NO

Lab Fields

Temperature: 12-07-17 1.5-25 °C 1.5°C

Initials: MD

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

PIMA COUNTY

WASTEWATER RECLAMATION

COPY

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1710139-01, 1710141-01**	**DO**	**18-011692**
CONTRACT LAB	**TestAmerica PHX**	**SAMPLE GROUP**	**GV and AV Sludge**
ANALYSES	**Total cyanide sludge, % total solids**	**REPORT ID**	**550-91887-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for the reported methods?	Y
Check that DO matches COC in types and number of tests?	N/A
DO received in Pima Core?	Y
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	N/A
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	N/A
Semivolatiles & Volatiles: Check that all analytes were delivered?	N/A
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	N/A
Was Belinda Gamboa-Felix notified of any exceedences?	N/A
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	N/A
Report states if zeolite treatment was utilized?	N/A
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	N/A
Chemistry data included?	N/A
Reference Toxicant Test Results and Control Chart within limits?	N/A

PMSD Determination included and within acceptable range? (minimum acceptable= 13)			N/A
End Points include TUc, NOEC, LOEC, and IC25?			N/A
Statistics verify endpoints			N/A
Control Charts Updated to include month of analysis			N/A
Reviewer Initials:	**JD**	**Review Date:**	**12-01-17**

PEER/FINAL REVIEW:			PR	FR
LIMS/Excel data matches printed CL report?			✓	
Analysis dates are correct?			✓	
Correct Data Qualifiers included if necessary.			✓	
CRAO report shows result is from Contract Lab?			✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?			✓	
DO received in Pima Core			✓	
Analysis set to Reported?				✓
Peer Reviewer Initials:	JD	**Review Date:**	12-01-17	
Biomonitor Supervisor Initials:	N/A	**Review Date:**		
Final Reviewer Initials:	JEC	**Review Date:**	12.4.17	

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-91887-1
TestAmerica Sample Delivery Group: Various
Client Project/Site: GV and AV sludge

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Joseph Doranski

Authorized for release by:
11/9/2017 9:50:33 AM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: GV and AV sludge

TestAmerica Job ID: 550-91887-1
SDG: Various

3

Qualifiers

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

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)

Case Narrative

Client: Pima County WWTP
Project/Site: GV and AV sludge

TestAmerica Job ID: 550-91887-1
SDG: Various

Job ID: 550-91887-1

Laboratory: TestAmerica Phoenix

4

Narrative

Job Narrative
550-91887-1

Comments
No additional comments.

Receipt
The samples were received on 10/20/2017 3:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

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

Sample Summary

Client: Pima County WWTP
Project/Site: GV and AV sludge

TestAmerica Job ID: 550-91887-1
SDG: Various

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-91887-1	1710141-01	Waste	10/19/17 08:45	10/20/17 15:30
550-91887-2	1710139-01	Waste	10/19/17 11:40	10/20/17 15:30

5

Detection Summary

Client: Pima County WWTP
Project/Site: GV and AV sludge

TestAmerica Job ID: 550-91887-1
SDG: Various

Client Sample ID: 1710141-01 — Lab Sample ID: 550-91887-1

No Detections.

Client Sample ID: 1710139-01 — Lab Sample ID: 550-91887-2

No Detections.

6

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Pima County WWTP
Project/Site: GV and AV sludge

TestAmerica Job ID: 550-91887-1
SDG: Various

Client Sample ID: 1710141-01 — **Lab Sample ID: 550-91887-1**
Date Collected: 10/19/17 08:45 — **Matrix: Waste**
Date Received: 10/20/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	3.5		0.1	0.1	%			10/23/17 10:42	1

Client Sample ID: 1710141-01 — **Lab Sample ID: 550-91887-1**
Date Collected: 10/19/17 08:45 — **Matrix: Waste**
Date Received: 10/20/17 15:30 — **Percent Solids: 3.5**

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	11	4.4	mg/Kg	☼	10/27/17 17:32	11/02/17 16:54	1

Client Sample ID: 1710139-01 — **Lab Sample ID: 550-91887-2**
Date Collected: 10/19/17 11:40 — **Matrix: Waste**
Date Received: 10/20/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	1.6		0.1	0.1	%			10/23/17 10:42	1

Client Sample ID: 1710139-01 — **Lab Sample ID: 550-91887-2**
Date Collected: 10/19/17 11:40 — **Matrix: Waste**
Date Received: 10/20/17 15:30 — **Percent Solids: 1.6**

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	24	9.3	mg/Kg	☼	10/27/17 17:32	11/02/17 16:54	1

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

91887

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

11/9/2017

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Joe Doranski	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6032	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐CALENDAR DAYS ☐WORKING DAYS			For Lab Use Only:
(520) 724-6032 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☑ 2 weeks			Lab Sampling:
Project Name: GV and AV sludge	☐ 1 week			
Site: various	☐ 2 days			Job / SDG No.:
P O # 18-011692	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Total cyanide mg/kg dry	total % solids	Sample Specific Notes:
Green Valley WRF wet haul sludge 25000-1962										SL -sludge
1710141-01	10/19/17	0845	Grab	SL	2	N		1	1	mg/kg dry -01
Avra Valley WRF wet haul sludge 25003-1573										
1710139-01	10/19/17	1140	Grab	SL	2	N		1	1	mg/kg dry -02

550-91887 Chain of Custody

Preservative Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

1.1°C PL

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	10-20-17/1223	Mike Root	10/20/17	10-20-17/1223
Mike Root 1530	10/20/17				
			Received in Laboratory by:	Company:	Date/Time: 10-20-17/1530

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-91887-1
SDG Number: Various

Login Number: 91887
List Number: 1
Creator: Doerr, Bret C

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

SECTION 7

GREEN VALLEY BNROD
AZPDES NO. AZ0024937

2017 PREPARER FORM

AND

SAMPLE ANALYSIS RESULTS
PRIORITY POLLUTANTS
TCLP
HAZARDOUSNESS

ANNUAL BIOSOLIDS REPORT 2017

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ANNUAL BIOSOLIDS REPORT 2017

REGIONAL WATER
RECLAMATION DEPARTMENT

TREATMENT DIVISION

PIMA COUNTY
TUCSON, ARIZONA

PIMA COUNTY
WASTEWATER RECLAMATION

ARIZONA
DEPARTMENT OF ENVIRONMENTAL QUALITY
AZPDES Individual Permits Unit
1110 W Washington Street
Phoenix, Arizona 85007
(602) 771-4689 (voicemail) (602) 771-4505 (fax)
Email to: biosolids@azdeq.gov

BIOSOLIDS OR SEWAGE SLUDGE ANNUAL REPORT FORM

1. Program Information: All preparers (Generators) and Land Applicators Must complete the following.

Reporting Start Date:1/1/2017	**Reporting End Date: 12/31/2017**
Date:2/16/2018	**AZPDES Permit # (if applicable):AZ00024937** **Pima County Green Valley WRF** **19600 S. Old Nogales Hwy., Tucson AZ 85614**
Company name (Preparer / Applicator): Preparer, Pima County Regional Water Reclamation Department	
Contact Name: Houssam Eljerdi	**Title: Technical Services Manager**
Address: 7101 N. Casa Grande Highway **Phone:** (520) 724 - 6100	Tucson, AZ 85743 - 8618 **E-mail: Houssam.eljerdi@pima.gov**

Please select one of the following options pertaining to your obligation to submit a Biosolids Annual Report. My facility is a:

☒ POTW with a design flow equal to or greater than 1 MGD Per Day

☐ POTW that serves 10,000 people or more

☐ Class I Sludge Management Facility as defined by 40 CFR 503.9

☐ Biosolids Applicator (Complete Section 5 only)

☒Other AZPDES Permit # 24937; APP Permit # 100629

What is the estimated total of volume of biosolids or sewage sludge generated at your facility (in dry metric tons)?

437 (Four Hundred and Thirty Seven) metric dry tons

No Storage

Pima County Transports the Green Valley WRF sludge by tanker truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Agua Nueva WRF

Were all biosolids removed from your facility sent to a landfill for disposal? No

If yes, provide the name and address of the landfill(s). Not Applicable

If all biosolids or sewage sludge was sent to a landfill for disposal, you do not need to complete the remainder of this form, as it is only applicable to facilities preparing Biosolids or sewage sludge for land application.

Certification: I certify, under penalty of law, that the information and descriptions, have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

Signature:	Date:
Title: John W. Sherlock; Deputy Director - Treatment	February 16, 2018

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

2. Generator/Preparers - Biosolids Storage and Treatment Processes

2.1 Please check the box next to the following biosolids or sewage sludge storage practices and treatment processes used on the sewage sludge or biosolids generated or produced at your facility during the reporting period.

Storage Practices

☐ Biosolids are stored in lined lagoons or impoundments

☐ Biosolids stored directly on the ground

Physical Treatment Processes

☒ Preliminary Operations (e.g. sludge grinding, degritting, blending

☒ Thickening (e.g. gravity floatation, centrifugation, belt filter press, vacuum filter)

☐ Sludge lagoon

Pathogen Reduction Operations (PSRP)

☐ Aerobic Digestion

☐ Air Drying (or "sludge drying beds")

☐ Anaerobic Digestion

☐ Lower Temperature Composting

☐ Lime Stabilization

Process to Further Reduce Pathogens (PFRP)

☐ Higher Temperature Composting

☐ Heat Drying (e.g. flash dryer, spray dryer, rotary dryer)

☐ Heat Treatment (Liquid sewage sludge is heated to temp of 356 °F (180 °C) or higher for 30 minutes

☐ Thermophilic Aerobic Digestion

☐ Beta Ray Irradiation

☐ Gamma Ray Irradiation

☐ Pasteurization

3. Generators/Preparers: Disposition of Biosolids or Sewage Treatment Sludge:

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

3.1 At the beginning of the year, did you have any biosolids or sewage sludge stored on site or remaining from previous years? Include any amount that is being stored anywhere. No

If yes provide the following information:

	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	**No Storage** **Pima County Transports the Sludge from Green Valley WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Tres Rios WRF**	Not applicable

3.2 At the end of the year, are any biosolids or sewage sludge stored on site? No

If yes, provide the following information:

	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	**No Storage** **Pima County Transports the Sludge from Green Valley WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Tres Rios WRF**	Not applicable

3.3 Were biosolids or sewage sludge received from another facility during the year, such as another wastewater treatment plant or another APP permitted facility for further processing? No

If yes provide the following information for each facility. Click the plus sign to create as many tables as needed.

Name of Facility	Not Applicable	
Location:	Not Applicable	
	CLASS A Biosolids	Class B Biosolids

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

Name of Facility	Not Applicable	
Location:	Not Applicable	
Dry Ton Weight	Not Applicable	Not applicable
Pathogen Testing	Not applicable	Not applicable
Pathogen Reduction Method	Not applicable	Not applicable
Vector Attraction Reduction Method	Not applicable	Not applicable
Storage Locations	Not applicable	Not applicable

Enter any content that you want to repeat, including other content controls. You can also insert this control around table rows in order to repeat parts of a table.

3.4. Were biosolids removed from your facility for land application? Include all recipients, including haulers, name, phone number, land applicators, composters, drying facilities, EQB bagging facilities, bulk composting, etc.

Name of Facility	**None; Biosolids are not prepared at Green Valley WRF. Pima County Transports the Sludge from Green Valley WRF by Tanker Truck to Pima County Wastewater Collection System where it becomes part of the Influent to Pima County Tres Rios WRF**	
Management Practice Type:	Not Applicable	
Handler or Preparer Type:	Not Applicable	
Management Practice Detail:	Not Applicable	
Bag or Bulk Container:	Not Applicable	
	CLASS A Biosolids	Class B Biosolids
Dry Ton Weight	None	None
Pathogen Testing	Not Applicable	Not applicable
Pathogen Reduction Method	Not Applicable	Not Applicable
Vector Attraction Reduction Method	Not Applicable	Not Applicable
Storage Locations	Not Applicable	Not Applicable

4. Generators/Preparers : Biosolids or Sewage Sludge Analytical Methods

Arizona regulations specify that representative samples of sewage sludge that is land applied, placed on a surface disposal site, or fired in s sewage sludge incinerator, must be collected and analyzed. These regulations specify the analytical methods that must be used to analyzed samples of sewage sludge.

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

Parameter	*Method Number or Author*	*Results (if tested)*	*Comments (required if other)*
Pathogens			
Ascaris ova.	Not applicable	Not applicable	Not applicable
Fecal Coliform	Not Applicable	Not Applicable	Not Applicable
Helminth ova.	Not Applicable	Not Applicable	Not Applicable
Salmonella sp. Bacteria	Not Applicable	Not Applicable	Not Applicable
Total Cultural Viruses	Not Applicable	Not Applicable	Not Applicable
Metals			
Arsenic	EPA Method 6010 - Arsenic (ICP-OES)	< 13.8 / < 24.0 / < 8.1	Mean / Maximum / Minimum
Beryllium	Choose an item.	< 2.8 / < 4.8 / < 1.6	Mean / Maximum / Minimum
Cadmium	EPA Method 6010 - Cadmium (ICP-OES)	< 5.5 / < 9.6 / < 3.2	Mean / Maximum / Minimum
Chromium	EPA Method 6010 - Chromium (ICP-OES)	< 15.0 / < 24.0 / < 11.9	Mean / Maximum / Minimum
Copper	EPA Method 6010 - Copper (ICP-OES)	251 / 274 / 214	Mean / Maximum / Minimum
Lead	EPA Method 6010 - Lead (ICP-OES)	< 13.8 / < 24.0 / < 8.1	Mean / Maximum / Minimum
Mercury	EPA Method 7471 - Mercury (CVAA)	0.70 / 1.02 / 0.45	Mean / Maximum / Minimum
Molybdenum	EPA Method 6010 - Molybdenum (ICP-OES)	< 7.5 / < 9.6 / < 5.6	Mean / Maximum / Minimum
Nickel	EPA Method 6010 - Nickel (ICP-OES)	< 14.2 / < 24.0 / < 9.7	Mean / Maximum / Minimum
Selenium	EPA Method 6010 - Selenium (ICP-OES)	< 27.6 / < 48.1 / < 16.1	Mean / Maximum / Minimum
Zinc	EPA Method 6010 - Zinc (ICP-OES)	457 / 473 / 448	Mean / Maximum / Minimum
Nitrogen Compounds			
Ammonia Nitrogen	Not Applicable	Not Applicable	Not Applicable
Nitrate Nitrogen	Not Applicable	Not Applicable	Not Applicable
Nitrogen	Not Applicable	Not Applicable	Not Applicable
Organic Nitrogen	Not Applicable	Not Applicable	Not Applicable
Total Kjeldahl Nitrogen	Not Applicable	Not Applicable	Not Applicable
Other Analytes			
Fixed Solids	Not applicable	Not applicable	Not applicable

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

Parameter	*Method Number or Author*	*Results (if tested)*	*Comments (required if other)*
Paint Filter Test	Not Applicable	Not applicable	Not applicable
pH	Not Applicable	Not applicable	Not applicable
Specific Oxygen Uptake Rate	Not Applicable	Not applicable	Not applicable
TCLP	Other TCLP Analytical Method	**Total Amount Does Not Exceed 20X TCLP Screening Value.** **Sample Analysis Results Included in Section 5 of this Report**	Click here to enter text.
Temperature	Not applicable	Not applicable	Not applicable
Total Solids	Standard Method 2540 - Total Solids	Green Valley WRF Sludge Trucked to Pima County Wastewater Collection System, % Solids Content **3.5 / 4.5 / 1.9**	Mean / Maximum / Minimum
Volatile Solids	Not applicable	Not applicable	Not applicable
No Analytical Methods Used	Not applicable	Not applicable	Not applicable

PIMA COUNTY
WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 04/06/2017
Laboratory License: AZO159

Sample Analysis Report

Green Valley WRF

January 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

04/25/17
Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701181-01	D	Sulfide	01/25/17 10:00	Hach 8131	1/26/17 12:14	**ND**	mg/L	0.003	0.100		KKH
1701181-02	C	Calcium	01/25/17 9:00	EPA 200.7	1/27/17 11:53	**46.4**	mg/L	0.08	4.00		MLB
1701181-02	C	Copper	01/25/17 9:00	EPA 200.8	3/8/17 12:36	**2.22**	ug/L	0.43	1.00		JB
1701181-02	C	Hardness	01/25/17 9:00	SM 2340B	1/27/17 11:53	**139**	mg/L	0.19	9.99		MLB
1701181-02	C	Iron	01/25/17 9:00	EPA 200.7	1/27/17 13:08	**33.0**	ug/L	7.43	25.00		MLB
1701181-02	C	Magnesium	01/25/17 9:00	EPA 200.7	1/27/17 11:53	**5.52**	mg/L	0.01	2.00		MLB
1701181-02	C	Biochemical Oxygen Demand	01/25/17 9:00	SM 5210B	1/31/17 06:56	**2.1**	mg/L		2.00	K5	JAH
1701181-02	C	Total Suspended Solids	01/25/17 9:00	SM 2540D	1/26/17 12:22	**ND**	mg/L		2.50		JEL
BNROD-Final Effluent-Process Control (25000-1925)											
1701027-03	C	Ammonia	01/04/17 8:00	EPA 350.1	1/10/17 11:55	**ND**	mg/L	0.09	0.50		KKH
1701027-03	C	Nitrate/Nitrite	01/04/17 8:00	EPA 353.2	1/6/17 15:00	**0.78**	mg/L	0.04	0.20		DML
1701027-03	C	Total Kjeldahl Nitrogen	01/04/17 8:00	EPA 351.2	1/9/17 14:49	**1.30**	mg/L	0.52	0.80		KKH
1701027-03	C	Nitrogen Total Water	01/04/17 8:00	Calculated	1/9/17 14:49	**2.08**	mg/L	0.52	0.80		KKH
1701027-03	C	Alkalinity Total	01/04/17 8:00	SM 2320B	1/9/17 16:03	**167**	mg/L		20.00		CJF
1701027-03	C	Bicarbonate Alkalinity	01/04/17 8:00	SM 2320B	1/9/17 16:03	**167**	mg/L		20.00		CJF
1701027-03	C	Biochemical Oxygen Demand	01/04/17 8:00	SM 5210B	1/10/17 06:55	**2.5**	mg/L		2.00		JEL
1701027-03	C	Total Suspended Solids	01/04/17 8:00	SM 2540D	1/5/17 12:25	**ND**	mg/L		2.50		JGB
BNROD MLSS (25000-1940)											
1701027-01	D	Total Suspended Solids	01/04/17 9:30	SM 2540D	1/5/17 12:25	**1840**	mg/L		2.50		JGB
1701027-01	D	Total Volatile Suspended Solids	01/04/17 9:30	EPA 160.4	1/5/17 14:23	**1560**	mg/L		2.50		JGB
BNROD-South Aerobic Digester Sludge (25000-1960)											
1701043-01	D	% Solids	01/06/17 6:27	SM 2540G	1/7/17 14:40	**4.02**	%		0.01		JRW
1701043-01	D	% Solids, Total Volatile	01/06/17 6:27	SM 2540G	1/8/17 15:43	**87.1**	%		0.01		JRW
Wet Haul Sludge (25000-1962)											
1701131-01	D	Antimony	01/18/17 9:00	EPA 6010D	1/24/17 16:07	**ND**	mg/kg dry		24.02		MLB
1701131-01	D	Arsenic	01/18/17 9:00	EPA 6010D	1/25/17 12:58	**ND**	mg/kg dry		24.02		MLB
1701131-01	D	Beryllium	01/18/17 9:00	EPA 6010D	1/24/17 16:07	**ND**	mg/kg dry		4.80		MLB
1701131-01	D	Cadmium	01/18/17 9:00	EPA 6010D	1/24/17 16:07	**ND**	mg/kg dry		9.61		MLB
1701131-01	D	Chromium	01/18/17 9:00	EPA 6010D	1/24/17 16:07	**ND**	mg/kg dry		24.02		MLB
1701131-01	D	Copper	01/18/17 9:00	EPA 6010D	1/24/17 16:07	**274**	mg/kg dry		24.02		MLB
1701131-01	D	Lead	01/18/17 9:00	EPA 6010D	1/24/17 16:07	**ND**	mg/kg dry		24.02		MLB
1701131-01	D	Mercury	01/18/17 9:00	EPA 7471B	1/24/17 11:23	**0.62**	mg/kg dry		0.02		DML
1701131-01	D	Molybdenum	01/18/17 9:00	EPA 6010D	1/24/17 16:07	**ND**	mg/kg dry		9.61		MLB
1701131-01	D	Nickel	01/18/17 9:00	EPA 6010D	1/24/17 16:07	**ND**	mg/kg dry		24.02		MLB
1701131-01	D	Selenium	01/18/17 9:00	EPA 6010D	1/24/17 16:07	**ND**	mg/kg dry		48.05		MLB
1701131-01	D	Silver	01/18/17 9:00	EPA 6010D	1/25/17 12:58	**1.21**	mg/kg dry		2.40		MLB
1701131-01	D	Arsenic	01/18/17 9:00	TCLP/EPA 6010D	2/7/17 15:43	**ND**	mg/L		0.03		MLB
1701131-01	D	Barium	01/18/17 9:00	TCLP/EPA 6010D	2/7/17 15:43	**0.10**	mg/L		0.03		MLB
1701131-01	D	Cadmium	01/18/17 9:00	TCLP/EPA 6010D	2/7/17 15:43	**ND**	mg/L		0.01		MLB
1701131-01	D	Chromium	01/18/17 9:00	TCLP/EPA 6010D	2/7/17 15:43	**ND**	mg/L		0.03		MLB
1701131-01	D	Lead	01/18/17 9:00	TCLP/EPA 6010D	2/7/17 15:43	**ND**	mg/L		0.03		MLB
1701131-01	D	Mercury	01/18/17 9:00	TCLP/EPA 7470	2/7/17 11:15	**ND**	mg/L		0.0002		DML
1701131-01	D	Selenium	01/18/17 9:00	TCLP/EPA 6010D	2/7/17 15:43	**ND**	mg/L		0.03		MLB
1701131-01	D	Silver	01/18/17 9:00	TCLP/EPA 6010D	2/7/17 16:54	**ND**	mg/L		0.0026		MLB
1701131-01	D	Thallium	01/18/17 9:00	EPA 6010D	1/25/17 14:14	**ND**	mg/kg dry		24.02		MLB
1701131-01	D	Zinc	01/18/17 9:00	EPA 6010D	1/24/17 17:35	**458**	mg/kg dry		24.02		MLB
1701131-01	D	% Solids	01/18/17 9:00	SM 2540G	1/19/17 12:13	**3.10**	%		0.01		DEB
1701131-01	D	Acrolein	01/18/17 9:00	EPA 624	1/24/17 11:12	**ND**	mg/kg dry	0.00299	3.23		JOB
1701131-01	D	Acrylonitrile	01/18/17 9:00	EPA 624	1/24/17 11:12	**ND**	mg/kg dry	0.000650	3.23		JOB
1701131-01	D	4,4-DDD	01/18/17 9:00	EPA 625	1/25/17 16:05	**ND**	mg/kg dry	0.00006	0.00087	D1, D7	klh
1701131-01	D	4,4-DDE	01/18/17 9:00	EPA 625	1/25/17 16:05	**ND**	mg/kg dry	0.00003	0.00087	D1, D7	klh
1701131-01	D	4,4-DDT	01/18/17 9:00	EPA 625	1/25/17 16:05	**ND**	mg/kg dry	0.00006	0.00087	D1, D7	klh
1701131-01	D	Aldrin	01/18/17 9:00	EPA 625	1/25/17 16:05	**ND**	mg/kg dry	0.00006	0.00087	D1, D7	klh

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701131-01	D	alpha-BHC	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00004	0.00087	D1, D7	klh
1701131-01	D	beta-BHC	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00009	0.00087	D1, D7	klh
1701131-01	D	Chlordane	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00025	0.01	D1, D7	klh
1701131-01	D	delta-BHC	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00007	0.00087	D1, D7	klh
1701131-01	D	Dieldrin	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00015	0.00174	D1, D7	klh
1701131-01	D	Endosulfan I	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00004	0.00087	D1, D7	klh
1701131-01	D	Endosulfan II	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00003	0.00087	D1, D7	klh
1701131-01	D	Endosulfan sulfate	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00004	0.00087	D1, D7	klh
1701131-01	D	Endrin	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00010	0.00087	D1, D7	klh
1701131-01	D	Endrin aldehyde	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00011	0.00087	D1, D7, R13	klh
1701131-01	D	gamma-BHC (Lindane)	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00007	0.00087	D1, D7	klh
1701131-01	D	Heptachlor	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00005	0.00087	D1, D7	klh
1701131-01	D	Heptachlor Epoxide	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00004	0.00087	D1, D7, M1	klh
1701131-01	D	PCB 1016	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00006	0.00174	D1, D7	klh
1701131-01	D	PCB 1221	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00017	0.01	D1, D7	klh
1701131-01	D	PCB 1232	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00007	0.01	D1, D7	klh
1701131-01	D	PCB 1242	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00013	0.01	D1, D7	klh
1701131-01	D	PCB 1248	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00010	0.01	D1, D7	klh
1701131-01	D	PCB 1254	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00019	0.01	D1, D7	klh
1701131-01	D	PCB 1260	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00007	0.00174	D1, D7	klh
1701131-01	D	Total PCBs	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00016	0.01	D1, D7	klh
1701131-01	D	Toxaphene	01/18/17 9:00	EPA 625	1/25/17 16:05	ND	mg/kg dry	0.00094	0.01	D1, D7	klh
1701131-01	D	Methoxychlor	01/18/17 9:00	EPA 8270C	1/25/17 16:05	ND	mg/kg dry		0.00087	D1, D7	klh
1701131-01	D	1,1,1-Trichloroethane	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0002	0.00032		SRM
1701131-01	D	1,1,2,2-Tetrachloroethane	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.00006	0.00032		SRM
1701131-01	D	1,1,2-Trichloroethane	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.00009	0.00032		SRM
1701131-01	D	1,1-Dichloroethane	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0002	0.00032		SRM
1701131-01	D	1,1-Dichloroethene	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0001	0.00032		SRM
1701131-01	D	1,2-Dichlorobenzene	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.00008	0.00032		SRM
1701131-01	D	1,2-Dichloroethane	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.00009	0.00032		SRM
1701131-01	D	1,2-Dichloropropane	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0001	0.00032		SRM
1701131-01	D	1,3-Dichlorobenzene	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.00008	0.00032		SRM
1701131-01	D	1,4-Dichlorobenzene	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0002	0.00032		SRM
1701131-01	D	2-Chloroethyl vinyl ether	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0003	0.00064		SRM
1701131-01	D	Benzene	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0001	0.00032		SRM
1701131-01	D	Bromodichloromethane	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0002	0.00032		SRM
1701131-01	D	Bromoform	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0003	0.00032		SRM
1701131-01	D	Bromomethane	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0001	0.00032		SRM
1701131-01	D	Carbon Tetrachloride	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0004	0.00032		SRM
1701131-01	D	Chlorobenzene	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.00006	0.00032		SRM
1701131-01	D	Chloroethane	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0002	0.00032		SRM
1701131-01	D	Chloroform	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0001	0.00032		SRM
1701131-01	D	Chloromethane	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0002	0.00032		SRM
1701131-01	D	cis-1,3-Dichloropropene	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.00009	0.00032		SRM
1701131-01	D	Dibromochloromethane	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.00006	0.00032		SRM
1701131-01	D	Ethyl Benzene	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.00009	0.00032		SRM
1701131-01	D	Methylene Chloride	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0002	0.00032		SRM
1701131-01	D	Tetrachloroethene	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0002	0.00032		SRM
1701131-01	D	Toluene	01/18/17 9:00	EPA 624	1/18/17 19:38	**73.129**	mg/kg dry	0.0001	0.00161	D1, D7	SRM
1701131-01	D	Total Trihalomethanes	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0003	0.00032		SRM
1701131-01	D	trans-1,2-Dichloroethene	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0001	0.00032		SRM
1701131-01	D	trans-1,3-Dichloropropene	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0001	0.00032		SRM
1701131-01	D	Trichloroethene	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0001	0.00032		SRM
1701131-01	D	Trichlorofluoromethane	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0003	0.00032		SRM
1701131-01	D	Vinyl chloride	01/18/17 9:00	EPA 624	1/18/17 19:05	ND	mg/kg dry	0.0002	0.00032		SRM
1701131-01	D	1,2,4-Trichlorobenzene	01/18/17 9:00	EPA 8260	1/18/17 19:05	ND	mg/kg dry		0.00032		SRM
1701131-01	D	1,2-Dibromo-3-chloropropane	01/18/17 9:00	EPA 8260	1/18/17 19:05	ND	mg/kg dry		0.00064		SRM
1701131-01	D	1,2-Dibromoethane	01/18/17 9:00	EPA 8260	1/18/17 19:05	ND	mg/kg dry		0.00032		SRM
1701131-01	D	cis-1,2-Dichloroethene	01/18/17 9:00	EPA 8260	1/18/17 19:05	ND	mg/kg dry		0.00032		SRM
1701131-01	D	m,p-Xylenes	01/18/17 9:00	EPA 8260	1/18/17 19:05	ND	mg/kg dry		0.00064		SRM

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701131-01	D	Methyl Ethyl Ketone	01/18/17 9:00	EPA 8260	1/18/17 19:05	**3.73**	mg/kg dry		0.00032		SRM
1701131-01	D	o-Xylene	01/18/17 9:00	EPA 8260	1/18/17 19:05	**ND**	mg/kg dry		0.00032		SRM
1701131-01	D	Styrene	01/18/17 9:00	EPA 8260	1/18/17 19:05	**ND**	mg/kg dry		0.00032		SRM
1701131-01	D	Xylenes, total	01/18/17 9:00	EPA 8260	1/18/17 19:05	**ND**	mg/kg dry		0.00064		SRM
1701131-01	D	2,3,7,8-TCDD - Dioxin Scan	01/18/17 9:00	EPA 625	1/26/17 14:13	**ND**	ug/kg dry		0.81		SJM
1701131-01	D	1,2,4-Trichlorobenzene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	2,3-Dichloroaniline	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701131-01	D	2,4,6-Trichlorophenol	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	2,4-Dichlorophenol	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701131-01	D	2,4-Dimethylphenol	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1701131-01	D	2,4-Dinitrophenol	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.009	0.02	D1, D7	SJM
1701131-01	D	2,4-Dinitrotoluene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701131-01	D	2,6-Dinitrotoluene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	2-Chloronaphthalene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	2-Chlorophenol	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	2-Methyl-4,6-dinitrophenol	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1701131-01	D	2-Methylphenol	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	2-Nitrophenol	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701131-01	D	3,3-Dichlorobenzidine	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701131-01	D	4-Bromophenyl phenyl ether	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	4-Chloro-3-methylphenol	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701131-01	D	4-Chlorophenyl phenyl ether	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	4-Methylphenol	01/18/17 9:00	EPA 625	1/31/17 17:06	**735.5**	mg/kg dry	0.002	0.00200	D1, D2, D7	SJM
1701131-01	D	4-Nitrophenol	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1701131-01	D	Acenaphthene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	Acenaphthylene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	Anthracene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	Benzidine	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.007	0.01	D1, D7	SJM
1701131-01	D	Benzo[a]anthracene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	Benzo[a]pyrene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	Benzo[b]fluoranthene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	Benzo[ghi]perylene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701131-01	D	Benzo[k]fluoranthene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701131-01	D	bis(2-chloroethoxy)methane	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	bis(2-chloroethyl)ether	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701131-01	D	bis(2-chloroisopropyl)ether	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	bis(2-ethylhexyl)phthalate	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701131-01	D	Butylbenzylphthalate	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	Carbazole	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701131-01	D	Chrysene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	Dibenzo(a,h)anthracene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701131-01	D	Diethyl phthalate	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701131-01	D	Dimethyl phthalate	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1701131-01	D	Di-n-butyl phthalate	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701131-01	D	Di-n-octyl phthalate	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701131-01	D	Fluoranthene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	Fluorene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	Hexachlorobenzene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1701131-01	D	Hexachlorobutadiene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	Hexachlorocyclopentadiene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1701131-01	D	Hexachloroethane	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	Indeno(1,2,3-cd)pyrene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701131-01	D	Isophorone	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	Naphthalene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	n-Decane	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	Nitrobenzene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701131-01	D	N-Nitrosodimethylamine	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1701131-01	D	N-Nitrosodi-n-propylamine	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1701131-01	D	N-Nitrosodiphenylamine	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.006	0.01	D1, D7	SJM
1701131-01	D	n-Octadecane	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1701131-01	D	Pentachlorophenol	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1701131-01	D	Phenanthrene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	Phenol	01/18/17 9:00	EPA 625	1/31/17 18:31	**14.83**	mg/kg dry	0.003	0.01	D1, D7	SJM
1701131-01	D	Pyrene	01/18/17 9:00	EPA 625	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	1,2-Diphenylhydrazine	01/18/17 9:00	EPA 8270C	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	1,4-Dichlorobenzene	01/18/17 9:00	EPA 8270C	1/31/17 18:31	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1701131-01	D	2,4,5-Trichlorophenol	01/18/17 9:00	EPA 8270C	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.03	D1, D7	SJM
1701131-01	D	3 & 4-Methylphenol	01/18/17 9:00	EPA 8270C	1/31/17 17:06	**836**	mg/kg dry	0.002	0.01	D1, D2, D7	SJM
1701131-01	D	Pyridine	01/18/17 9:00	EPA 8270C	1/31/17 18:31	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1701131-01	D	Chlordane	01/18/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	1.38	3.00	N7	KLH
1701131-01	D	Endrin	01/18/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.200	0.50	N7	KLH
1701131-01	D	gamma-BHC (Lindane)	01/18/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.270	0.50	N7	KLH
1701131-01	D	Heptachlor	01/18/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.270	0.50	N7	KLH
1701131-01	D	Heptachlor Epoxide	01/18/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.290	0.50	N7	KLH
1701131-01	D	Methoxychlor	01/18/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	0.270	0.50	N7	KLH
1701131-01	D	Toxaphene	01/18/17 9:00	TCLP/EPA 8270C	1/31/17 10:59	**NA**	ug/L	3.79	6.00	N7	KLH
1701131-01	D	1,1-Dichloroethene	01/18/17 9:00	TCLP/EPA 8260B	1/18/17 19:05	**NA**	ug/L	0.110	0.50	N7	SRM
1701131-01	D	1,2-Dichloroethane	01/18/17 9:00	TCLP/EPA 8260B	1/18/17 19:05	**NA**	ug/L	0.0900	0.50	N7	SRM
1701131-01	D	1,4-Dichlorobenzene	01/18/17 9:00	TCLP/EPA 8260B	1/18/17 19:05	**NA**	ug/L	0.170	0.50	N7	SRM
1701131-01	D	Benzene	01/18/17 9:00	TCLP/EPA 8260B	1/18/17 19:05	**NA**	ug/L	0.110	0.50	N7	SRM
1701131-01	D	Carbon Tetrachloride	01/18/17 9:00	TCLP/EPA 8260B	1/18/17 19:05	**NA**	ug/L	0.340	0.50	N7	SRM
1701131-01	D	Chlorobenzene	01/18/17 9:00	TCLP/EPA 8260B	1/18/17 19:05	**NA**	ug/L	0.0600	0.50	N7	SRM
1701131-01	D	Chloroform	01/18/17 9:00	TCLP/EPA 8260B	1/18/17 19:05	**NA**	ug/L	0.140	0.50	N7	SRM
1701131-01	D	Hexachlorobutadiene	01/18/17 9:00	TCLP/EPA 8260B	1/18/17 19:05	**NA**	ug/L	0.230	0.50	N7	SRM
1701131-01	D	Methyl Ethyl Ketone	01/18/17 9:00	TCLP/EPA 8260B	1/18/17 19:05	**NA**	ug/L	0.290	0.50	N7	SRM
1701131-01	D	Tetrachloroethene	01/18/17 9:00	TCLP/EPA 8260B	1/18/17 19:05	**NA**	ug/L	0.180	0.50	N7	SRM
1701131-01	D	Trichloroethene	01/18/17 9:00	TCLP/EPA 8260B	1/18/17 19:05	**NA**	ug/L	0.130	0.50	N7	SRM
1701131-01	D	Vinyl chloride	01/18/17 9:00	TCLP/EPA 8260B	1/18/17 19:05	**NA**	ug/L	0.210	0.50	N7	SRM
1701131-01	D	1,4-Dichlorobenzene	01/18/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.37	2.00	N7	SJM
1701131-01	D	2,4,5-Trichlorophenol	01/18/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	2.46	10.00	N7	SJM
1701131-01	D	2,4,6-Trichlorophenol	01/18/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.14	5.00	N7	SJM
1701131-01	D	2,4-Dinitrotoluene	01/18/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.44	5.00	N7	SJM
1701131-01	D	2-Methylphenol	01/18/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.09	2.00	N7	SJM
1701131-01	D	3 & 4-Methylphenol	01/18/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.07	4.00	N7	SJM
1701131-01	D	Hexachlorobenzene	01/18/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	0.610	2.00	N7	SJM
1701131-01	D	Hexachlorobutadiene	01/18/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	0.880	2.00	N7	SJM
1701131-01	D	Hexachloroethane	01/18/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.09	2.00	N7	SJM
1701131-01	D	Nitrobenzene	01/18/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.84	5.00	N7	SJM
1701131-01	D	Pentachlorophenol	01/18/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	6.10	10.00	N7	SJM
1701131-01	D	Pyridine	01/18/17 9:00	TCLP/EPA 8270C	2/3/17 15:02	**NA**	ug/L dry	1.55	2.00	N7	SJM
1701131-01	D	Cyanide, Total	01/18/17 9:00	9012B	1/25/17 12:21	**3.0**	mg/Kg dry	2.6	13	E4	JML *
* Analysis Performed by:TestAmerica Denver - See attached contract lab report for official results.											
1701131-01	D	2,4-D	01/18/17 9:00	8151A	1/28/17 17:45	**ND**	ug/L	2.1	40	E8	AMB1*
1701131-01	D	Silvex (2,4,5-TP)	01/18/17 9:00	8151A	1/28/17 17:45	**ND**	ug/L	1.7	10	E8	AMB1*
* Analysis Performed by:TestAmerica Denver - See attached contract lab report for official results.											
1701131-01	D	Percent Solids	01/18/17 9:00	2540G	1/20/17 14:09	**3.7**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1701131-01	D	Percent Moisture	01/18/17 9:00	2540G	1/20/17 14:09	**96.3**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											

FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

1701027-02
EPA Method 624 and 8260 Volatiles.
Target analytes flagged with N1 failed the matrixspike percent recovery and the blank spike percent recovery for Benzene. The analyte was not detected in the samples.
MS/MSD RPD exceeded the method acceptance limit for Chloromethane and 1,2-Dichloropropane. Recovery met acceptance criteria.
Target analytes flagged with N1 failed the matrixspike for Carbon Tetrachloride from the same analytical batch but the spike was performed on a different sample.
The blank spike failed high but the associated matrix spike and CVS passed for 1,2-Dibrom-3-chloropropane. The analyte was not detected in the samples.
SRM 01/05/17

1701027-02
EPA Method 625 Semi-Volatiles: Matrix spike and blank spike both fail recovery for 2-Methylphenol, 4-Methylphenol and 2,3-Dichloroaniline. CVS passes QC criteria for these analytes. SJM 01/30/17

Semi-Quantitation
Method: 625
1701085-02

Compound Name	Concentration-ug/L
Palmitic Acid	244
Oleic Acid	155
Stearic Acid	70

SJM 02/03/17

Semi-Quantitation
Method: 625
1701131-01

Compound Name	Concentration-mg/Kg
Benzeneacetic Acid	258
Palmitic Acid	6303
Oleic Acid	8087
Stearic Acid	1291
Butanoic Acid	3421
Butanoic Acid, 3-methyl-	1617
Pentanoic Acid	2084
Propanoic Acid	550
Butanoic Acid, 2-methyl-	894
1H-Indole, 3-methyl-	104

SJM 02/07/17

1701172-01
EPA Method 624 and 8260 Volatiles. MS/MSD RPD exceeded the method acceptance limit. Recovery met acceptance criteria.
SRM 01/30/17

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1701131-01

PROJECT & LOCATION: Green Valley WRF - Wet Haul Sludge (Annual)

PROJECT-LOCATION NUMBER: 25000-1962 (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: _____ (Military time)

CLIENT: IWC

SAMPLE END DATE: 1·18·17 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0900 (Military time)

SAMPLER(S): Silva, Riccaboni (Print Last Name(s) Only)

Permit Type: ☐ APP ■ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ■ 503 ☐ Process Control ☐ Other _____

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	×		■	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	×		■	☐
TCLP Metals			■	☐
503 Metals **			■	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total (contract)	■	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	☐
Dioxin GC/SIM/MS Scan	■	☐
Organochlorine Pesticides & PCBs	■	☐
Purgeable Organics (GCMS)	■	☐
Semivolatile Organics (GCMS)	■	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	■	☐
TCLP Pesticides	■	☐
TCLP Semivolatile Organics	■	☐
TCLP Volatile Organics	■	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total (½ contract)	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	@ _____	pH Units @ ° C
☐ Temperature *SM 2550 B*	_____	° C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions: Cyanide and TCLP herbicides and 1 of 2 T%S sent to Test America GOS 01-18-17 DO#17-21015

Septum Blank Prep Date & Initials: 12-13-16 lej

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	01-18-17	1130
Relinquished by:	Received by:	Date:	Time: (Military time)
		1/18/17	1350
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

of Bottles Delivered: (14) GOS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 4 °C

Initials: GOS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☒	☐
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2 Revised: 03/12/2015

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT

INDUSTRIAL WASTEWATER CONTROL SECTION
SAMPLE COLLECTION FIELD NOTES

170113 1-01

SAMPLE LOCATION: Green Valley WRF - Wet Haul

LOCATION ID: ~~25003-1962~~ 25000 @ 1-20-17 SAMPLERS: Silva, Riccaboni SAMPLE DATE: 1-18-17

Last names only, primary sampler first.

SAMPLE D or C	PARAMETER	START TIME	END TIME	FREQUENCY	Time Flow	Auto Man.	Volume Submitted	PRESERVATION
D	Priority Pollutant Metals						1000 ml	Dissolve Metals / Ice
D	503 Metals							
D	TCLP Metals						1000 ml	Dissolve Metals / Ice
D	Cyanide, Total						1000 ml	Dissolve Metals / Ice
D	Dioxin Scan						1000 ml	Amber Glass / Ice
D	Org. Pesticides						1000 ml	Amber Glass / Ice
D	Semivolatile Organics						1000 ml	Amber Glass / Ice
D	TCLP Herbicides (Contract Lab)						1000 ml	Amber Glass / Ice
D	TCLP Pesticides						1000 ml	Amber Glass / Ice
D	TCLP Semivolatile Org.						1000 ml	Amber Glass / Ice
D	Solids, Total						1000 ml	General Purpose / Ice
D	Solids, Total						1000 ml	General Purpose / Ice
D	Acrolein and Acrylonitrile						40 ml	Septum vial / Ice
D	Acrolein and Acrylonitrile						40 ml	Septum vial / Ice
D	Acrolein and Acrylonitrile						40 ml	Septum vial / Ice
D	Acrolein and Acrylonitrile						40 ml	Septum vial / Ice
D	Purgeable Organics						40 ml	Septum vial / Ice
D	Purgeable Organics						40 ml	Septum vial / Ice
D	Purgeable Organics						40 ml	Septum vial / Ice
D	Purgeable Organics						40 ml	Septum vial / Ice
D	TCLP Volatile Organics						40 ml	Septum vial / Ice
D	TCLP Volatile Organics						40 ml	Septum vial / Ice
D	TCLP Volatile Organics						40 ml	Septum vial / Ice
D	TCLP Volatile Organics						40 ml	Septum vial / Ice

pH METER CALIBRATION LOG

Time	Model #	Serial #	Auto/Man.	Buffer	Reading	Buffer	Reading	Temp.	Slope	Initials

FIELD MEASUREMENTS

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials

Notes: All samples are unpreserved

EQUIPMENT USED: ■ Grab Sampler ☐ Automatic Sampler ☐ Electric Pump ☐ Other

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: GV biosolids	☐ 1 week			
Site: Green Valley	☐ 2 days			Job / SDG No.:
P O # 17-21015	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry			TCLP herbicides	Sample Specific Notes:
Green Valley WRF - wet haul sludge 25000-1962													
1701131-01	1/18/2017	0900	Grab	BS	3	N		1	1			1	BS - biosolids

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☐Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	PC CRAO	01-18-17/1130	[signature]	PC CRAO	01-18-17 / 1130
[signature]	PC CRAO	01-18-17/1359	[signature]	TA	1/18/17 13:59
			Received in Laboratory by:		

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY

WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1701131-01**	**DO**	**17-21015**
CONTRACT LAB	**TestAmerica PHX and DEN**	**SAMPLE GROUP**	**GV Biosolids**
ANALYSES	**%TS, TCLP Herb, Cn**	**REPORT ID**	**550-76060-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	NA
DO received in Pima Core?	NA
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	NA
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Tom Berry? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	NA
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	Y
Was Tom Berry notified of any exceedences?	NA
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	NA
Report states if zeolite treatment was utilized?	NA
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	NA
Chemistry data included?	NA
Reference Toxicant Test Results and Control Chart within limits?	NA
PMSD Determination included and within acceptable range? (minimum acceptable= 13)	NA

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

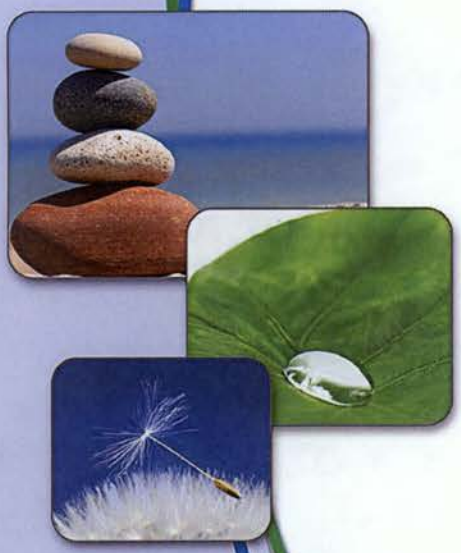
TestAmerica Job ID: 550-76060-1
TestAmerica Sample Delivery Group: Green Valley
Client Project/Site: GV biosolids

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Nancy Powell

Authorized for release by:
2/1/2017 1:37:59 PM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com



LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: GV biosolids

TestAmerica Job ID: 550-76060-1
SDG: Green Valley

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Pima County WWTP
Project/Site: GV biosolids

TestAmerica Job ID: 550-76060-1
SDG: Green Valley

Job ID: 550-76060-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-76060-1

Comments
No additional comments.

Receipt
The sample was received on 1/18/2017 3:35 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.3° C.

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

General Chemistry
The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Cyanide, Total preparation batch 280-359957 and analytical batch 280-359993 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

Sample Summary

Client: Pima County WWTP
Project/Site: GV biosolids

TestAmerica Job ID: 550-76060-1
SDG: Green Valley

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-76060-1	1701131-01	Solid	01/18/17 09:00	01/18/17 15:35

Detection Summary

Client: Pima County WWTP
Project/Site: GV biosolids

TestAmerica Job ID: 550-76060-1
SDG: Green Valley

Client Sample ID: 1701131-01 **Lab Sample ID: 550-76060-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	3.0	E4	13	2.6	mg/Kg	1	☼	9012B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: GV biosolids

TestAmerica Job ID: 550-76060-1
SDG: Green Valley

Client Sample ID: 1701131-01

Lab Sample ID: 550-76060-1

Date Collected: 01/18/17 09:00
Matrix: Solid
Date Received: 01/18/17 15:35

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND	E8	40	2.1	ug/L		01/26/17 15:45	01/28/17 17:45	1
Silvex (2,4,5-TP)	ND	E8	10	1.7	ug/L		01/26/17 15:45	01/28/17 17:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*39*		*10 - 131*	*01/26/17 15:45*	*01/28/17 17:45*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**96.3**		0.1	0.1	%			01/20/17 14:09	1
Percent Solids	**3.7**		0.1	0.1	%			01/20/17 14:09	1

Client Sample ID: 1701131-01

Lab Sample ID: 550-76060-1

Date Collected: 01/18/17 09:00
Matrix: Solid
Date Received: 01/18/17 15:35
Percent Solids: 3.7

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**3.0**	**E4**	13	2.6	mg/Kg	☼	01/25/17 09:27	01/25/17 12:21	1

TestAmerica Phoenix

Surrogate Summary

Client: Pima County WWTP
Project/Site: GV biosolids

TestAmerica Job ID: 550-76060-1
SDG: Green Valley

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**DCPA1 (10-131)**
280-93217-B-3-G MS	Matrix Spike	34
280-93217-B-3-H MSD	Matrix Spike Duplicate	31
550-76060-1	1701131-01	39
LB 280-359873/1-G	Method Blank	34
LCS 280-359873/2-I	Lab Control Sample	35

Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

TestAmerica Phoenix

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

76060

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: GV biosolids	☐ 1 week			
Site: Green Valley	☐ 2 days			Job / SDG No.:
P O # 17-21015	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry			TCLP herbicides	Sample Specific Notes:
Green Valley WRF - wet haul sludge 25000-1962													
1701131-01	1/18/2017	0900	Grab	BS	3	N		1	1			1	BS - biosolids

550-76060 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☐Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

0.3°C on ice

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company: PC CRAO	Date/Time: 01-18-17/1130	Received by:	Company: PC CRAO	Date/Time: 01-18-17 / 1130
Relinquished by:	Company: PC CRAO	Date/Time: 01-18-17/1359	Received by:	Company: TA	Date/Time: 1/18/17 13:59
Relinquished by:	Company: TA	Date/Time: 1/18/17 15:35	Received in Laboratory by:	Company: TA	Date/Time: 1/18/17 15:35

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Eshelman, Linda	Carrier Tracking No(s):	COC No: 550-15930.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: linda.eshelman@testamericainc.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-76060-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 1/25/2017			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: GV biosolids	Project #: 55001656			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8151A/1311_T TCLP 8151	9012B/9012B_Prep	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
1701131-01 (550-76060-1)	1/18/17	09:00 Arizona		Solid			X	X	2	, AZ

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[illegible] 01-19-17	17:00	TA-Phx LAB	[illegible]	1-20-17 0915	TAD
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 0.4 IR A S -0.2 RP 1-20-17	

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-76060-1
SDG Number: Green Valley

Login Number: 76060
List Number: 1
Creator: Vilaboy, Monica

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-76060-1
SDG Number: Green Valley

Login Number: 76060
List Number: 2
Creator: Pottruff, Reed W

List Source: TestAmerica Denver
List Creation: 01/20/17 06:30 PM

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

PIMA COUNTY
WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 08/02/2017
Laboratory License: AZO159

Sample Analysis Report

Green Valley WRF

April 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:

See attached

Case Narratives:

See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Pratt

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

10·12·17
Date

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
Wet Haul Sludge (25000-1962)											
1704152-01	D	Antimony	04/20/17 9:00	EPA 6010D	5/9/17 12:34	**ND**	mg/kg dry		12.19		MLB
1704152-01	D	Arsenic	04/20/17 9:00	EPA 6010D	5/5/17 12:38	**ND**	mg/kg dry		12.19		MLB
1704152-01	D	Beryllium	04/20/17 9:00	EPA 6010D	5/5/17 12:38	**ND**	mg/kg dry		2.44		MLB
1704152-01	D	Cadmium	04/20/17 9:00	EPA 6010D	5/5/17 12:38	**ND**	mg/kg dry		4.87		MLB
1704152-01	D	Chromium	04/20/17 9:00	EPA 6010D	5/5/17 12:38	**ND**	mg/kg dry		12.19		MLB
1704152-01	D	Copper	04/20/17 9:00	EPA 6010D	5/5/17 12:38	**214**	mg/kg dry		12.19		MLB
1704152-01	D	Lead	04/20/17 9:00	EPA 6010D	5/5/17 12:38	**ND**	mg/kg dry		12.19		MLB
1704152-01	D	Mercury	04/20/17 9:00	EPA 7471B	4/25/17 10:16	**0.45**	mg/kg dry		0.01		DML
1704152-01	D	Molybdenum	04/20/17 9:00	EPA 6010D	5/5/17 12:38	**5.63**	mg/kg dry		4.87		MLB
1704152-01	D	Nickel	04/20/17 9:00	EPA 6010D	5/5/17 12:38	**ND**	mg/kg dry		12.19		MLB
1704152-01	D	Selenium	04/20/17 9:00	EPA 6010D	5/5/17 12:38	**ND**	mg/kg dry		24.37		MLB
1704152-01	D	Silver	04/20/17 9:00	EPA 6010D	5/5/17 12:38	**2.19**	mg/kg dry		1.22		MLB
1704152-01	D	Thallium	04/20/17 9:00	EPA 6010D	5/9/17 15:27	**ND**	mg/kg dry		12.19		MLB
1704152-01	D	Zinc	04/20/17 9:00	EPA 6010D	5/5/17 12:38	**448**	mg/kg dry		12.19		MLB
1704152-01	D	% Solids	04/20/17 9:00	SM 2540G	4/21/17 13:10	**3.54**	%		0.01		JGB
1704152-01	D	Acrolein	04/20/17 9:00	EPA 624	4/24/17 13:21	**ND**	mg/kg dry	0.00299	2.83		JOB
1704152-01	D	Acrylonitrile	04/20/17 9:00	EPA 624	4/24/17 13:21	**ND**	mg/kg dry	0.000650	2.83		JOB
1704152-01	D	4,4-DDD	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00006	0.00072	D1, D7	KLH
1704152-01	D	4,4-DDE	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00003	0.00072	D1, D7	KLH
1704152-01	D	4,4-DDT	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00006	0.00072	D1, D7	KLH
1704152-01	D	Aldrin	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00006	0.00072	D1, D7, N1	KLH
1704152-01	D	alpha-BHC	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00004	0.00072	D1, D7	KLH
1704152-01	D	beta-BHC	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00009	0.00072	D1, D7	KLH
1704152-01	D	Chlordane	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00025	0.01	D1, D7	KLH
1704152-01	D	delta-BHC	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00007	0.00072	D1, D7	KLH
1704152-01	D	Dieldrin	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00015	0.00144	D1, D7	KLH
1704152-01	D	Endosulfan I	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00004	0.00072	D1, D7	KLH
1704152-01	D	Endosulfan II	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00003	0.00072	D1, D7	KLH
1704152-01	D	Endosulfan sulfate	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00004	0.00072	D1, D7	KLH
1704152-01	D	Endrin	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00010	0.00072	D1, D7	KLH
1704152-01	D	Endrin aldehyde	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00011	0.00072	D1, D7	KLH
1704152-01	D	gamma-BHC (Lindane)	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00007	0.00072	D1, D7	KLH
1704152-01	D	Heptachlor	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00005	0.00072	D1, D7	KLH
1704152-01	D	Heptachlor Epoxide	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00004	0.00072	D1, D7	KLH
1704152-01	D	PCB 1016	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00006	0.00144	D1, D7	KLH
1704152-01	D	PCB 1221	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00017	0.00433	D1, D7	KLH
1704152-01	D	PCB 1232	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00007	0.00433	D1, D7	KLH
1704152-01	D	PCB 1242	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00013	0.00433	D1, D7	KLH
1704152-01	D	PCB 1248	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00010	0.00433	D1, D7	KLH
1704152-01	D	PCB 1254	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00019	0.00433	D1, D7	KLH
1704152-01	D	PCB 1260	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00007	0.00144	D1, D7	KLH
1704152-01	D	Total PCBs	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00016	0.00433	D1, D7	KLH
1704152-01	D	Toxaphene	04/20/17 9:00	EPA 625	5/4/17 17:58	**ND**	mg/kg dry	0.00094	0.01	D1, D7	KLH
1704152-01	D	Methoxychlor	04/20/17 9:00	EPA 8270C	5/4/17 17:58	**ND**	mg/kg dry		0.00072	D1, D7	KLH
1704152-01	D	1,1,1-Trichloroethane	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0002	0.00283		SRM
1704152-01	D	1,1,2,2-Tetrachloroethane	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.00006	0.00283		SRM
1704152-01	D	1,1,2-Trichloroethane	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.00009	0.00283		SRM
1704152-01	D	1,1-Dichloroethane	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0002	0.00283		SRM
1704152-01	D	1,1-Dichloroethene	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0001	0.00283		SRM
1704152-01	D	1,2-Dichlorobenzene	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.00008	0.00283		SRM
1704152-01	D	1,2-Dichloroethane	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.00009	0.00283		SRM
1704152-01	D	1,2-Dichloropropane	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0001	0.00283		SRM
1704152-01	D	1,3-Dichlorobenzene	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.00008	0.00283		SRM
1704152-01	D	1,4-Dichlorobenzene	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0002	0.00283		SRM
1704152-01	D	2-Chloroethyl vinyl ether	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0003	0.01		SRM
1704152-01	D	Benzene	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0001	0.00283		SRM
1704152-01	D	Bromodichloromethane	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0002	0.00283		SRM
1704152-01	D	Bromoform	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0003	0.00283		SRM
1704152-01	D	Bromomethane	04/20/17 9:00	EPA 624	4/24/17 16:58	**0.299**	mg/kg dry	0.0001	0.00283		SRM

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704152-01	D	Carbon Tetrachloride	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0004	0.00283		SRM
1704152-01	D	Chlorobenzene	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.00006	0.00283		SRM
1704152-01	D	Chloroethane	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0002	0.00283		SRM
1704152-01	D	Chloroform	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0001	0.00283		SRM
1704152-01	D	Chloromethane	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0002	0.00283		SRM
1704152-01	D	cis-1,3-Dichloropropene	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.00009	0.00283		SRM
1704152-01	D	Dibromochloromethane	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.00006	0.00283		SRM
1704152-01	D	Ethyl Benzene	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.00009	0.00283		SRM
1704152-01	D	Methylene Chloride	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0002	0.00283		SRM
1704152-01	D	Tetrachloroethene	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0002	0.00283		SRM
1704152-01	D	Toluene	04/20/17 9:00	EPA 624	4/24/17 16:58	**182.811**	mg/kg dry	0.0001	0.00283		SRM
1704152-01	D	Total Trihalomethanes	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0003	0.00283		SRM
1704152-01	D	trans-1,2-Dichloroethene	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0001	0.00283		SRM
1704152-01	D	trans-1,3-Dichloropropene	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0001	0.00283		SRM
1704152-01	D	Trichloroethene	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0001	0.00283		SRM
1704152-01	D	Trichlorofluoromethane	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0003	0.00283		SRM
1704152-01	D	Vinyl chloride	04/20/17 9:00	EPA 624	4/24/17 16:58	**ND**	mg/kg dry	0.0002	0.00283		SRM
1704152-01	D	1,2,4-Trichlorobenzene	04/20/17 9:00	EPA 8260	4/24/17 16:58	**ND**	mg/kg dry		0.00283		SRM
1704152-01	D	1,2-Dibromo-3-chloropropane	04/20/17 9:00	EPA 8260	4/24/17 16:58	**ND**	mg/kg dry		0.01		SRM
1704152-01	D	1,2-Dibromoethane	04/20/17 9:00	EPA 8260	4/24/17 16:58	**ND**	mg/kg dry		0.00283		SRM
1704152-01	D	cis-1,2-Dichloroethene	04/20/17 9:00	EPA 8260	4/24/17 16:58	**ND**	mg/kg dry		0.00283		SRM
1704152-01	D	m,p-Xylenes	04/20/17 9:00	EPA 8260	4/24/17 16:58	**ND**	mg/kg dry		0.01		SRM
1704152-01	D	o-Xylene	04/20/17 9:00	EPA 8260	4/24/17 16:58	**ND**	mg/kg dry		0.00283		SRM
1704152-01	D	Styrene	04/20/17 9:00	EPA 8260	4/24/17 16:58	**ND**	mg/kg dry		0.00283		SRM
1704152-01	D	Xylenes, total	04/20/17 9:00	EPA 8260	4/24/17 16:58	**ND**	mg/kg dry		0.01		SRM
1704152-01	D	2,3,7,8-TCDD - Dioxin Scan	04/20/17 9:00	EPA 625	5/10/17 15:31	**ND**	ug/kg dry		0.71		SJM
1704152-01	D	1,2,4-Trichlorobenzene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	2,3-Dichloroaniline	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.01	D1, D7, L4	SJM
1704152-01	D	2,4,6-Trichlorophenol	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704152-01	D	2,4-Dichlorophenol	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	2,4-Dimethylphenol	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1704152-01	D	2,4-Dinitrophenol	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.009	0.02	D1, D7	SJM
1704152-01	D	2,4-Dinitrotoluene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704152-01	D	2,6-Dinitrotoluene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704152-01	D	2-Chloronaphthalene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7, L4	SJM
1704152-01	D	2-Chlorophenol	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704152-01	D	2-Methyl-4,6-dinitrophenol	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.005	0.01	D1, D7, N1	SJM
1704152-01	D	2-Methylphenol	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704152-01	D	2-Nitrophenol	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704152-01	D	3,3-Dichlorobenzidine	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704152-01	D	4-Bromophenyl phenyl ether	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704152-01	D	4-Chloro-3-methylphenol	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704152-01	D	4-Chlorophenyl phenyl ether	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704152-01	D	4-Methylphenol	04/20/17 9:00	EPA 625	5/5/17 13:09	**492.6**	mg/kg dry	0.002	0.00200	D1, D7, L4	SJM
1704152-01	D	4-Nitrophenol	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1704152-01	D	Acenaphthene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	Acenaphthylene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	Anthracene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	Benzidine	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.007	0.01	D1, D7, N1	SJM
1704152-01	D	Benzo[a]anthracene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704152-01	D	Benzo[a]pyrene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	Benzo[b]fluoranthene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	Benzo[ghi]perylene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704152-01	D	Benzo[k]fluoranthene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704152-01	D	bis(2-chloroethoxy)methane	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	bis(2-chloroethyl)ether	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704152-01	D	bis(2-chloroisopropyl)ether	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	bis(2-ethylhexyl)phthalate	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704152-01	D	Butylbenzylphthalate	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	Carbazole	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1704152-01	D	Chrysene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704152-01	D	Dibenzo(a,h)anthracene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704152-01	D	Diethyl phthalate	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704152-01	D	Dimethyl phthalate	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1704152-01	D	Di-n-butyl phthalate	04/20/17 9:00	EPA 625	5/5/17 13:09	**22.54**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704152-01	D	Di-n-octyl phthalate	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704152-01	D	Fluoranthene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704152-01	D	Fluorene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7, N1	SJM
1704152-01	D	Hexachlorobenzene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1704152-01	D	Hexachlorobutadiene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704152-01	D	Hexachlorocyclopentadiene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.004	0.01	D1, D7, N1	SJM
1704152-01	D	Hexachloroethane	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704152-01	D	Indeno(1,2,3-cd)pyrene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704152-01	D	Isophorone	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	Naphthalene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	n-Decane	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	Nitrobenzene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704152-01	D	N-Nitrosodimethylamine	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1704152-01	D	N-Nitrosodi-n-propylamine	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1704152-01	D	N-Nitrosodiphenylamine	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.006	0.01	D1, D7	SJM
1704152-01	D	n-Octadecane	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.01	D1, D7, N1	SJM
1704152-01	D	Pentachlorophenol	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1704152-01	D	Phenanthrene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1704152-01	D	Phenol	04/20/17 9:00	EPA 625	5/5/17 13:09	**16.16**	mg/kg dry	0.003	0.01	D1, D7	SJM
1704152-01	D	Pyrene	04/20/17 9:00	EPA 625	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704152-01	D	1,2-Diphenylhydrazine	04/20/17 9:00	EPA 8270C	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1704152-01	D	1,4-Dichlorobenzene	04/20/17 9:00	EPA 8270C	5/5/17 13:09	**ND**	mg/kg dry	0.001	0.00200		SJM
1704152-01	D	2,4,5-Trichlorophenol	04/20/17 9:00	EPA 8270C	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.01		SJM
1704152-01	D	3 & 4-Methylphenol	04/20/17 9:00	EPA 8270C	5/5/17 13:09	**ND**	mg/kg dry	0.002	0.01		SJM
1704152-01	D	Pyridine	04/20/17 9:00	EPA 8270C	5/5/17 13:09	**0.34**	mg/kg dry	0.002	0.00200		SJM
1704152-01	D	Cyanide, Total	04/20/17 9:00	9012B	5/4/17 12:45	**ND**	mg/Kg dry	2.7	13	E8	JML *

* Analysis Performed by:TestAmerica Denver - See attached contract lab report for official results.

1704152-01	D	Percent Solids	04/20/17 9:00	2540G	4/27/17 09:53	**3.5**	%	0.1	0.1		YET *

* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.

1704152-01	D	Percent Moisture	04/20/17 9:00	2540G	4/27/17 09:53	**96.5**	%	0.1	0.1		YET *

* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.

Case Narrative(s)

1704151-01
EPA Method 1664B: Target analytes flagged with N1 failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. JOB 05/02/17.

1704152-01
EPA Method 625/8270 Pesticides: Target analytes flagged with N1 for this method failed the matrix spike RPD from the same extraction batch but the spike was performed on a different sample. KLH 05/08/17

1704152-01
EPA Method 625 Semi-volatiles: Target analytes flagged with N1 failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. SJM 05/16/17

Semi-Quantitation
Method: 625
1704152-01

Compound Name	Concentration-mg/Kg
Palmitic Acid	11615
Oleic Acid	5940
Stearic Acid	2128
Butanoic Acid	2248
Butanoic Acid, 3-methyl-	1374
Pentanoic Acid	1829
Butanoic Acid, 2-methyl-	791

SJM 05/16/17

1704217-01, 02
EPA Method 624 and 8260 Volatiles. Target analytes flagged with M1 failed the Matrix Spike for Carbon Tetrachloride and 1,1-Dichloroethane on this sample. The analyte was not detected in the samples. SRM 05/03/17

1704217-01, 02
EPA Method 625/8270 Pesticides: Target analytes flagged with N1 for this method failed the matrix spike RPD from the same extraction batch but the spike was performed on a different sample. KLH 05/08/17

Semi-Quantitation
Method: 625
1704217-01

Compound Name	Concentration-ug/L
N,N-Dimethyl-1-dodecanamine	268
Palmitic Acid	11537
Oleic Acid	14551
Stearic Acid	4712

SJM 05/18/17

1704218-01
EPA 549.2 QC results outside of acceptance criteria. Results are not reported. JD 7/03/17.

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1704098-02

PROJECT & LOCATION: GREEN VALLEY WRF-BNROD SOUTH AEROBIC DIGESTED SLUDGE

PROJECT-LOCATION NUMBER: 25000-1960 (XXXXX-XXXX)

SAMPLE START DATE: _____ MM/DD/YY OR MM/DD/YYYY

SAMPLE START TIME: _____ (Military time)

CLIENT: Sub-Regional Facilities

SAMPLE END DATE: 04/13/2017 MM/DD/YY OR MM/DD/YYYY

SAMPLE END TIME: 0915 (Military time)

SAMPLER(S): GRIKISON (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ☐ 503 ☐ AZPDES ☐ Reuse ■ Process Control ☐ IWC ☐ Air ☐ Other _____

Matrix: ☐ Biosolids ☐ Soil ■ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	☐	☐	☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	■	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ ° C
☐ Temperature *SM 2550 B*	_____	° C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions:

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

Relinquished by:	Received by:	Date:	Time: (Military time)
Refrigerator	Refrigerator	4/13/17	0924
Refrigerator	[signature]	4/13/17	0940
[signature]	[signature]	04-13-17	1127

Sample Integrity/Preservation:

# of Bottles Delivered: 1 GCS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 5 ° C

Initials: GCS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

COC-Single Revision 2

Revised: 03/12/2015

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1704152-01

PROJECT & LOCATION: Green Valley WRF - Wet Haul Sludge (Quarterly)

PROJECT-LOCATION NUMBER: 25000-1962 (XXXXX-XXXX)

SAMPLE START DATE: _____ MM/DD/YY OR MM/DD/YYYY

SAMPLE START TIME: _____ (Military time)

CLIENT: IWC

SAMPLE END DATE: 4.20.17 MM/DD/YY OR MM/DD/YYYY

SAMPLE END TIME: 0900 (Military time)

SAMPLER(S): Ricardo Silva (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ■ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other _____

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	×		■	☑
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	×		■	☑
TCLP Metals			☐	☐
503 Metals **			■	☑
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total (Contract)	■	☑
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	☑
Dioxin GC/SIM/MS Scan	■	☑
Organochlorine Pesticides & PCBs	■	☑
Purgeable Organics (GCMS)	■	☑
Semivolatile Organics (GCMS)	■	☑
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total (½ contract)	■	☑
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ °C
☐ Temperature *SM 2550 B*	_____	°C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	

Comments/Instructions: Cyanide and 1 of 2 TYOS sent to Test America COS 04-20-17 DO#17-30915

Septum Blank Prep Date & Initials: 04-04-2017 lej

Chain of Custody Record (Signatures Only)

Relinquished by:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	04-20-17	1324
[signature]	[signature]	4-25-17	12:25

Sample Integrity/Preservation:

# of Bottles Delivered: 9 COS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 3 °C

Initials: COS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☒	☐
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*

** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Tl*

COC-Single Revision 2

Revised: 03/12/2015

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
INDUSTRIAL WASTEWATER CONTROL SECTION
SAMPLE COLLECTION FIELD NOTES 1704152-01

SAMPLE LOCATION: Green Valley WRF - Wet Haul Sludge

LOCATION ID: **25000-1962** SAMPLERS: Riccaboni, Silva SAMPLE DATE: 4-20-17
Last names only, primary sampler first.

SAMPLE D or C	PARAMETER	START TIME	END TIME	FREQUENCY	Time Flow	Auto Man.	Volume Submitted	Bottle Type & Preservation
D	**Priority Pollutant Metals**	N/A	N/A	Grab			1000 ml	
D	**503 Metals**			4-20-17				**Dissolve Metals / Ice**
D	**Cyanide, Total**			0900			1000 ml	**Dissolved Metals / Ice**
D	**Dioxin Scan**						1000 ml	**Amber / Ice**
D	**Org. Pesticides**						1000 ml	**Amber / Ice**
D	**Semivolatile Organics**						1000 ml	**Amber / Ice**
D	**Solids, Total**						1000 ml	**General Purpose / Ice**
D	**Solids, Total**						1000 ml	**General Purpose / Ice**
D	**Acrolein and Acrylonitrile**						40 ml	**Septum vial / Ice**
D	**Acrolein and Acrylonitrile**						40 ml	**Septum vial / Ice**
D	**Acrolein and Acrylonitrile**						40 ml	**Septum vial / Ice**
D	**Acrolein and Acrylonitrile**						40 ml	**Septum vial / Ice**
D	**Purgeable Organics**						40 ml	**Septum vial / Ice**
D	**Purgeable Organics**						40 ml	**Septum vial / Ice**
D	**Purgeable Organics**						40 ml	**Septum vial / Ice**
D	**Purgeable Organics**						40 ml	**Septum vial / Ice**

pH METER CALIBRATION LOG

Time	Model #	Serial #	Auto/Man.	Buffer	Reading	Buffer	Reading	Temp.	Slope	Initials
			N/A							

FIELD MEASUREMENTS

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials
		N/A							

Notes: All Samples are Unpreserved

EQUIPMENT USED: ☐ **Grab Sampler** ☐ Automatic Sampler ☐ Electric Pump ☐ Other _____

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	___ of ___ COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Rusty Riccaboni
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Green Valley	☐ 1 week			
Site: Green Valley	☐ 2 days			Job / SDG No.:
P O # 17-30915	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry	Sample Specific Notes:
Green Valley WRF wet haul sludge 25000-1962										
1704152-01	4/20/2017	0900	Grab	BS	2	N		1	1	BS - biosolids

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company: PC CRAO	Date/Time: 04-20-17 / 0900	Received by:	Company: PC CRAO	Date/Time: 04-20-17 / 1324
Relinquished by: 4.25.17	Company: PC CRAO	Date/Time: 4-25-17 12:25	Received by:	Company: TEST Amer	Date/Time: 4-25-17 12:25
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY
WASTEWATER RECLAMATION
COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1704152-01**	**DO**	**17-30915**
CONTRACT LAB	**Test America – Phoenix, Denver**	**SAMPLE GROUP**	**Green Valley**
ANALYSES	**Total CN^-, %TS**	**REPORT ID**	**550-81657-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	N/A
DO received in Pima Core?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	N/A
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	Y
Semivolatiles & Volatiles: Check that all analytes were delivered?	N/A
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	N/A
Was Belinda Gamboa-Felix notified of any exceedences?	N/A
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	N/A
Report states if zeolite treatment was utilized?	N/A
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	N/A
Chemistry data included?	N/A
Reference Toxicant Test Results and Control Chart within limits?	N/A

PMSD Determination included and within acceptable range? (minimum acceptable= 13)			N/A
End Points include TUc, NOEC, LOEC, and IC25?			N/A
Statistics verify endpoints			N/A
Control Charts Updated to include month of analysis			N/A
Reviewer Initials:	**JD**	**Review Date:**	**5-09-17**

PEER/FINAL REVIEW:			PR	FR
LIMS/Excel data matches printed CL report?			✓	
Analysis dates are correct?			✓	
Correct Data Qualifiers included if necessary.			✓	
CRAO report shows result is from Contract Lab?			✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?			✓	
DO received in Pima Core			✓	
Analysis set to Reported?				✓
Peer Reviewer Initials:	TB	**Review Date:**	5-9-17	
Biomonitor Supervisor Initials:	N/A	**Review Date:**	N/A	
Final Reviewer Initials:	JEC	**Review Date:**	5·15·17	

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-81657-1
TestAmerica Sample Delivery Group: Green Valley
Client Project/Site: Green Valley

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Nancy Powell

Authorized for release by:
5/5/2017 10:08:39 AM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: Green Valley

TestAmerica Job ID: 550-81657-1
SDG: Green Valley

3

Qualifiers

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica Phoenix

Case Narrative

Client: Pima County WWTP
Project/Site: Green Valley

TestAmerica Job ID: 550-81657-1
SDG: Green Valley

Job ID: 550-81657-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-81657-1

Comments
No additional comments.

Receipt
The sample was received on 4/25/2017 3:25 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.5° C.

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

Sample Summary

Client: Pima County WWTP
Project/Site: Green Valley

TestAmerica Job ID: 550-81657-1
SDG: Green Valley

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-81657-1	1704152-01	Solid	04/20/17 09:00	04/25/17 15:25

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Detection Summary

Client: Pima County WWTP
Project/Site: Green Valley

TestAmerica Job ID: 550-81657-1
SDG: Green Valley

Client Sample ID: 1704152-01 — Lab Sample ID: 550-81657-1

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: Green Valley

TestAmerica Job ID: 550-81657-1
SDG: Green Valley

Client Sample ID: 1704152-01
Date Collected: 04/20/17 09:00
Date Received: 04/25/17 15:25

Lab Sample ID: 550-81657-1
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	96.5		0.1	0.1	%			04/27/17 09:53	1
Percent Solids	3.5		0.1	0.1	%			04/27/17 09:53	1

Client Sample ID: 1704152-01
Date Collected: 04/20/17 09:00
Date Received: 04/25/17 15:25

Lab Sample ID: 550-81657-1
Matrix: Solid
Percent Solids: 3.5

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General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	13	2.7	mg/Kg	☒	05/03/17 10:19	05/04/17 12:45	1

TestAmerica Phoenix

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TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

81657

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Nancy Powell	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6183	Lab Contact:	Carrier:	___ of ___ COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Rusty Riccaboni
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6183 Phone	TAT if different from Below _____			Walk-In Client:
(520) 724-6075 FAX	☐ 2 weeks			Lab Sampling:
Project Name: Green Valley	☐ 1 week			
Site: Green Valley	☐ 2 days			Job / SDG No.:
P O # 17-30915	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Cyanide, total mg/kg dry	Total % solids for mg/kg dry	Sample Specific Notes:
Green Valley WRF wet haul sludge 25000-1962										-01
1704152-01	4/20/2017	0900	Grab	BS	2	N		1	1	BS - biosolids

550-81657 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☐Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

0.5°C on ice

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	PC CRAO	04-20-17 / 0900		PC CRAO	04-20-17 / 1324
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	PC CRAO	4-25-17 12:25		TEST Amer	4-25-17 12:25
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
	TEST America	4-25-17 15:25		TA	4/25/17 15:25

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

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Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1704152-01

PROJECT & LOCATION: Green Valley WRF - Wet Haul Sludge (Quarterly)

PROJECT-LOCATION NUMBER: 25000-1962 (XXXXX-XXXX)

SAMPLE START DATE: ____ (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: ____ (Military time)

SAMPLE END DATE: 4.20.17 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0900 (Military time)

CLIENT: IWC

SAMPLER(S): Riccaboni, Silva (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ■ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other ____

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other ____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	×		■	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	×		■	☐
TCLP Metals			☐	☐
503 Metals **			■	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total (contract)	■	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other ____	☐	☐
Other ____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	☐
Dioxin GC/SIM/MS Scan	■	☐
Organochlorine Pesticides & PCBs	■	☐
Purgeable Organics (GCMS)	■	☐
Semivolatile Organics (GCMS)	■	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other ____	☐	☐
Other ____	☐	☐

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other ____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total (contract)	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other ____	☐	☐

OTHER

	D	C
Paint Filter	☐	☐
____	☐	☐
____	☐	☐
____	☐	☐
____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	____	µg/L
☐ Specific Conductance *SM 2510 B*	____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	____ @	pH Units @ ° C
☐ Temperature *SM 2550 B*	____	° C
☐ Total Depth of Well	____	feet
☐ Depth to Water	____	feet
☐ Other ____	____	____

Comments/Instructions: Cyanide and 1 of 2 TYO S sent to Test America; COS 04.20.17 PO#17-30915

Septum Blank Prep Date & Initials: 04-04-2017 lej

Chain of Custody Record (Signatures Only)

Relinquished by:	Received by:	Date:	Time: (Military time)
Sampler		04-20-17	1324
		4-25-17	12:25
		4-25-17	15:25

Sample Integrity/Preservation:

# of Bottles Delivered: 9 COS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 3 ° C

Initials: COS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☒	☐
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2

Revised: 03/12/2015

TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler	Lab PM: Eshelman, Linda	Carrier Tracking No(s)	COC No: 550-17190.1
Client Contact: Shipping/Receiving	Phone	E-Mail: linda.eshelman@testamericainc.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-81657-1
Address: 4955 Yarrow Street,	Due Date Requested: 5/2/2017			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: Green Valley	Project #: 55001656			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8012B/9012B_Prep	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Green Valley WRF wet haul sludge 25000-1962 1704152-01 (550-	4/20/17	09:00 Arizona		Solid			X	1	AZ

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*		***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:	
Empty Kit Relinquished by: 04-25-17	Date	Time	Method of Shipment
Relinquished by: 04-25-17	Date/Time 1670	Company TA PHX LAB	Received by: Rec'd PHX
Relinquished by	Date/Time	Company	Received by
Relinquished by	Date/Time	Company	Received by

Received by: Rec'd PHX	Date/Time 4-26-17 0900	Company TAO			
Received by	Date/Time	Company			
Received by	Date/Time	Company			

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No	Cooler Temperature(s)°C and Other Remarks: 0.6 IR# 70.0 Transfer RF 4-26-17

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-81657-1
SDG Number: Green Valley

Login Number: 81657
List Number: 1
Creator: Doerr, Bret C

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

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Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-81657-1
SDG Number: Green Valley

Login Number: 81657
List Number: 2
Creator: Pottruff, Reed W

List Source: TestAmerica Denver
List Creation: 04/26/17 04:45 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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PIMA COUNTY WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 10/23/2017
Laboratory License: AZO159

Sample Analysis Report
Green Valley WRF
July 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:
See attached

Case Narratives:
See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Pratt

1·3·18
Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Wet Haul Sludge	1707197-01	Biosolids	7/27/2017 9:05:00	7/27/2017 12:33:00	Q6
Wet Haul Sludge	1707198-01	Biosolids	7/27/2017 9:00:00	7/27/2017 12:33:00	Q6
BNROD-Final Effluent-AZPDES	1707199-01	Water	7/27/2017 10:40:00	7/27/2017 12:33:00	Q6
BNROD-Final Effluent-AZPDES	1707199-02	Water	7/27/2017 10:40:00	7/27/2017 12:33:00	Q6
BNROD-Final Effluent-AZPDES	1707199-03	Water	7/27/2017 10:40:00	7/27/2017 12:33:00	Q6

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707196-01	D	pH	07/27/17 6:41	SM4500 H B	7/27/17 06:41	**7.5**	pH Units				SMPLR
1707196-01	D	Temp at time of pH, °C	07/27/17 6:41	SM4500 H B	7/27/17 06:41	**25.6**	°C				SMPLR
1707196-01	D	E. Coli	07/27/17 6:41	SM 9223B	7/28/17 14:08	**<1**	MPN/100 mL		1.0		ADP
1707223-01	D	Chlorine	07/31/17 6:30	HACH 8167	7/31/17 06:30	**3.18**	mg/L		0.23		SMPLR
1707223-01	D	Temperature	07/31/17 6:30	SM2550B	7/31/17 06:30	**26.6**	°C		0.10		SMPLR
1707223-01	D	pH	07/31/17 6:30	SM4500 H B	7/31/17 06:30	**7.4**	pH Units				SMPLR
1707223-01	D	Temp at time of pH, °C	07/31/17 6:30	SM4500 H B	7/31/17 06:30	**28.5**	°C				SMPLR
1707223-01	D	E. Coli	07/31/17 6:30	SM 9223B	8/1/17 11:59	**<1**	MPN/100 mL		1.0		DEB
BNROD-Final Effluent-AZPDES (25000-1923)											
1707199-01	D	Chlorine	07/27/17 10:40	HACH 10014	7/27/17 10:40	**4**	ug/L	3	18.00	J	SMPLR
1707199-01	D	Dissolved Oxygen	07/27/17 10:40	SM4500 O G	7/27/17 10:40	**6.2**	mg/L		0.01		SMPLR
1707199-01	D	Temperature	07/27/17 10:40	SM2550B	7/27/17 10:40	**29.5**	°C		0.10		SMPLR
1707199-01	D	pH	07/27/17 10:40	SM4500 H B	7/27/17 10:40	**7.7**	pH Units				SMPLR
1707199-01	D	Temp at time of pH, °C	07/27/17 10:40	SM4500 H B	7/27/17 10:40	**29.6**	°C				SMPLR
1707199-01	D	Ammonia	07/27/17 10:40	SM4500-NH3-D	8/2/17 12:56	**0.17**	mg/L	0.04	0.50	J	KMT
1707199-01	D	Chromium, Hexavalent	07/27/17 10:40	EPA 200.8	7/27/17 10:40	**NA**	ug/L	0.400	1.00	N7	
1707199-01	D	Cyanide	07/27/17 10:40	SM4500-CN-E	8/7/17 12:39	**2.32**	ug/L	1.75	5.00	J	MGA
1707199-01	D	Mercury	07/27/17 10:40	EPA 245.7	8/11/17 13:39	**0.856**	ng/L	0.640	5.00	J	DCR
1707199-01	D	Oil & Grease	07/27/17 10:40	EPA 1664B	7/31/17 16:11	**4.27**	mg/L	1.25	4.88	J	JOB
1707199-02	D	Chromium (Dissolved)	07/27/17 10:40	EPA 200.8	9/20/17 15:02	**0.49**	ug/L	0.03	1.00	H6, J	JB
1707199-03	FB	Mercury	07/27/17 10:40	EPA 245.7	8/11/17 13:36	**ND**	ng/L	0.640	5.00		DCR
BNROD-Final Effluent-Process Control (25000-1925)											
1707031-02	C	Ammonia	07/05/17 8:00	EPA 350.1	7/6/17 11:56	**0.34**	mg/L	0.08	0.50	J	DCR
1707031-02	C	Nitrate/Nitrite	07/05/17 8:00	EPA 353.2	7/9/17 14:54	**0.36**	mg/L	0.02	0.20		MGA
1707031-02	C	Total Kjeldahl Nitrogen	07/05/17 8:00	EPA 351.2	7/15/17 10:39	**1.22**	mg/L	0.52	0.80		MGA
1707031-02	C	Nitrogen Total Water	07/05/17 8:00	Calculated	7/15/17 10:39	**1.58**	mg/L	0.52	0.80		MGA
1707031-02	C	Alkalinity Total	07/05/17 8:00	SM 2320B	7/12/17 14:30	**178**	mg/L		20.00		ADP
1707031-02	C	Bicarbonate Alkalinity	07/05/17 8:00	SM 2320B	7/12/17 14:30	**178**	mg/L		20.00		ADP
1707031-02	C	Biochemical Oxygen Demand	07/05/17 8:00	SM 5210B	7/11/17 06:56	**2.6**	mg/L		2.00		JAH
1707031-02	C	Total Suspended Solids	07/05/17 8:00	SM 2540D	7/6/17 12:02	**ND**	mg/L		2.50		JGB
BNROD MLSS (25000-1940)											
1707031-04	D	Total Suspended Solids	07/05/17 6:43	SM 2540D	7/6/17 12:02	**1610**	mg/L		2.50		JGB
1707031-04	D	Total Volatile Suspended Solids	07/05/17 6:43	EPA 160.4	7/6/17 13:44	**1380**	mg/L		2.50		JGB
BNROD-South Aerobic Digester Sludge (25000-1960)											
1707031-05	D	% Solids	07/05/17 6:43	SM 2540G	7/6/17 13:25	**3.86**	%		0.01		CRM
1707031-05	D	% Solids, Total Volatile	07/05/17 6:43	SM 2540G	7/6/17 15:58	**83.5**	%		0.01		CRM
Wet Haul Sludge (25000-1962)											
1707197-01	D	Percent Solids	07/27/17 9:05	2540G	8/1/17 08:37	**3.1**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707197-01	D	Percent Moisture	07/27/17 9:05	2540G	8/1/17 08:37	**96.9**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707197-01	D	N-ethyl perfluorooctane sulfona	07/27/17 9:05	537 (modified)	8/10/17 09:14	**0.017**	mg/Kg dry	0.012	0.063	E4	CBW*
1707197-01	D	N-methyl perfluorooctane sulfon	07/27/17 9:05	537 (modified)	8/10/17 09:14	**0.044**	mg/Kg dry	0.041	0.063	E4	CBW*
1707197-01	D	Perfluorobutanesulfonic acid (PF	07/27/17 9:05	537 (modified)	8/10/17 09:14	**ND**	mg/Kg dry	0.0033	0.0063	E8	CBW*
1707197-01	D	Perfluorodecanoic acid (PFDA)	07/27/17 9:05	537 (modified)	8/10/17 09:14	**0.036**	mg/Kg dry	0.0018	0.0063		CBW*
1707197-01	D	Perfluorododecanoic acid (PFD	07/27/17 9:05	537 (modified)	8/10/17 09:14	**0.016**	mg/Kg dry	0.0038	0.0063		CBW*
1707197-01	D	Perfluoroheptanoic acid (PFHpA	07/27/17 9:05	537 (modified)	8/10/17 09:14	**ND**	mg/Kg dry	0.0028	0.0063	E8	CBW*
1707197-01	D	Perfluorohexanesulfonic acid (PF	07/27/17 9:05	537 (modified)	8/10/17 09:14	**0.0081**	mg/Kg dry	0.0037	0.0063		CBW*
1707197-01	D	Perfluorohexanoic acid (PFHxA)	07/27/17 9:05	537 (modified)	8/10/17 09:14	**0.010**	mg/Kg dry	0.0023	0.0063		CBW*
1707197-01	D	Perfluorononanoic acid (PFNA)	07/27/17 9:05	537 (modified)	8/10/17 09:14	**0.0031**	mg/Kg dry	0.0026	0.0063	E4	CBW*
1707197-01	D	Perfluorooctanesulfonic acid (PF	07/27/17 9:05	537 (modified)	8/10/17 09:14	**0.041**	mg/Kg dry	0.0040	0.0063		CBW*

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707197-01	D	Perfluorooctanoic acid (PFOA)	07/27/17 9:05	537 (modified)	8/10/17 09:14	**0.0083**	mg/Kg dry	0.0032	0.0063		CBW*
1707197-01	D	Perfluorotetradecanoic acid (PFT	07/27/17 9:05	537 (modified)	8/10/17 09:14	**ND**	mg/Kg dry	0.0018	0.0063	E8	CBW*
1707197-01	D	Perfluorotridecanoic Acid (PFT	07/27/17 9:05	537 (modified)	8/10/17 09:14	**ND**	mg/Kg dry	0.0029	0.0063	E8	CBW*
1707197-01	D	Perfluoroundecanoic acid (PFU	07/27/17 9:05	537 (modified)	8/10/17 09:14	**0.0057**	mg/Kg dry	0.0034	0.0063	E4	CBW*

* Analysis Performed by:TestAmerica Sacramento - See attached contract lab report for official results.

1707198-01	D	Antimony	07/27/17 9:00	EPA 6010D	9/5/17 14:01	**ND**	mg/kg dry		10.96		MLB
1707198-01	D	Arsenic	07/27/17 9:00	EPA 6010D	9/5/17 14:01	**ND**	mg/kg dry		10.96		MLB
1707198-01	D	Beryllium	07/27/17 9:00	EPA 6010D	9/5/17 14:01	**ND**	mg/kg dry		2.19		MLB
1707198-01	D	Cadmium	07/27/17 9:00	EPA 6010D	9/5/17 14:01	**ND**	mg/kg dry		4.38		MLB
1707198-01	D	Chromium	07/27/17 9:00	EPA 6010D	9/5/17 14:01	**11.9**	mg/kg dry		10.96		MLB
1707198-01	D	Copper	07/27/17 9:00	EPA 6010D	9/5/17 14:01	**248**	mg/kg dry		10.96		MLB
1707198-01	D	Lead	07/27/17 9:00	EPA 6010D	9/6/17 13:06	**ND**	mg/kg dry		10.96		MLB
1707198-01	D	Mercury	07/27/17 9:00	EPA 7471B	8/18/17 14:49	**1.02**	mg/kg dry		0.00148		DML
1707198-01	D	Molybdenum	07/27/17 9:00	EPA 6010D	9/5/17 14:01	**7.55**	mg/kg dry		4.38		MLB
1707198-01	D	Nickel	07/27/17 9:00	EPA 6010D	9/5/17 14:01	**ND**	mg/kg dry		10.96		MLB
1707198-01	D	Selenium	07/27/17 9:00	EPA 6010D	9/5/17 14:01	**ND**	mg/kg dry		21.91		MLB
1707198-01	D	Silver	07/27/17 9:00	EPA 6010D	9/6/17 13:06	**2.62**	mg/kg dry		1.10		MLB
1707198-01	D	Thallium	07/27/17 9:00	EPA 6010D	9/6/17 10:02	**ND**	mg/kg dry		10.96		MLB
1707198-01	D	Zinc	07/27/17 9:00	EPA 6010D	9/5/17 14:01	**448**	mg/kg dry		10.96		MLB
1707198-01	D	% Solids	07/27/17 9:00	SM 2540G	7/28/17 13:00	**3.39**	%		0.01		JAH
1707198-01	D	Acrolein	07/27/17 9:00	EPA 624	8/3/17 16:57	**ND**	mg/kg dry	0.00360	0.00295	V1	SRM
1707198-01	D	Acrylonitrile	07/27/17 9:00	EPA 624	8/3/17 16:57	**ND**	mg/kg dry	0.00280	0.00295		SRM
1707198-01	D	4,4-DDD	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00006	0.00070	D1, D7, N1	KLH
1707198-01	D	4,4-DDE	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00003	0.00070	D1, D7	KLH
1707198-01	D	4,4-DDT	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00006	0.00070	D1, D7, N1	KLH
1707198-01	D	Aldrin	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00006	0.00070	D1, D7	KLH
1707198-01	D	alpha-BHC	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00004	0.00070	D1, D7	KLH
1707198-01	D	beta-BHC	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00009	0.00070	D1, D7	KLH
1707198-01	D	Chlordane	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00025	0.01	D1, D7	KLH
1707198-01	D	delta-BHC	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00007	0.00070	D1, D7	KLH
1707198-01	D	Dieldrin	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00015	0.00140	D1, D7	KLH
1707198-01	D	Endosulfan I	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00004	0.00070	D1, D7	KLH
1707198-01	D	Endosulfan II	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00003	0.00070	D1, D7	KLH
1707198-01	D	Endosulfan sulfate	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00004	0.00070	D1, D7, N1	KLH
1707198-01	D	Endrin	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00010	0.00070	D1, D7, N1	KLH
1707198-01	D	Endrin aldehyde	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00011	0.00070	D1, D7, N1	KLH
1707198-01	D	gamma-BHC (Lindane)	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00007	0.00070	D1, D7	KLH
1707198-01	D	Heptachlor	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00005	0.00070	D1, D7	KLH
1707198-01	D	Heptachlor Epoxide	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00004	0.00070	D1, D7	KLH
1707198-01	D	PCB 1016	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00006	0.00140	D1, D7	KLH
1707198-01	D	PCB 1221	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00017	0.00420	D1, D7	KLH
1707198-01	D	PCB 1232	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00007	0.00420	D1, D7	KLH
1707198-01	D	PCB 1242	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00013	0.00420	D1, D7	KLH
1707198-01	D	PCB 1248	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00010	0.00420	D1, D7	KLH
1707198-01	D	PCB 1254	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00019	0.00420	D1, D7	KLH
1707198-01	D	PCB 1260	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00007	0.00140	D1, D7	KLH
1707198-01	D	Total PCBs	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00016	0.00420	D1, D7	KLH
1707198-01	D	Toxaphene	07/27/17 9:00	EPA 625	8/8/17 19:55	**ND**	mg/kg dry	0.00094	0.01	D1, D7	KLH
1707198-01	D	Methoxychlor	07/27/17 9:00	EPA 8270C	8/8/17 19:55	**ND**	mg/kg dry		0.00070	D1, D7	KLH
1707198-01	D	1,1,1-Trichloroethane	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0002	0.00295	D1, D7	SRM
1707198-01	D	1,1,2,2-Tetrachloroethane	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.00006	0.00295	D1, D7	SRM
1707198-01	D	1,1,2-Trichloroethane	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.00009	0.00295	D1, D7	SRM
1707198-01	D	1,1-Dichloroethane	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0002	0.00295	D1, D7	SRM
1707198-01	D	1,1-Dichloroethene	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0001	0.00295	D1, D7	SRM
1707198-01	D	1,2-Dichlorobenzene	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.00008	0.00295	D1, D7	SRM
1707198-01	D	1,2-Dichloroethane	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.00009	0.00295	D1, D7	SRM
1707198-01	D	1,2-Dichloropropane	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0001	0.00295	D1, D7	SRM
1707198-01	D	1,3-Dichlorobenzene	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.00008	0.00295	D1, D7	SRM
1707198-01	D	1,4-Dichlorobenzene	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0002	0.00295	D1, D7	SRM

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707198-01	D	2-Chloroethyl vinyl ether	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0003	0.01	D1, D7	SRM
1707198-01	D	Benzene	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0001	0.00295	D1, D7	SRM
1707198-01	D	Bromodichloromethane	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0002	0.00295	D1, D7	SRM
1707198-01	D	Bromoform	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0003	0.00295	D1, D7	SRM
1707198-01	D	Bromomethane	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0001	0.00295	D1, D7	SRM
1707198-01	D	Carbon Tetrachloride	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0004	0.00295	D1, D7	SRM
1707198-01	D	Chlorobenzene	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.00006	0.00295	D1, D7	SRM
1707198-01	D	Chloroethane	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0002	0.00295	D1, D7	SRM
1707198-01	D	Chloroform	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0001	0.00295	D1, D7	SRM
1707198-01	D	Chloromethane	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0002	0.00295	D1, D7	SRM
1707198-01	D	cis-1,3-Dichloropropene	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.00009	0.00295	D1, D7	SRM
1707198-01	D	Dibromochloromethane	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.00006	0.00295	D1, D7	SRM
1707198-01	D	Ethyl Benzene	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.00009	0.00295	D1, D7	SRM
1707198-01	D	Methylene Chloride	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0002	0.00295	D1, D7	SRM
1707198-01	D	Tetrachloroethene	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0002	0.00295	D1, D7	SRM
1707198-01	D	Toluene	07/27/17 9:00	EPA 624	7/31/17 14:08	**230.54**	mg/kg dry	0.0001	0.00295	D1, D7	SRM
1707198-01	D	Total Trihalomethanes	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0003	0.00295	D1, D7	SRM
1707198-01	D	trans-1,2-Dichloroethene	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0001	0.00295	D1, D7	SRM
1707198-01	D	trans-1,3-Dichloropropene	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0001	0.00295	D1, D7	SRM
1707198-01	D	Trichloroethene	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0001	0.00295	D1, D7	SRM
1707198-01	D	Trichlorofluoromethane	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0003	0.00295	D1, D7	SRM
1707198-01	D	Vinyl chloride	07/27/17 9:00	EPA 624	7/31/17 14:08	**ND**	mg/kg dry	0.0002	0.00295	D1, D7	SRM
1707198-01	D	1,2,4-Trichlorobenzene	07/27/17 9:00	EPA 8260	7/31/17 14:08	**ND**	mg/kg dry		0.00050		SRM
1707198-01	D	1,2-Dibromo-3-chloropropane	07/27/17 9:00	EPA 8260	7/31/17 14:08	**ND**	mg/kg dry		0.01	D1, D7	SRM
1707198-01	D	1,2-Dibromoethane	07/27/17 9:00	EPA 8260	7/31/17 14:08	**ND**	mg/kg dry		0.00295	D1, D7	SRM
1707198-01	D	cis-1,2-Dichloroethene	07/27/17 9:00	EPA 8260	7/31/17 14:08	**ND**	mg/kg dry		0.00295	D1, D7	SRM
1707198-01	D	m,p-Xylenes	07/27/17 9:00	EPA 8260	7/31/17 14:08	**ND**	mg/kg dry		0.01	D1, D7	SRM
1707198-01	D	o-Xylene	07/27/17 9:00	EPA 8260	7/31/17 14:08	**ND**	mg/kg dry		0.00295	D1, D7	SRM
1707198-01	D	Styrene	07/27/17 9:00	EPA 8260	7/31/17 14:08	**ND**	mg/kg dry		0.00295	D1, D7	SRM
1707198-01	D	Xylenes, total	07/27/17 9:00	EPA 8260	7/31/17 14:08	**ND**	mg/kg dry		0.01	D1, D7	SRM
1707198-01	D	2,3,7,8-TCDD - Dioxin Scan	07/27/17 9:00	EPA 625	8/2/17 17:26	**ND**	ug/kg dry		0.74		SJM
1707198-01	D	1,2,4-Trichlorobenzene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707198-01	D	2,3-Dichloroaniline	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707198-01	D	2,4,6-Trichlorophenol	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	2,4-Dichlorophenol	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707198-01	D	2,4-Dimethylphenol	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1707198-01	D	2,4-Dinitrophenol	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.009	0.02	D1, D7	SJM
1707198-01	D	2,4-Dinitrotoluene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707198-01	D	2,6-Dinitrotoluene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	2-Chloronaphthalene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	2-Chlorophenol	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	2-Methyl-4,6-dinitrophenol	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1707198-01	D	2-Methylphenol	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	2-Nitrophenol	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707198-01	D	3,3-Dichlorobenzidine	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707198-01	D	4-Bromophenyl phenyl ether	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	4-Chloro-3-methylphenol	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707198-01	D	4-Chlorophenyl phenyl ether	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	4-Methylphenol	07/27/17 9:00	EPA 625	8/11/17 16:58	**929.9**	mg/kg dry	0.002	0.00200	D1, D2, D7	SJM
1707198-01	D	4-Nitrophenol	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1707198-01	D	Acenaphthene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707198-01	D	Acenaphthylene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707198-01	D	Anthracene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707198-01	D	Benzidine	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.007	0.01	D1, D7	SJM
1707198-01	D	Benzo[a]anthracene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	Benzo[a]pyrene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707198-01	D	Benzo[b]fluoranthene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707198-01	D	Benzo[ghi]perylene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707198-01	D	Benzo[k]fluoranthene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707198-01	D	bis(2-chloroethoxy)methane	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1707198-01	D	bis(2-chloroethyl)ether	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707198-01	D	bis(2-chloroisopropyl)ether	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707198-01	D	bis(2-ethylhexyl)phthalate	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707198-01	D	Butylbenzylphthalate	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707198-01	D	Carbazole	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707198-01	D	Chrysene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	Dibenzo(a,h)anthracene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707198-01	D	Diethyl phthalate	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707198-01	D	Dimethyl phthalate	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1707198-01	D	Di-n-butyl phthalate	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707198-01	D	Di-n-octyl phthalate	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707198-01	D	Fluoranthene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	Fluorene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707198-01	D	Hexachlorobenzene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1707198-01	D	Hexachlorobutadiene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	Hexachlorocyclopentadiene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1707198-01	D	Hexachloroethane	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	Indeno(1,2,3-cd)pyrene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707198-01	D	Isophorone	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707198-01	D	Naphthalene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707198-01	D	n-Decane	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707198-01	D	Nitrobenzene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707198-01	D	N-Nitrosodimethylamine	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.01	D1, D7, PC3	SJM
1707198-01	D	N-Nitrosodi-n-propylamine	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707198-01	D	N-Nitrosodiphenylamine	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.006	0.01	D1, D7	SJM
1707198-01	D	n-Octadecane	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1707198-01	D	Pentachlorophenol	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1707198-01	D	Phenanthrene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1707198-01	D	Phenol	07/27/17 9:00	EPA 625	8/11/17 16:19	**32.46**	mg/kg dry	0.003	0.01	D1, D7	SJM
1707198-01	D	Pyrene	07/27/17 9:00	EPA 625	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	1,2-Diphenylhydrazine	07/27/17 9:00	EPA 8270C	8/11/17 16:19	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1707198-01	D	Cyanide, Total	07/27/17 9:00	9014	8/3/17 12:35	**ND**	mg/Kg dry	4.6	12	E8	NEL *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707198-01	D	Percent Solids	07/27/17 9:00	2540G	8/1/17 08:37	**3.3**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											
1707198-01	D	Percent Moisture	07/27/17 9:00	2540G	8/1/17 08:37	**96.7**	%	0.1	0.1		YET *
* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.											

Case Narrative(s)

1707198-01
EPA Method 625/8270 Pesticides: Target analytes flagged with N1 for this mehtod failed the matrix spike RPD from the same extraction batch but the spike was performed on a different sample. KLH 08/10/17

Semi-Quantitation
Method: 625
1707198-01

Compound Name	Concentration-ug/L
Benzeneacetic Acid	149
Palmitic Acid	5745
Oleic Acid	2525
Butanoic Acid	903
Propanoic Acid	533
Butanoic Acid, 2-methyl-	1192
Pentanoic Acid, 2-methyl-	484

SJM 08/28/17

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1707031-05

PROJECT & LOCATION: GREEN VALLEY WRF-BNROD SOUTH AEROBIC DIGESTED SLUDGE

PROJECT-LOCATION NUMBER: 25000-1960 (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: _____ (Military time)

CLIENT: Sub-Regional Facilities

SAMPLE END DATE: 07/05/17 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0643 (Military time)

SAMPLER(S): Carrillo (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ☐ 503 ☐ AZPDES ☐ Reuse ■ Process Control ☐ IWC ☐ Air ☐ Other _____

Matrix: ☐ Biosolids ☐ Soil ■ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	☐	☐	☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	■	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ ° C
☐ Temperature *SM 2550 B*	_____	° C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions:

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

Relinquished by:	Received by:	Date:	Time: (Military time)
Refrigerator	Refrigerator	07/05/17	0650
Refrigerator	[signature]	7/5/17	0915
[signature]	[signature]	07-05-17	1109

Sample Integrity/Preservation:

# of Bottles Delivered: 1 200

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 5 °C

Initials: GOS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2 Revised: 03/12/2015

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION
DEPARTMENT COMPLIANCE AND REGULATORY AFFAIRS
OFFICE LABORATORY SERVICES
2955 W. Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200, Fax: (520) 724-6071

FINAL LABORATORY GROUP REPORTS

LIMS # 1707031-05
Parameters: Total Solids, Total Volatile Solids

QA/QC Review

Copy of CoC included with Lab Report.	Yes
Sample IDs verified against CoC.	Yes
Sample dates/times are correct	Yes
Analyses and methods verified against CoC.	Yes
Sample holding times not exceeded.	Yes
Correct Data Qualifiers included if necessary.	n/a
NA and N7 Qualifiers included for Amenable Cyanide Analysis?	n/a
Report Comments included if necessary.	n/a
Case Narratives are correctly formatted.	n/a
Are there exceedences/Not Analyzed/No Results?	No
If yes, is there a notification form attached?	n/a
Correct units? (mg/l or µg/l, mg/kg, SU@--°) Yes	Yes
If there are Contract Lab Results, Is there a Contract Lab Checksheet?	n/a
Sample Receipt Checklist?	Yes
Correct Methods?	Yes
MDLS/PQLS	Yes

QA/QC Review date and initials: 11/21/17 lej_____Final Review date and initials: JR 12-20-17

Comments:

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1707197-01

PROJECT & LOCATION: Green Valley WRF - Wet Haul Sludge (Quarterly)

PROJECT-LOCATION NUMBER: 25000-1962 (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY) SAMPLE START TIME: _____ (Military time) CLIENT: IWC

SAMPLE END DATE: 07-27-2017 (MM/DD/YY OR MM/DD/YYYY) SAMPLE END TIME: 0905 (Military time) SAMPLER(S): Silva, Martinez (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ■ Investigative ☐ Reuse ☐ Air ☐ 503 ☐ Process Control ☐ Other _____

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ☐ Wastewater ☐ Air ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury			☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *			☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other PFOA / PFOS contract	■	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	☐	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ °C
☐ Temperature *SM 2550 B*	_____	°C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions:
Sent to Test America. GOS 07-27-17
DO# 18-02835

Custody seals added after login. GOS 07-27-17

Septum Blank Prep Date & Initials: _____ _____

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	07-27-17	1233
	[signature]	7/31/17	1140

Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

of Bottles Delivered: 2 GOS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 7 °C

Initials: GOS

Q6 qualifier? ☒ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2 Revised: 03/12/2015

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Joe Doranski	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6032	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Silva and Martinez
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6032 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☒ 2 weeks			Lab Sampling:
Project Name: PFOA and friends	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-02835	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 537 PFOA and PFOS	total % solids for mg/kg	Cyanide mg/kg	Mercury mg/kg	Mercury	Sample Specific Notes:
Green Valley WRF wet haul sludge 25000-1962													SL - sludge
1707197-01	7/27/17	0905	Grab	SL	2	N		2	1				mg/kg dry weight
1707198-01	7/27/17	0900	Grab	SL	2	N			1	1			mg/kg dry weight
Agua Nueva WRF thickened sludge pump 26107-0600													SL - sludge
1707200-01	7/27/17	1335	Grab	SL	1	N		1	1				mg/kg dry weight

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: LEJ 07-31-17 | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ | Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	7/27/1140	Michael Root	TA	7/31/17 1140
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY

WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1707197-01, 1707198-01, 1707200-01**	**DO**	**18-02835**
CONTRACT LAB	**TestAmerica PHX, Sac**	**SAMPLE GROUP**	**PFOA and friends**
ANALYSES	**PFOA, PFOS, TS, Cn**	**REPORT ID**	**550-87023-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for reported the reported methods?	Y
Check that DO matches COC in types and number of tests?	NA
DO received in Pima Core?	NA
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	NA
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	NA
Semivolatiles & Volatiles: Check that all analytes were delivered?	Y
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	Y
Was Belinda Gamboa-Felix notified of any exceedences?	NA
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	NA
Report states if zeolite treatment was utilized?	NA
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	NA
Chemistry data included?	NA
Reference Toxicant Test Results and Control Chart within limits?	NA

PMSD Determination included and within acceptable range? (minimum acceptable= 13)				NA
End Points include TUc, NOEC, LOEC, and IC25?				NA
Statistics verify endpoints				NA
Control Charts Updated to include month of analysis				NA
Reviewer Initials:	**SN**	**Review Date:**	**8-22-17**	

PEER/FINAL REVIEW:				PR	FR
LIMS/Excel data matches printed CL report?				✓	
Analysis dates are correct?				✓	
Correct Data Qualifiers included if necessary.				✓	
CRAO report shows result is from Contract Lab?				✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?				✓	
DO received in Pima Core			8-22-17 TB		
Analysis set to Reported?					✓
Peer Reviewer Initials:	TB	**Review Date:**	8-22-17		
Biomonitor Supervisor Initials:	N/A	**Review Date:**	N/A		
Final Reviewer Initials:	JEC	**Review Date:**	9.1.17		

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**
1707197-01	Analyzed by EPA 537 "modified." Prep method: "Shake."	NA
1707200-01	Analyzed by EPA 537 "modified." Prep method: "Shake."	NA

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-87023-1
TestAmerica Sample Delivery Group: Various
Client Project/Site: PFOA and friends

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Joseph Doranski

Authorized for release by:
8/21/2017 12:00:27 PM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Qualifiers

LCMS

Qualifier	Qualifier Description
S6	Surrogate recovery was below laboratory acceptance limits and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

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)

Case Narrative

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Job ID: 550-87023-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-87023-1

Comments
No additional comments.

Receipt
The samples were received on 7/31/2017 2:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

LCMS
Method(s) 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit for 13C2-PFTeDA: 1707197-01 (550-87023-1) and 1707200-01 (550-87023-3). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

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

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

Organic Prep
Method(s) SHAKE: Sample came in as a liquid, per the client's request, the sample was treated as a solid. Sample was weighed out at 5 g in the centrifuge tube.

1707200-01 (550-87023-3)

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

Sample Summary

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-87023-1	1707197-01	Solid	07/27/17 09:05	07/31/17 14:30
550-87023-2	1707198-01	Solid	07/27/17 09:00	07/31/17 14:30
550-87023-3	1707200-01	Solid	07/27/17 13:35	07/31/17 14:30

Detection Summary

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Client Sample ID: 1707197-01 — Lab Sample ID: 550-87023-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.010		0.0063	0.0023	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.0083		0.0063	0.0032	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.0031	E4	0.0063	0.0026	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.036		0.0063	0.0018	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.0057	E4	0.0063	0.0034	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.016		0.0063	0.0038	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.0081		0.0063	0.0037	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.041		0.0063	0.0040	mg/Kg	1	☼	537 (modified)	Total/NA
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.017	E4	0.063	0.012	mg/Kg	1	☼	537 (modified)	Total/NA
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.044	E4	0.063	0.041	mg/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: 1707198-01 — Lab Sample ID: 550-87023-2

No Detections.

Client Sample ID: 1707200-01 — Lab Sample ID: 550-87023-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorodecanoic acid (PFDA)	0.0080	E4	0.015	0.0044	mg/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.019		0.015	0.0090	mg/Kg	1	☼	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Client Sample ID: 1707197-01

Date Collected: 07/27/17 09:05
Date Received: 07/31/17 14:30

Lab Sample ID: 550-87023-1

Matrix: Solid
Percent Solids: 3.1

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	0.010		0.0063	0.0023	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluoroheptanoic acid (PFHpA)	ND	E8	0.0063	0.0028	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorooctanoic acid (PFOA)	0.0083		0.0063	0.0032	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorononanoic acid (PFNA)	0.0031	E4	0.0063	0.0026	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorodecanoic acid (PFDA)	0.036		0.0063	0.0018	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluoroundecanoic acid (PFUnA)	0.0057	E4	0.0063	0.0034	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorododecanoic acid (PFDoA)	0.016		0.0063	0.0038	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorotridecanoic Acid (PFTriA)	ND	E8	0.0063	0.0029	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorotetradecanoic acid (PFTeA)	ND	E8	0.0063	0.0018	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorobutanesulfonic acid (PFBS)	ND	E8	0.0063	0.0033	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorohexanesulfonic acid (PFHxS)	0.0081		0.0063	0.0037	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
Perfluorooctanesulfonic acid (PFOS)	0.041		0.0063	0.0040	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.017	E4	0.063	0.012	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.044	E4	0.063	0.041	mg/Kg	☼	08/04/17 13:43	08/10/17 09:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*52*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C4 PFOA	*68*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C5 PFNA	*80*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C2 PFDA	*73*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C2 PFUnA	*49*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C2 PFDoA	*22*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
18O2 PFHxS	*66*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C4 PFOS	*74*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C4-PFHpA	*65*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
d3-NMeFOSAA	*69*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
d5-NEtFOSAA	*62*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C3-PFBS	*46*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*
13C2-PFTeDA	*5*	*S6*	*25 - 150*	*08/04/17 13:43*	*08/10/17 09:14*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	96.9		0.1	0.1	%			08/01/17 08:37	1
Percent Solids	3.1		0.1	0.1	%			08/01/17 08:37	1

Client Sample ID: 1707198-01

Date Collected: 07/27/17 09:00
Date Received: 07/31/17 14:30

Lab Sample ID: 550-87023-2

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	96.7		0.1	0.1	%			08/01/17 08:37	1
Percent Solids	3.3		0.1	0.1	%			08/01/17 08:37	1

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Client Sample ID: 1707198-01

Date Collected: 07/27/17 09:00
Date Received: 07/31/17 14:30

Lab Sample ID: 550-87023-2
Matrix: Solid
Percent Solids: 3.3

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	12	4.6	mg/Kg	☼	08/02/17 11:30	08/03/17 12:35	1

Client Sample ID: 1707200-01

Date Collected: 07/27/17 13:35
Date Received: 07/31/17 14:30

Lab Sample ID: 550-87023-3
Matrix: Solid
Percent Solids: 1.3

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND	E8	0.015	0.0054	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluoroheptanoic acid (PFHpA)	ND	E8	0.015	0.0067	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorooctanoic acid (PFOA)	ND	E8	0.015	0.0078	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorononanoic acid (PFNA)	ND	E8	0.015	0.0064	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorodecanoic acid (PFDA)	**0.0080**	**E4**	0.015	0.0044	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluoroundecanoic acid (PFUnA)	ND	E8	0.015	0.0081	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorododecanoic acid (PFDoA)	ND	E8	0.015	0.0093	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorotridecanoic Acid (PFTriA)	ND	E8	0.015	0.0071	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorotetradecanoic acid (PFTeA)	ND	E8	0.015	0.0044	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorobutanesulfonic acid (PFBS)	ND	E8	0.015	0.0079	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorohexanesulfonic acid (PFHxS)	**0.019**		0.015	0.0090	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
Perfluorooctanesulfonic acid (PFOS)	ND	E8	0.015	0.0097	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	E8	0.15	0.030	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	E8	0.15	0.10	mg/Kg	☼	08/04/17 13:43	08/10/17 09:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*70*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C4 PFOA	*92*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C5 PFNA	*98*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C2 PFDA	*82*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C2 PFUnA	*66*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C2 PFDoA	*42*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
18O2 PFHxS	*89*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C4 PFOS	*80*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C4-PFHpA	*93*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
d3-NMeFOSAA	*76*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
d5-NEtFOSAA	*75*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C3-PFBS	*78*		*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*
13C2-PFTeDA	*18*	*S6*	*25 - 150*	*08/04/17 13:43*	*08/10/17 09:27*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**98.7**		0.1	0.1	%			08/10/17 15:41	1
Percent Solids	**1.3**		0.1	0.1	%			08/10/17 15:41	1

TestAmerica Phoenix

Isotope Dilution Summary

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Method: 537 (modified) - Perfluorinated Hydrocarbons

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		3C2 PFHx	3C4 PFO/	3C5 PFN/	3C2 PFD/	3C2 PFUn	3C2 PFDo	8O2 PFHx	3C4 PFOS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
550-87023-1	1707197-01	52	68	80	73	49	22	66	74
550-87023-3	1707200-01	70	92	98	82	66	42	89	80
LCS 320-177823/2-A	Lab Control Sample	88	95	89	85	77	61	91	85
MB 320-177823/1-A	Method Blank	89	104	93	90	82	61	93	88

		Percent Isotope Dilution Recovery (Acceptance Limits)				
		3C4-PFHp	-NMeFOS/	-NEtFOS/	3C3-PFBS	C2-PFTeD
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
550-87023-1	1707197-01	65	69	62	46	5 S6
550-87023-3	1707200-01	93	76	75	78	18 S6
LCS 320-177823/2-A	Lab Control Sample	99	70	70	83	32
MB 320-177823/1-A	Method Blank	108	72	74	87	25

Surrogate Legend

13C2 PFHxA = 13C2 PFHxA
13C4 PFOA = 13C4 PFOA
13C5 PFNA = 13C5 PFNA
13C2 PFDA = 13C2 PFDA
13C2 PFUnA = 13C2 PFUnA
13C2 PFDoA = 13C2 PFDoA
18O2 PFHxS = 18O2 PFHxS
13C4 PFOS = 13C4 PFOS
13C4-PFHpA = 13C4-PFHpA
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA
13C3-PFBS = 13C3-PFBS
13C2-PFTeDA = 13C2-PFTeDA

TestAmerica Phoenix

Method Summary

Client: Pima County WWTP
Project/Site: PFOA and friends

TestAmerica Job ID: 550-87023-1
SDG: Various

Method	Method Description	Protocol	Laboratory
537 (modified)	Perfluorinated Hydrocarbons	EPA	TAL SAC
2540G	SM 2540G	SM22	TAL PHX
9014	Cyanide	SW846	TAL PHX
D 2216	Percent Moisture	ASTM	TAL SAC

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
SM22 = SM22
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340
TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

87023

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

8/21/2017

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Joe Doranski	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6032	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Silva and Martinez
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6032 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☒ 2 weeks			Lab Sampling:
Project Name: PFOA and friends	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-02835	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 537 PFOA and PFOS	total % solids for mg/kg	Cyanide mg/kg	Mercury mg/kg	Mercury	Sample Specific Notes:
Green Valley WRF wet haul sludge 25000-1962													SL - sludge
-01 1707197-01	7/27/17	0905	Grab	SL	2	N		2	1				mg/kg dry weight
-02 1707198-01	7/27/17	0900	Grab	SL	2	N			1	1			mg/kg dry weight
Agua Nueva WRF thickened sludge pump 26107-0600													SL - sludge
-03 1707200-01	7/27/17	1335	Grab	SL	1	N		1	1				mg/kg dry weight

550-87023 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

LEJ 07-31-17

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd: 2.6 | Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	1140	Mike Root	LT	7/31/17 1140
Mike Root		7/31/17 1430			7/31/17
			Received in Laboratory by:		7/31/17 14:30

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

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TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Eshelman, Linda	Carrier Tracking No(s):	COC No: 550-18367.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: linda.eshelman@testamericainc.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-87023-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 8/7/2017			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: PFOA and friends	Project #: 55001656			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/Shake_Bath_14D PFAS, Method 537 List	Moisture/ Percent moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
1707197-01 (550-87023-1)	7/27/17	09:05 Arizona		Solid			X		1	
1707200-01 (550-87023-3)	7/27/17	13:35 Arizona		Solid			X	X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:	
Relinquished by: 08-21-17	Date/Time: 15:40	Company: TA PHX LAB	Received by: Brian Hussey		Date/Time: 8/21/17 1110	Company: TALS
Relinquished by	Date/Time	Company	Received by:		Date/Time	Company
Relinquished by	Date/Time:	Company	Received by:		Date/Time	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 1.4			

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8/21/2017

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-87023-1
SDG Number: Various

Login Number: 87023
List Number: 1
Creator: Gravlin, Andrea

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-87023-1
SDG Number: Various

Login Number: 87023
List Number: 2
Creator: Turpen, Troy

List Source: TestAmerica Sacramento
List Creation: 08/03/17 11:36 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	984136
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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?	False	Received project as a subcontract.
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	

PIMA COUNTY
WASTEWATER RECLAMATION

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION
DEPARTMENT COMPLIANCE AND REGULATORY AFFAIRS
OFFICE LABORATORY SERVICES
2955 W. Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200, Fax: (520) 724-6071

FINAL LABORATORY GROUP REPORTS

LIMS # 1707197-01
Parameters: PFOA / PFOS (Contract LaB)

QA/QC Review

Copy of CoC included with Lab Report.	Yes
Sample IDs verified against CoC.	Yes
Sample dates/times are correct	Yes
Analyses and methods verified against CoC.	Yes
Sample holding times not exceeded.	Yes
Correct Data Qualifiers included if necessary.	Yes
NA and N7 Qualifiers included for Amenable Cyanide Analysis?	n/a
Report Comments included if necessary.	Yes
Case Narratives are correctly formatted.	n/a
Are there exceedences/Not Analyzed/No Results?	No
If yes, is there a notification form attached?	n/a
Correct units? (mg/l or µg/l, mg/kg, SU@--°) Yes	Yes
If there are Contract Lab Results, Is there a Contract Lab Checksheet?	Yes
Sample Receipt Checklist?	Yes
Correct Methods?	Yes
MDLS/PQLS	Yes

QA/QC Review date and initials: 11/21/17 lej_____Final Review date and initials: JLP 12-20-17_____

Comments:

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1707148-01

PROJECT & LOCATION: Green Valley WRF - Wet Haul Sludge (Quarterly)

PROJECT-LOCATION NUMBER: 25000-1962 (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY) SAMPLE START TIME: _____ (Military time)

CLIENT: IWC

SAMPLE END DATE: 07-27-2017 (MM/DD/YY OR MM/DD/YYYY) SAMPLE END TIME: 0900 (Military time)

SAMPLER(S): Silva, Martinez (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ■ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other _____

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury .	×		■	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	×		■	☐
TCLP Metals			☐	☐
503 Metals **			■	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total contract	■	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	☐
Dioxin GC/SIM/MS Scan	■	☐
Organochlorine Pesticides & PCBs	■	☐
Purgeable Organics (GCMS)	■	☐
Semivolatile Organics (GCMS)	■	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total ½ contract	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ °C
☐ Temperature *SM 2550 B*	_____	°C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions: Cyanide and 1 of 2 T%S sent to Test America GOS 07-27-17 DO# 18-02835

Septum Blank Prep Date & Initials: 07-10-2017 lej

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date: 07-27-17	Time: (Military time) 1233
Relinquished by:	Received by:	Date: 7/31/17	Time: (Military time) 1140
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

of Bottles Delivered: 9 GOS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 7 °C

Initials: GOS

Q6 qualifier? ☒ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☒	☐
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2 Revised: 03/12/2015

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
INDUSTRIAL WASTEWATER CONTROL SECTION
SAMPLE COLLECTION FIELD NOTES

1707198-01

SAMPLE LOCATION: Green Valley WRF - Wet Haul Sludge

LOCATION ID: **25000-1962** SAMPLERS: Silva, Martinez, Riccaboni SAMPLE DATE: 7·27·17
Last names only, primary sampler first.

SAMPLE D or C	PARAMETER	START TIME	END TIME	FREQUENCY	Time Flow	Auto Man.	Volume Submitted	Bottle Type & Preservation
D	**Priority Pollutant Metals**			Grab 7·27·17 0900			1000 ml	**Dissolve Metals / Ice**
D	**503 Metals**							
D	**Cyanide, Total**						1000 ml	**Dissolved Metals / Ice**
D	**Dioxin Scan**						1000 ml	**Amber / Ice**
D	**Org. Pesticides**						1000 ml	**Amber / Ice**
D	**Semivolatile Organics**						1000 ml	**Amber / Ice**
D	**Solids, Total**						1000 ml	**General Purpose / Ice**
D	**Solids, Total**						1000 ml	**General Purpose / Ice**
D	**Acrolein and Acrylonitrile**						40 ml	**Septum vial / Ice**
D	**Acrolein and Acrylonitrile**						40 ml	**Septum vial / Ice**
D	**Acrolein and Acrylonitrile**						40 ml	**Septum vial / Ice**
D	**Acrolein and Acrylonitrile**						40 ml	**Septum vial / Ice**
D	**Purgeable Organics**						40 ml	**Septum vial / Ice**
D	**Purgeable Organics**						40 ml	**Septum vial / Ice**
D	**Purgeable Organics**						40 ml	**Septum vial / Ice**
D	**Purgeable Organics**						40 ml	**Septum vial / Ice**

pH METER CALIBRATION LOG

Time	Model #	Serial #	Auto/Man.	Buffer	Reading	Buffer	Reading	Temp.	Slope	Initials
			N/A							

FIELD MEASUREMENTS

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials
		N/A							

Notes: All Samples are Unpreserved

EQUIPMENT USED: ☐ **Grab Sampler** ☐ Automatic Sampler ☐ Electric Pump ☐ Other _____

Chain of Custody Record

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Joe Doranski	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6032	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Silva and Martinez
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6032 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☒ 2 weeks			Lab Sampling:
Project Name: PFOA and friends	☐ 1 week			
Site: Various	☐ 2 days			Job / SDG No.:
P O # 18-02835	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 537 PFOA and PFOS	total % solids for mg/kg	Cyanide mg/kg	Mercury mg/kg	Mercury	Sample Specific Notes:
Green Valley WRF wet haul sludge 25000-1962													SL - sludge
1707197-01	7/27/17	0905	Grab	SL	2	N		2	1				mg/kg dry weight
1707198-01	7/27/17	0900	Grab	SL	2	N			1	1			mg/kg dry weight
Agua Nueva WRF thickened sludge pump 26107-0600													SL - sludge
1707200-01	7/27/17	1335	Grab	SL	1	N		1	1				mg/kg dry weight

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

07-31-17

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: LEJ | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ | Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	1140	Michael Root	17	7/31/17 1140
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
					7/31/17
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION
DEPARTMENT COMPLIANCE AND REGULATORY AFFAIRS
OFFICE LABORATORY SERVICES
2955 W. Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200, Fax: (520) 724-6071

FINAL LABORATORY GROUP REPORTS

LIMS # 1707198-01
Parameters: Metals, , Ac/Ac, Dioxin Scan, Pesticides, Purgeables,Semi-Volatiles, Total Solids

QA/QC Review

Copy of CoC included with Lab Report.	Yes
Sample IDs verified against CoC.	Yes
Sample dates/times are correct	Yes
Analyses and methods verified against CoC.	Yes
Sample holding times not exceeded.	Yes
Correct Data Qualifiers included if necessary.	Yes
NA and N7 Qualifiers included for Amenable Cyanide Analysis?	n/a
Report Comments included if necessary.	Yes
Case Narratives are correctly formatted.	Yes
Are there exceedences/Not Analyzed/No Results?	No
If yes, is there a notification form attached?	n/a
Correct units? (mg/l or µg/l, mg/kg, SU@--°) Yes	Yes
If there are Contract Lab Results, Is there a Contract Lab Checksheet?	Yes
Sample Receipt Checklist?	Yes
Correct Methods?	Yes
MDLS/PQLS	Yes

QA/QC Review date and initials: 11/21/17 lej_____Final Review date and initials: JdD 12-20-17

Comments:

PIMA COUNTY WASTEWATER RECLAMATION
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
2955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 02/09/2018
Laboratory License: AZO159

Sample Analysis Report
Green Valley WRF
4th Quarter 2017

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier below. Please refer to the Chain of Custody for sample receipt details.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Pima County CRAO Laboratory Quality Manual.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

Notes and Definitions:
See attached

Case Narratives:
See attached

All results on this report intended for compliance submission must have the associated chain(s) of custody attached for the results to meet reporting requirements as per ADHS Laboratory licensure rules. If you have received this report for compliance purposes and it is not complete, please contact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By: Jenelle Graft

2·13·18
Date

Laboratory Director or Designee
Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
BNROD-South Aerobic Digester Sludge (25000-1960)											
1710034-01	D	% Solids	10/04/17 6:30	SM 2540G	10/5/17 13:20	**3.48**	%		0.01		CRM
1710034-01	D	% Solids, Total Volatile	10/04/17 6:30	SM 2540G	10/5/17 15:22	**84.1**	%		0.01		CRM
1711063-02	D	% Solids	11/08/17 7:00	SM 2540G	11/9/17 13:36	**3.93**	%		0.01		ESW
1711063-02	D	% Solids, Total Volatile	11/08/17 7:00	SM 2540G	11/9/17 16:03	**84.5**	%		0.01		ESW
1712046-05	D	% Solids	12/06/17 8:45	SM 2540G	12/7/17 13:25	**3.95**	%		0.01		JEL
1712046-05	D	% Solids, Total Volatile	12/06/17 8:45	SM 2540G	12/7/17 15:41	**83.5**	%		0.01		JEL
Wet Haul Sludge (25000-1962)											
1710141-01	D	Antimony	10/19/17 8:45	EPA 6010D	10/25/17 16:14	**ND**	mg/kg dry		8.05		MLB
1710141-01	D	Arsenic	10/19/17 8:45	EPA 6010D	10/25/17 16:14	**ND**	mg/kg dry		8.05		MLB
1710141-01	D	Beryllium	10/19/17 8:45	EPA 6010D	10/25/17 16:14	**ND**	mg/kg dry		1.61		MLB
1710141-01	D	Cadmium	10/19/17 8:45	EPA 6010D	10/25/17 16:14	**ND**	mg/kg dry		3.22		MLB
1710141-01	D	Chromium	10/19/17 8:45	EPA 6010D	10/25/17 16:14	**11.9**	mg/kg dry		8.05		MLB
1710141-01	D	Copper	10/19/17 8:45	EPA 6010D	10/25/17 16:14	**267**	mg/kg dry		8.05		MLB
1710141-01	D	Lead	10/19/17 8:45	EPA 6010D	10/25/17 16:14	**8.13**	mg/kg dry		8.05		MLB
1710141-01	D	Mercury	10/19/17 8:45	EPA 7471B	10/31/17 10:36	**0.69**	mg/kg dry		0.00271		DML
1710141-01	D	Molybdenum	10/19/17 8:45	EPA 6010D	10/25/17 16:14	**7.39**	mg/kg dry		3.22		MLB
1710141-01	D	Nickel	10/19/17 8:45	EPA 6010D	10/25/17 16:14	**9.68**	mg/kg dry		8.05		MLB
1710141-01	D	Selenium	10/19/17 8:45	EPA 6010D	10/25/17 16:14	**ND**	mg/kg dry		16.10		MLB
1710141-01	D	Silver	10/19/17 8:45	EPA 6010D	10/26/17 17:16	**2.03**	mg/kg dry		0.81		MLB
1710141-01	D	Thallium	10/19/17 8:45	EPA 6010D	10/27/17 16:12	**ND**	mg/kg dry		8.05		MLB
1710141-01	D	Zinc	10/19/17 8:45	EPA 6010D	10/25/17 16:14	**473**	mg/kg dry		8.05		MLB
1710141-01	D	% Solids	10/19/17 8:45	SM 2540G	10/20/17 13:34	**3.69**	%		0.01		DEB
1710141-01	D	Acrolein	10/19/17 8:45	EPA 624	10/24/17 16:15	**ND**	mg/kg dry	0.00360	0.00271		SRM
1710141-01	D	Acrylonitrile	10/19/17 8:45	EPA 624	10/24/17 16:15	**ND**	mg/kg dry	0.00280	0.00271		SRM
1710141-01	D	4,4-DDD	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00006	0.00074	D1, D7	KLH
1710141-01	D	4,4-DDE	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00003	0.00074	D1, D7	KLH
1710141-01	D	4,4-DDT	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00006	0.00074	D1, D7	KLH
1710141-01	D	Aldrin	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00006	0.00074	D1, D7	KLH
1710141-01	D	alpha-BHC	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00004	0.00074	D1, D7	KLH
1710141-01	D	beta-BHC	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00009	0.00074	D1, D7	KLH
1710141-01	D	Chlordane	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00025	0.01	D1, D7	KLH
1710141-01	D	delta-BHC	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00007	0.00074	D1, D7	KLH
1710141-01	D	Dieldrin	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00015	0.00148	D1, D7	KLH
1710141-01	D	Endosulfan I	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00004	0.00074	D1, D7	KLH
1710141-01	D	Endosulfan II	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00003	0.00074	D1, D7, L5	KLH
1710141-01	D	Endosulfan sulfate	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00004	0.00074	D1, D7	KLH
1710141-01	D	Endrin	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00010	0.00074	D1, D7	KLH
1710141-01	D	Endrin aldehyde	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00011	0.00074	D1, D7	KLH
1710141-01	D	gamma-BHC (Lindane)	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00007	0.00074	D1, D7	KLH
1710141-01	D	Heptachlor	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00005	0.00074	D1, D7	KLH
1710141-01	D	Heptachlor Epoxide	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00004	0.00074	D1, D7, N1	KLH
1710141-01	D	PCB 1016	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00006	0.00148	D1, D7	KLH
1710141-01	D	PCB 1221	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00017	0.00443	D1, D7	KLH
1710141-01	D	PCB 1232	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00007	0.00443	D1, D7	KLH
1710141-01	D	PCB 1242	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00013	0.00443	D1, D7	KLH
1710141-01	D	PCB 1248	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00010	0.00443	D1, D7	KLH
1710141-01	D	PCB 1254	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00019	0.00443	D1, D7	KLH
1710141-01	D	PCB 1260	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00007	0.00148	D1, D7	KLH
1710141-01	D	Total PCBs	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00016	0.00443	D1, D7	KLH
1710141-01	D	Toxaphene	10/19/17 8:45	EPA 625	11/7/17 17:04	**ND**	mg/kg dry	0.00094	0.01	D1, D7	KLH
1710141-01	D	Methoxychlor	10/19/17 8:45	EPA 8270C	11/7/17 17:04	**ND**	mg/kg dry		0.00074	D1, D7	KLH
1710141-01	D	1,1,1-Trichloroethane	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0002	0.00271	D1, D7	SRM
1710141-01	D	1,1,2,2-Tetrachloroethane	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.00006	0.00271	D1, D7	SRM
1710141-01	D	1,1,2-Trichloroethane	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.00009	0.00271	D1, D7	SRM
1710141-01	D	1,1-Dichloroethane	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0002	0.00271	D1, D7	SRM
1710141-01	D	1,1-Dichloroethene	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0001	0.00271	D1, D7	SRM

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Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1710141-01	D	1,2-Dichlorobenzene	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.00008	0.00271	D1, D7	SRM
1710141-01	D	1,2-Dichloroethane	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.00009	0.00271	D1, D7	SRM
1710141-01	D	1,2-Dichloropropane	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0001	0.00271	D1, D7	SRM
1710141-01	D	1,3-Dichlorobenzene	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.00008	0.00271	D1, D7	SRM
1710141-01	D	1,4-Dichlorobenzene	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0002	0.00271	D1, D7	SRM
1710141-01	D	2-Chloroethyl vinyl ether	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0003	0.01	D1, D7	SRM
1710141-01	D	Benzene	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0001	0.00271	D1, D7	SRM
1710141-01	D	Bromodichloromethane	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0002	0.00271	D1, D7	SRM
1710141-01	D	Bromoform	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0003	0.00271	D1, D7	SRM
1710141-01	D	Bromomethane	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0001	0.00271	D1, D7	SRM
1710141-01	D	Carbon Tetrachloride	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0004	0.00271	D1, D7	SRM
1710141-01	D	Chlorobenzene	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.00006	0.00271	D1, D7	SRM
1710141-01	D	Chloroethane	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0002	0.00271	D1, D7	SRM
1710141-01	D	Chloroform	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0001	0.00271	D1, D7	SRM
1710141-01	D	Chloromethane	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0002	0.00271	D1, D7	SRM
1710141-01	D	cis-1,3-Dichloropropene	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.00009	0.00271	D1, D7	SRM
1710141-01	D	Dibromochloromethane	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.00006	0.00271	D1, D7	SRM
1710141-01	D	Ethyl Benzene	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.00009	0.00271	D1, D7	SRM
1710141-01	D	Methylene Chloride	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0002	0.00271	D1, D7	SRM
1710141-01	D	Tetrachloroethene	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0002	0.00271	D1, D7	SRM
1710141-01	D	Toluene	10/19/17 8:45	EPA 624	10/22/17 17:02	**186.44**	mg/kg dry	0.0001	0.00271	D1, D7	SRM
1710141-01	D	Total Trihalomethanes	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0003	0.00271	D1, D7	SRM
1710141-01	D	trans-1,2-Dichloroethene	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0001	0.00271	D1, D7	SRM
1710141-01	D	trans-1,3-Dichloropropene	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0001	0.00271	D1, D7	SRM
1710141-01	D	Trichloroethene	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0001	0.00271	D1, D7	SRM
1710141-01	D	Trichlorofluoromethane	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0003	0.00271	D1, D7	SRM
1710141-01	D	Vinyl chloride	10/19/17 8:45	EPA 624	10/22/17 17:02	**ND**	mg/kg dry	0.0002	0.00271	D1, D7	SRM
1710141-01	D	1,2,4-Trichlorobenzene	10/19/17 8:45	EPA 8260	10/22/17 17:02	**ND**	mg/kg dry		0.00271	D1, D7	SRM
1710141-01	D	1,2-Dibromo-3-chloropropane	10/19/17 8:45	EPA 8260	10/22/17 17:02	**ND**	mg/kg dry		0.01	D1, D7	SRM
1710141-01	D	1,2-Dibromoethane	10/19/17 8:45	EPA 8260	10/22/17 17:02	**ND**	mg/kg dry		0.00271	D1, D7	SRM
1710141-01	D	cis-1,2-Dichloroethene	10/19/17 8:45	EPA 8260	10/22/17 17:02	**ND**	mg/kg dry		0.00271	D1, D7	SRM
1710141-01	D	m,p-Xylenes	10/19/17 8:45	EPA 8260	10/22/17 17:02	**ND**	mg/kg dry		0.01	D1, D7	SRM
1710141-01	D	o-Xylene	10/19/17 8:45	EPA 8260	10/22/17 17:02	**ND**	mg/kg dry		0.00271	D1, D7	SRM
1710141-01	D	Styrene	10/19/17 8:45	EPA 8260	10/22/17 17:02	**ND**	mg/kg dry		0.00271	D1, D7	SRM
1710141-01	D	Xylenes, total	10/19/17 8:45	EPA 8260	10/22/17 17:02	**ND**	mg/kg dry		0.01	D1, D7	SRM
1710141-01	D	2,3,7,8-TCDD - Dioxin Scan	10/19/17 8:45	EPA 625	11/3/17 13:35	**ND**	ug/kg dry		0.68		SJM
1710141-01	D	1,2,4-Trichlorobenzene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	2,3-Dichloroaniline	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710141-01	D	2,4,6-Trichlorophenol	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710141-01	D	2,4-Dichlorophenol	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	2,4-Dimethylphenol	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1710141-01	D	2,4-Dinitrophenol	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.009	0.01	D1, D7	SJM
1710141-01	D	2,4-Dinitrotoluene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710141-01	D	2,6-Dinitrotoluene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710141-01	D	2-Chloronaphthalene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710141-01	D	2-Chlorophenol	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710141-01	D	2-Methyl-4,6-dinitrophenol	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1710141-01	D	2-Methylphenol	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710141-01	D	2-Nitrophenol	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710141-01	D	3,3-Dichlorobenzidine	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710141-01	D	4-Bromophenyl phenyl ether	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710141-01	D	4-Chloro-3-methylphenol	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710141-01	D	4-Chlorophenyl phenyl ether	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710141-01	D	4-Methylphenol	10/19/17 8:45	EPA 625	11/1/17 20:25	**686.0**	mg/kg dry	0.002	0.00200	D1, D2, D7	SJM
1710141-01	D	4-Nitrophenol	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.005	0.01	D1, D7	SJM
1710141-01	D	Acenaphthene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	Acenaphthylene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	Anthracene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	Benzidine	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.007	0.01	D1, D7	SJM
1710141-01	D	Benzo[a]anthracene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM

Laboratory License # AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1710141-01	D	Benzo[a]pyrene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	Benzo[b]fluoranthene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	Benzo[ghi]perylene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710141-01	D	Benzo[k]fluoranthene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710141-01	D	bis(2-chloroethoxy)methane	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	bis(2-chloroethyl)ether	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710141-01	D	bis(2-chloroisopropyl)ether	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	bis(2-ethylhexyl)phthalate	10/19/17 8:45	EPA 625	11/1/17 21:47	**5.02**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710141-01	D	Butylbenzylphthalate	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	Carbazole	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710141-01	D	Chrysene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710141-01	D	Dibenzo(a,h)anthracene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710141-01	D	Diethyl phthalate	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710141-01	D	Dimethyl phthalate	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.0006	0.00200	D1, D7, PC3	SJM
1710141-01	D	Di-n-butyl phthalate	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710141-01	D	Di-n-octyl phthalate	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710141-01	D	Fluoranthene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710141-01	D	Fluorene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	Hexachlorobenzene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.0006	0.00200	D1, D7	SJM
1710141-01	D	Hexachlorobutadiene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710141-01	D	Hexachlorocyclopentadiene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1710141-01	D	Hexachloroethane	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710141-01	D	Indeno(1,2,3-cd)pyrene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710141-01	D	Isophorone	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	Naphthalene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	n-Decane	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	Nitrobenzene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710141-01	D	N-Nitrosodimethylamine	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710141-01	D	N-Nitrosodi-n-propylamine	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710141-01	D	N-Nitrosodiphenylamine	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.006	0.01	D1, D7	SJM
1710141-01	D	n-Octadecane	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.01	D1, D7	SJM
1710141-01	D	Pentachlorophenol	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.004	0.01	D1, D7	SJM
1710141-01	D	Phenanthrene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.002	0.00200	D1, D7	SJM
1710141-01	D	Phenol	10/19/17 8:45	EPA 625	11/1/17 21:47	**13.43**	mg/kg dry	0.003	0.01	D1, D7	SJM
1710141-01	D	Pyrene	10/19/17 8:45	EPA 625	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710141-01	D	1,2-Diphenylhydrazine	10/19/17 8:45	EPA 8270C	11/1/17 21:47	**ND**	mg/kg dry	0.001	0.00200	D1, D7	SJM
1710141-01	D	Cyanide, Total	10/19/17 8:45	9014	11/2/17 16:54	**ND**	mg/Kg dry	4.4	11	E8	NEL *

* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.

1710141-01	D	Percent Solids	10/19/17 8:45	2540G	10/23/17 10:42	**3.5**	%	0.1	0.1		YET *

* Analysis Performed by:TestAmerica Phoenix - See attached contract lab report for official results.

Qualifier Definitions

D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of target analyte.
D7	Minimum Reporting Limit adjusted to reflect sample dilution.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
L5	The associated blank spike recovery was above laboratory/method acceptance limits. This analyte was not detected in the sample.
N1	See case narrative.
PC3	Semi-quantitation is included in the case narrative.

General Notes and Definitions

J	Equivalent to E4 Qualifier - Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
ND	Analyte NOT DETECTED at or above reporting limit (MDL). Equivalent to E8 Qualifier - Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
C	Sample Type - Composite
CD	Sample Type - Composite Duplicate
D	Sample Type - Discrete
DD	Sample Type - Discrete Duplicate
NR	Not Reported
DET	Analyte DETECTED
DRY	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
Analysis Date	Analysis Date represents the final reading date.
Field Results	Field Results performed by "SMPLR" (Sampler), are not subject to approval of Laboratory Director.
Solids, Total Volatile	Used for process control samples only.
RE	Re-Analysis has been performed.
FD	Field Duplicate
FB	Field Blank

Case Narrative(s)

1710141-01
EPA Method 625/8270 Pesticides: Target analytes flagged with N1 for this method failed the matrix spike RPD from the same extraction batch but the spike was performed on a different sample. KLH 11/09/17

Semi-Quantitation
Method: 625
1710141-01

Compound Name	Concentration-mg/Kg
Benzeneacetic Acid	143
Palmitic Acid	9649
Oleic Acid	8726
Stearic Acid	2690

SJM 11/27/17

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

COPY

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1710034-01

PROJECT & LOCATION: GREEN VALLEY WRF-BNROD SOUTH AEROBIC DIGESTED SLUDGE

PROJECT-LOCATION NUMBER: 25000-1960 (XXXXX-XXXX)

SAMPLE START DATE: _____ SAMPLE START TIME: _____ (Military time) CLIENT: Sub-Regional Facilities

SAMPLE END DATE: 10/04/17 (MM/DD/YY OR MM/DD/YYYY) SAMPLE END TIME: 0630 (Military time) SAMPLER(S): Carrillo (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ☐ 503 ■ Process Control ☐ Other _____

Matrix: ☐ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ■ Wastewater ☐ Air ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	☐	☐	☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	■	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ °C
☐ Temperature *SM 2550 B*	_____	°C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions:

Septum Blank Prep Date & Initials:

Chain of Custody Record (Signatures Only)

Relinquished by	Received by	Date	Time (Military time)
Refrigerator	Refrigerator	10/04/17	0640
Refrigerator	[signature]	10/4/17	0955
[signature]	[signature]	10-04-17	1143

Sample Integrity/Preservation:

# of Bottles Delivered: 1 Cos

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 2 °C

Initials: COJ

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2 Revised: 03/12/2015

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

COPY

WORK ORDER & SAMPLE(S): 1711063-02

PROJECT & LOCATION: GREEN VALLEY WRF-BNROD SOUTH AEROBIC DIGESTED SLUDGE

PROJECT-LOCATION NUMBER: 25000-1960 (XXXXX-XXXX)

SAMPLE START DATE: (MM/DD/YY OR MM/DD/YYYY) SAMPLE START TIME: (Military time)

CLIENT: Sub-Regional Facilities

SAMPLE END DATE: 11-08-17 (MM/DD/YY OR MM/DD/YYYY) 840 pm M 11-08-17 SAMPLE END TIME: 0700 (Military time)

SAMPLER(S): Carrillo (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ☐ 503 ☐ AZPDES ☐ Reuse ■ Process Control ☐ IWC ☐ Air ☐ Other

Matrix: ☐ Biosolids ☐ Soil ■ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	☐	☐	☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other	☐	☐
Other	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	■	☐
Solids, Volatile Suspended	☐	☐
Other	☐	☐

OTHER	D	C
Paint Filter	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions:

Septum Blank Prep Date & Initials:

Sample Integrity/Preservation:

# of Bottles Delivered: 1

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 2 °C

Initials: GOS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

Chain of Custody Record (Signatures Only)

Relinquished by:	Received by:	Date:	Time: (Military time)
Refrigerator	Refrigerator	11/08/17	0705
Refrigerator	[signature]	11/8/17	0936
[signature]	[signature]	11-8-17	1136

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2 Revised: 03/12/2015

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

COPY

WORK ORDER & SAMPLE(S): 1712046-05

PROJECT & LOCATION: GREEN VALLEY WRF-BNROD SOUTH AEROBIC DIGESTED SLUDGE

PROJECT-LOCATION NUMBER: 25000-1960 (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY) SAMPLE START TIME: _____ (Military time)

CLIENT: Sub-Regional Facilities

SAMPLE END DATE: 12/06/2017 (MM/DD/YY OR MM/DD/YYYY) SAMPLE END TIME: 0845 (Military time)

SAMPLER(S): GARRISON (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ AZPDES ☐ IWC ☐ Investigative ☐ Reuse ☐ Air ☐ 503 ■ Process Control ☐ Other _____

Matrix: ☐ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water ■ Wastewater ☐ Air ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	☐	☐	☐	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	☐	☐	☐	☐
TCLP Metals			☐	☐
503 Metals **			☐	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total	☐	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	☐	☐
Dioxin GC/SIM/MS Scan	☐	☐
Organochlorine Pesticides & PCBs	☐	☐
Purgeable Organics (GCMS)	☐	☐
Semivolatile Organics (GCMS)	☐	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	■	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*	_____	µg/L
☐ Specific Conductance *SM 2510 B*	_____	µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*	_____	mg/L
☐ pH @ pH Temp *SM 4500-H B*	_____ @	pH Units @ °C
☐ Temperature *SM 2550 B*	_____	°C
☐ Total Depth of Well	_____	feet
☐ Depth to Water	_____	feet
☐ Other _____	_____	_____

Comments/Instructions: _____

Septum Blank Prep Date & Initials: _____ _____

Chain of Custody Record (Signatures Only)

Relinquished by:	Received by:	Date:	Time: (Military time)
Refrigerator	Refrigerator	12/6/17	0853
Refrigerator	[signature]	12/6/17	0950
[signature]	[signature]	12-06-17	1122
[signature]			

Sample Integrity/Preservation:

# of Bottles Delivered: 1 (603)

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 3 °C

Initials: GOS

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	☒	☐

* *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)*
** *As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn*

COC-Single Revision 2 Revised: 03/12/2015

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

COPY

WORK ORDER & SAMPLE(S): 1710141-01

PROJECT & LOCATION: Green Valley WRF - Wet Haul Sludge (Quarterly)

PROJECT-LOCATION NUMBER: 25000-1962 (XXXXX-XXXX)

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY) SAMPLE START TIME: _____ (Military time)

CLIENT: IWC

SAMPLE END DATE: 10·19·2017 (MM/DD/YY OR MM/DD/YYYY) SAMPLE END TIME: 0845 (Military time)

SAMPLER(S): Silva, Tomchak (Print Last Name(s) Only)

Permit Type: ☐ APP ☐ Investigative ■ 503 ■ AZPDES ☐ Reuse ☐ Process Control ☐ IWC ☐ Air ☐ Other _____

Matrix: ■ Biosolids ☐ Soil ☐ Wastewater ☐ Groundwater ☐ Stormwater ☐ Air ☐ Industrial ☐ Surface Water ☐ Other _____

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Barium	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Boron	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Calcium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Cobalt	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Hardness	☐	☐	☐	☐
Iron	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Magnesium	☐	☐	☐	☐
Manganese	☐	☐	☐	☐
Mercury	x		■	☐
Mercury LL	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Potassium	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Sodium	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Tin	☐	☐	☐	☐

METALS	Tot	Diss	D	C
Titanium	☐	☐	☐	☐
Vanadium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
PPMs *	x		■	☐
TCLP Metals			☐	☐
503 Metals **			■	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total Contract	■	☐
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitability	☐	☐
Nitrate as N	☐	☐
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	☐	☐
Other _____	☐	☐
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	■	☐
Dioxin GC/SIM/MS Scan	■	☐
Organochlorine Pesticides & PCBs	■	☐
Purgeable Organics (GCMS)	■	☐
Semivolatile Organics (GCMS)	■	☐
Bis(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other _____	☐	☐
Other _____	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Chronic *Selenastrum capricornutum*	☐	☐
Other _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E. coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total 1/2 Contract	■	☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other _____	☐	☐

OTHER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
☐ Chlorine *Hach 10014*		µg/L
☐ Specific Conductance *SM 2510 B*		µmhos/cm
☐ Oxygen, Dissolved *SM 4500-O G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Units @ °C
☐ Temperature *SM 2550 B*		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other _____		

Comments/Instructions: Cyanide and TS sent to Test America. JLO 10-19-17 DO#18-011692

Septum Blank Prep Date & Initials: 10·3·2017 lcj

Chain of Custody Record (Signatures Only)

Relinquished by/Sample:	Received by:	Date:	Time: (Military time)
Joseph Dawn	Joseph Dawn	10/19/17	1251
Joseph Dawn	Michael Rost	10/20/17	1223

Sample Integrity/Preservation:

# of Bottles Delivered: 9

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: 2.6 °C

Initials: JLO

Q6 qualifier? ☐ YES ☒ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☒	☐	☐
Sample labels match Chain of Custody?	☒	☐	☐
Correct number of sample bottles were delivered?	☒	☐	☐
Custody seals intact?	☐	☐	☒
Within holding time?	☒	☐	☐
Sufficient sample volume for analysis?	☒	☐	☐
Samples are in properly preserved containers?	☒	☐	☐
Sample containers damaged/leaking/frozen?	☐	☒	☐
40 ml vials headspace, > pea-sized air bubble?	☒	☐	☐
Received from a refrigerator?	☐	☒	☐

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

COC-Single Revision 2 10/30/17 me

Revised: 03/12/2015

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1710141-01

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
INDUSTRIAL WASTEWATER CONTROL SECTION
SAMPLE COLLECTION FIELD NOTES

SAMPLE LOCATION: Green Valley WRF - Wet Haul Sludge

LOCATION ID: 25000-1962 SAMPLERS: Silva, Tomchak SAMPLE DATE: 10-19-17

Last names only, primary sampler first.

SAMPLE D or C	PARAMETER	START TIME	END TIME	FREQUENCY	Time Flow	Auto Man.	Volume Submitted	Bottle Type & Preservation
D	Priority Pollutant Metals	10-19-17	0845	Grab			1000 ml	Dissolve Metals / Ice
D	503 Metals							
D	Cyanide, Total						1000 ml	Dissolved Metals / Ice
D	Dioxin Scan						1000 ml	Amber / Ice
D	Org. Pesticides						1000 ml	Amber / Ice
D	Semivolatile Organics						1000 ml	Amber / Ice
D	Solids, Total						1000 ml	General Purpose / Ice
D	Solids, Total						1000 ml	General Purpose / Ice
D	Acrolein and Acrylonitrile						40 ml	Septum vial / Ice
D	Acrolein and Acrylonitrile						40 ml	Septum vial / Ice
D	Acrolein and Acrylonitrile						40 ml	Septum vial / Ice
D	Acrolein and Acrylonitrile						40 ml	Septum vial / Ice
D	Purgeable Organics						40 ml	Septum vial / Ice
D	Purgeable Organics						40 ml	Septum vial / Ice
D	Purgeable Organics						40 ml	Septum vial / Ice
D	Purgeable Organics						40 ml	Septum vial / Ice

pH METER CALIBRATION LOG

Time	Model #	Serial #	Auto/Man.	Buffer	Reading	Buffer	Reading	Temp.	Slope	Initials
		N/A								

FIELD MEASUREMENTS

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials
	N/A								

Notes: All Samples are Unpreserved

EQUIPMENT USED: ☐ Grab Sampler ☐ Automatic Sampler ☐ Electric Pump ☐ Other _____

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

COPY

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Joe Doranski	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6032	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐CALENDAR DAYS ☐WORKING DAYS			For Lab Use Only:
(520) 724-6032 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☑ 2 weeks			Lab Sampling:
Project Name: GV and AV sludge	☐ 1 week			
Site: various	☐ 2 days			Job / SDG No.:
P O # 18-011692	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total cyanide mg/kg dry	total % solids	Sample Specific Notes:
Green Valley WRF wet haul sludge 25000-1962										SL -sludge
1710141-01	10/19/17	0845	Grab	SL	2	N		1	1	mg/kg dry
Avra Valley WRF wet haul sludge 25003-1573										
1710139-01	10/19/17	1140	Grab	SL	2	N		1	1	mg/kg dry

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	10-20-17/1223	Michael Root 1223	TA 10/20/17	10-20-17/1223
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

COPY

PIMA COUNTY

WASTEWATER RECLAMATION

COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Calle Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1710139-01, 1710141-01**	**DO**	**18-011692**
CONTRACT LAB	**TestAmerica PHX**	**SAMPLE GROUP**	**GV and AV Sludge**
ANALYSES	**Total cyanide sludge, % total solids**	**REPORT ID**	**550-91887-1**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Splimsapp\elementshare\TransferIn ?	Y
Was the above mentioned file converted from a .xls file to a .mdb file for each WO#, and further, for each subcontract location, or separate analysis (as applicable), on the contract lab report? (Element>Project Management>Reports)	Y
Was the converted file attached to the sample in LIMS?	Y
VALIDATING CONTRACT LAB REPORT , CHAIN OF CUSTODY(S), AND DO#:	
Contract Lab Report signed and dated?	Y
Copy of contract lab COC included with contract Lab Report?	Y
Contract lab COC verified with CRAO COC(s) for Sample ID, Sample Date, Analysis Requested?	Y
Sample dates and received dates on the CL report, match the CL COC?	Y
CL report includes all requested analysis?	Y
CL licensed in AZ for the reported methods?	Y
Check that DO matches COC in types and number of tests?	N/A
DO received in Pima Core?	Y
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
CL report and CL spreadsheet report the same sample results, sample date, and analysis date?	Y
Was a Case Narrative Included in Contract Lab report?	Y
Data packet includes QC Report from primary lab and any secondary subcontract labs?	Y
Did CL report list applicable AZ Data Qualifiers?	Y
Were there any dilutions made to samples that were reported as ND?	N
If so, were they qualified due to matrix interference?	N/A
Was QC included for every analysis method: typically Blk, LCS, MS, MSD?	Y
Did QC pass stated acceptance limits, or was it qualified?	Y
Were samples analyzed within required holding times?	Y
Check that MDLs are below water quality standards, If not notify Belinda Gamboa-Felix? (Cyanide, Hexachlorobenzene)	N/A
Semivolatiles & Volatiles: Check that all analytes were delivered?	N/A
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	N/A
Was Belinda Gamboa-Felix notified of any exceedences?	N/A
WET TESTING SPECIFIC REQUIREMENTS	
Statement of Pass/Fail reflected in End Points?	N/A
Report states if zeolite treatment was utilized?	N/A
Survival and Reproduction or Growth Data included (P. promelas or Ceriodaphnia only)?	N/A
Chemistry data included?	N/A
Reference Toxicant Test Results and Control Chart within limits?	N/A

PMSD Determination included and within acceptable range? (minimum acceptable= 13)				N/A
End Points include TUc, NOEC, LOEC, and IC25?				N/A
Statistics verify endpoints				N/A
Control Charts Updated to include month of analysis				N/A
Reviewer Initials:	**JD**	**Review Date:**	**12-01-17**	

PEER/FINAL REVIEW:				PR	FR
LIMS/Excel data matches printed CL report?				✓	
Analysis dates are correct?				✓	
Correct Data Qualifiers included if necessary.				✓	
CRAO report shows result is from Contract Lab?				✓	
CRAO report shows correct Contract Lab (e.g. Test America, Phoenix)?				✓	
DO received in Pima Core				✓	
Analysis set to Reported?					✓
Peer Reviewer Initials:	JD	**Review Date:**	12-01-17		
Biomonitor Supervisor Initials:	N/A	**Review Date:**			
Final Reviewer Initials:	JEC	**Review Date:**	12.4.17		

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QA/QC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	**DEVIATION:**	**CORRECTIVE ACTION:**

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COC.
Missing Data Qualifiers.
Incorrect Analysis Method.
Incorrect Sample IDs.
Other.

CORRECTIVE ACTION:

Request report correction from Subcontract Lab project manager.
Add missing Data Qualifiers.
Notify data end-user of deviation.
Arrange for resampling.
Other.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-91887-1
TestAmerica Sample Delivery Group: Various
Client Project/Site: GV and AV sludge

For:
Pima County WWTP
PO BOX 791
Tucson, Arizona 85701

Attn: Joseph Doranski

Authorized for release by:
11/9/2017 9:50:33 AM

Linda Eshelman, Project Manager II
(602)659-7629
linda.eshelman@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Definitions/Glossary

Client: Pima County WWTP
Project/Site: GV and AV sludge

TestAmerica Job ID: 550-91887-1
SDG: Various

Qualifiers

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

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)

TestAmerica Phoenix

Case Narrative

Client: Pima County WWTP
Project/Site: GV and AV sludge

TestAmerica Job ID: 550-91887-1
SDG: Various

Job ID: 550-91887-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-91887-1

Comments
No additional comments.

Receipt
The samples were received on 10/20/2017 3:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

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

Sample Summary

Client: Pima County WWTP
Project/Site: GV and AV sludge

TestAmerica Job ID: 550-91887-1
SDG: Various

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-91887-1	1710141-01	Waste	10/19/17 08:45	10/20/17 15:30
550-91887-2	1710139-01	Waste	10/19/17 11:40	10/20/17 15:30

5

TestAmerica Phoenix

Detection Summary

Client: Pima County WWTP
Project/Site: GV and AV sludge

TestAmerica Job ID: 550-91887-1
SDG: Various

Client Sample ID: 1710141-01 **Lab Sample ID: 550-91887-1**

No Detections.

Client Sample ID: 1710139-01 **Lab Sample ID: 550-91887-2**

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Phoenix

Client Sample Results

Client: Pima County WWTP
Project/Site: GV and AV sludge

TestAmerica Job ID: 550-91887-1
SDG: Various

Client Sample ID: 1710141-01 — **Lab Sample ID: 550-91887-1**
Date Collected: 10/19/17 08:45 — **Matrix: Waste**
Date Received: 10/20/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	3.5		0.1	0.1	%			10/23/17 10:42	1

Client Sample ID: 1710141-01 — **Lab Sample ID: 550-91887-1**
Date Collected: 10/19/17 08:45 — **Matrix: Waste**
Date Received: 10/20/17 15:30 — **Percent Solids: 3.5**

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	11	4.4	mg/Kg	☼	10/27/17 17:32	11/02/17 16:54	1

Client Sample ID: 1710139-01 — **Lab Sample ID: 550-91887-2**
Date Collected: 10/19/17 11:40 — **Matrix: Waste**
Date Received: 10/20/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	1.6		0.1	0.1	%			10/23/17 10:42	1

Client Sample ID: 1710139-01 — **Lab Sample ID: 550-91887-2**
Date Collected: 10/19/17 11:40 — **Matrix: Waste**
Date Received: 10/20/17 15:30 — **Percent Solids: 1.6**

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	24	9.3	mg/Kg	☼	10/27/17 17:32	11/02/17 16:54	1

TestAmerica Phoenix

Method Summary

Client: Pima County WWTP
Project/Site: GV and AV sludge

TestAmerica Job ID: 550-91887-1
SDG: Various

Method	Method Description	Protocol	Laboratory
2540G	SM 2540G	SM22	TAL PHX
9014	Cyanide	SW846	TAL PHX

Protocol References:

SM22 = SM22

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

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax

Chain of Custody Record

91887

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

11/9/2017

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Joe Doranski	Site Contact:	Date:	COC No:
Pima County CRAO Lab	Tel/Fax: 520-724-6032	Lab Contact:	Carrier:	1 of 1 COCs
2955 W. Calle Agua Nueva	Analysis Turnaround Time			Sampler: Mike Silva
Tucson/AZ/85745	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(520) 724-6032 Phone	TAT if different from Below _____			Walk-in Client:
(520) 724-6071 FAX	☑ 2 weeks			Lab Sampling:
Project Name: GV and AV sludge	☐ 1 week			
Site: various	☐ 2 days			Job / SDG No.:
P O # 18-011692	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total cyanide mg/kg dry	total % solids	Sample Specific Notes:
Green Valley WRF wet haul sludge 25000-1962										SL -sludge
1710141-01	10/19/17	0845	Grab	SL	2	N		1	1	mg/kg dry -01
Avra Valley WRF wet haul sludge 25003-1573										
1710139-01	10/19/17	1140	Grab	SL	2	N		1	1	mg/kg dry -02

550-91887 Chain of Custody

Preservative Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☑Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for _____ Months

Special Instructions/QC Requirements & Comments:

1.1°C PL

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Greg Spence for samplers	PC CRAO Lab	10-20-17/1223	Mike Root 1223	TA 10/20/17	10-20-17/1223
Mike Root 1530	TA 10/20/17				
			Received in Laboratory by:	Company:	Date/Time: 10-20-17 1530

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

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Login Sample Receipt Checklist

Client: Pima County WWTP

Job Number: 550-91887-1
SDG Number: Various

Login Number: 91887
List Number: 1
Creator: Doerr, Bret C

List Source: TestAmerica Phoenix

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

End of Volume 2 of 2

ANNUAL BIOSOLIDS REPORT 2017

PIMA COUNTY
REGIONAL WASTEWATER RECLAMATION DEPARTMENT
PIMA COUNTY, ARIZONA