PIMA COUNTY

ANNUAL BIOSOLIDS REPORT

Sustainable Resource
BIOSOLIDS

Volume 2 of 2

REGIONAL WATER
RECLAMATION DEPARTMENT

TREATMENT DIVISION

PIMA COUNTY
TUCSON, ARIZONA

PIMA COUNTY
WASTEWATER RECLAMATION

CALENDAR YEAR 2019

PAGE LEFT BLANK INTENTIONALLY

ANNUAL BIOSOLIDS REPORT 2019

REGIONAL WATER
RECLAMATION DEPARTMENT

TREATMENT DIVISION

PIMA COUNTY
TUCSON, ARIZONA

PIMA COUNTY
WASTEWATER RECLAMATION

SECTION 5

AGUA NUEVA WRF
AZPDES NO. AZ0026107

2019 PREPARER FORM

AND

SAMPLING AND ANALYSES
PRIORITY POLLUTANTS
TCLP
HAZARDOUSNESS

ANNUAL BIOSOLIDS REPORT 2019

PAGE LEFT BLANK INTENTIONALLY

ANNUAL BIOSOLIDS REPORT 2019

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:1/1/2019	**Reporting End Date: 12/31/2019**
Date:2/18/2020	**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
	5,266	**4,396**		

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: Jeff P. Prevatt; Deputy Director - Treatment	Date: February 18, 2020

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	**524** **Five Hundred and Twenty Four**	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	**145** **One Hundred and Forty Five**	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 thickened Waste Activated Sludge to Tres Rios WRF**
Management Practice Type:	**Pima County Agua Nueva WRF raw primary sludge is discharged into Pima County Wastewater Collection System.** **Pima County Agua Nueva WRF pumps its thickened Waste Activated Sludge to Pima County Tres Rios WRF via a dedicated sludge pipeline.**
Handler or Preparer Type:	**Pima County Tres Rios WRF is a POTW**

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 thickened Waste Activated Sludge to Tres Rios WRF**	
Management Practice Detail:	**Pima County Agua Nueva WRF raw primary sludge becomes part of the influent to Pima County Tres Rios WRF.** **The Waste Activated Sludge from Pima County Agua Nueva WRF is combined with Tres Rios WRF's Waste Activated Sludge; it is thickened in Gravity Belt Thickeners, prior to digestion and dewatering into Class B Biosolids.**	
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)	10.1 / 11.8 / 7.4	Mean / Maximum / Minimum
Beryllium	Choose an item.	2.0 / 2.4 / 1.5	Mean / Maximum / Minimum
Cadmium	EPA Method 6010 - Cadmium (ICP-OES)	4.0 / 4.7 / 2.9	Mean / Maximum / Minimum
Chromium	EPA Method 6010 - Chromium (ICP-OES)	10.1 / 11.8 / 7.4	Mean / Maximum / Minimum

Parameter	*Method Number or Author*	*Results (if tested)*	*Comments (required if other)*
Copper	EPA Method 6010 - Copper (ICP-OES)	84.5 / 124 / 55.7	Mean / Maximum / Minimum
Lead	EPA Method 6010 - Lead (ICP-OES)	< 10.1/ < 11.8/ < 7.4	Mean / Maximum / Minimum
Mercury	EPA Method 7471 - Mercury (CVAA)	< 0.55 / 0.85 / < 0.31	Mean / Maximum / Minimum
Molybdenum	EPA Method 6010 - Molybdenum (ICP-OES)	< 4.2 / 5.1 / < 2.9	Mean / Maximum / Minimum
Nickel	EPA Method 6010 - Nickel (ICP-OES)	< 10.1 / < 11.8 / < 7.4	Mean / Maximum / Minimum
Selenium	EPA Method 6010 - Selenium (ICP-OES)	< 20.1 / < 23.6 / < 14.7	Mean / Maximum / Minimum
Thallium	EPA Method 6010 - Thallium (ICP-OES)	< 10.1 / 1< 1.8 / < 7.4	Mean / Maximum / Minimum
Zinc	EPA Method 6010 - Zinc (ICP-OES)	216 / 326 / 159	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	7.2 / 7.6 / 6.5	Not Applicable
Specific Oxygen Uptake Rate	Not Applicable	Not Applicable	Not Applicable
TCLP, mg/L	Other TCLP Analytical Method, TCLP EPA 6010D	Arsenic < 0.03 Barium 0.14 Cadmium < 0.01 Chromium < 0.03 Lead < 0.03 Mercury NA Selenium < 0.1 Silver < 0.003	Sample Analysis Laboratory Reports Included in Section 5 of this Report All results are significantly lower than RCRA TCLP limits, mg/L Arsenic 5 Barium 100 Cadmium 1 Chromium 5 Lead 5 Mercury 0.2 Selenium 1 Silver 5

BIOSOLIDS SEWAGE SLUDGE ANNUAL REPORT

Parameter	*Method Number or Author*	*Results (if tested)*	*Comments (required if other)*
Temperature	Not applicable	Not applicable	Not applicable
Total Solids	Standard Method 2540 - Total Solids	DAF primary Sludge, % Solids Content **1.23 / 2.43 / 0.76** Waste Activated Sludge, % Solids Content **0.69 / 1.01 / 0.32**	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**		

PAGE LEFT BLANK INTENTIONALLY

ANNUAL BIOSOLIDS REPORT 2019

PIMA COUNTY
w>.mwATERRECLAMATION
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: 05/15/2019
Laboratory License: AZO159

Sample Analysis Report

Agua Nueva WRF

February 2019

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise rioted 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 rioted 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 c ntact the Compliance and Regulatory Affairs Office for a final report in its entirety.

Reviewed By:

Jenelle Chratt

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

B:26:19
Date

Laboratory License# AZ0159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1902112-01	C	Diethyl phthalate	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	2.24	12.00	Dl,D7	SJM
1902112-01	C	Dimethyl phthalate	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	0.58	12.00	DI, D7	SJM
1902112-01	C	Di-n-butyl phthalate	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	2.50	12.00	Dl,D7	SJM
1902112-01	C	Di-n-octyl phthalate	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	2.55	12.00	Dl,D7	SJM
1902112-01	C	Fluoranthene	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	1.32	4.00	Dl,D7	SJM
1902112-01	C	Fluorene	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	1.54	4.00	Dl,D7	SJM
1902112-01	C	Hexachlorobenzene	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	0.62	4.00	DI, D7	SJM
1902112-01	C	Hexachlorobutadiene	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	1.01	4.00	Dl,D7	SJM
1902112-01	C	Hexachlorocyclopentadiene	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	4.23	12.00	Dl,D7	SJM
1902112-01	C	Hexachloroethane	02/15/19 6:00	EPA 625	2/28/19 I8:33	ND	ug/L	1.26	4.00	DI, D7	SJM
1902112-01	C	lndeno(1,2,3-cd)pyrene	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	2.83	12.00	Dl,D7	SJM
1902112-01	C	lsophorone	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	1.66	4.00	Dl,D7	SJM
1902112-01	C	Naphthalene	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	1.77	4.00	Dl,D7	SJM
1902112-01	C	n-Decane	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	1.95	4.00	Dl,D7	SJM
1902112-01	C	Nitrobenzene	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	2.10	12.00	Dl,D7	SJM
1902112-01	C	N-Nitrosodimethylamine	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	2.09	12.00	DI, D7, PC3	SJM
1902112-01	C	N-Nitrosodi-n-propylamine	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	2.43	12.00	Dl,D7	SJM
1902112-01	C	N-Nitrosodiphenylamine	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	6.08	20.00	DI, D7	SJM
1902112-01	C	n-Octadecane	02/15/19 6:00	EPA 625	2/28/19 18:33	7.37	ug/L	2.18	12.00	Dl,D7,J	SJM
1902112-01	C	Pentachloropbenol	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	4.02	12.00	Dl,D7	SJM
1902112-01	C	Phenanthrene	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	1.63	4.00	DI, D7	SJM.
1902112-01	C	Phenol	02/15/19 6:00	EPA 625	2/28/19 18:33	23.1	ug/L	2.59	12.00	DI, D7	SJM
1902112-01	C	Pyrene	02/15/19 6:00	EPA 625	2/28/19 18:33	ND	ug/L	1.38	4.00	Dl,D7	SJM
1902112-01	C	1,2-Diphenylhydrazine	02/15/19 6:00	EPA 8270C	2/28/19 18:33	ND	ug/L	0.98	4.00	Dl,D7	SJM
1902112-0IREI	C	Zinc	02/15/19 6:00	EPA 200.8	4/10/19 17:27	147	ug/L	0.86	2.00	D2	JB

Thickened Sludge Pump (26107-0600)

1902112-03	C	Antimony	02/15/19 6:00	EPA6010D	3/5/19 13:35	ND	mg/kg dry		11.79		MLB
1902112-03	C	Arsenic	02/15/19 6:00	EPA6010D	3/5/19 15:49	ND	mg/kg dry		11.79		MLB
1902112-03	C	Beryllium	02/15/19 6:00	EPA6010D	3/5/19 13:35	ND	mg/kg dry		2.36		MLB
1902112-03	C	Cadmium	02/15/19 6:00	EPA6010D	3/5/19 13:35	ND	mg/kg dry		4.72		MLB
1902112-03	C	Chromium	02/15/19 6:00	EPA6010D	3/5/19 13:35	ND	mg/kg dry		11.79		MLB
1902112-03	C	Copper	02/15/19 6:00	EPA6010D	3/5/19 13:35	55.7	mg/kg dry		11.79		MLB
1902112-03	C	Lead	02/15/19 6:00	EPA6010D	3/5/19 13:35	ND	mg/kg dry		11.79		MLB
1902112-03	C	Mercury	02/15/19 6:00	EPA 747IB	3/5/19 14:14	ND	mg/kg dry		0.62		MJC
1902112-03	C	Molybdenum	02/15/19 6:00	EPA6010D	3/5/19 13:35	ND	mg/kg dry		4.72		MLB
1902112-03	C	Nickel	02/15/19 6:00	EPA60JOD	3/5/19 13:35	ND	mg/kg dry		11.79		MLB
1902112-03	C	Selenium	02/15/19 6:00	EPA6010D	3/5/19 13:35	ND	mg/kg dry		23.58		MLB
1902112-03	C	Silver	02/15/19 6:00	EPA6010D	3/5/19 15:49	ND	mg/kg dry		1.18		MLB
1902112-03	C	Thallium	02/15/19 6:00	EPA6010D	3/5/19 15:49	ND	mg/kg dry		11.79		MLB
1902112-03	C	Zinc	02/15/19 6:00	EPA6010D	3/5/19 13:35	159	mg/kg dry		11.79		MLB
1902112-03	C	Cyanide, Total	02/15/19 6:00	EPA9014	2/22/19 16:23	ND	mg/kg dry	33.3	II I	DI, ES	AM *
• Analysis Performed by:Legend Technical Services of Arizona, Inc. - See attached contract lab report for official results.											
1902112-03	C	%Solids	02/15/19 6:00	SM2540G	2/21/19 15:40	0.9	%		I		SLL •
• _Analysis Performed by:Legend Technical Services of Arizona, Inc. - See attached contract lab report for official results.											
1902112-03	C	%Solids	02/15/19 6:00	SM2540G	2/16/19 13:30	1.53	%		0.0I		MSM
1902112-03	C	Acrolein	02/15/19 6:00	EPA624	2/21/19 12:09	ND	mg/kg dry	0.0202	0.10		JEL
1902112-03	C	Acrylonitrile	02/15/19 6:00	EPA624	2/21/19 12:09	ND	mg/kg dry	0.0350	0.10		JEL
1902112-03	C	4,4-DDD	02/15/19 6:00	EPA625	3n/19 23:27	ND	mg/kg dry	0.00399	0.01	Dl,D7,NI	HAV
1902112-03	C	4,4-DDE	02/15/19 6:00	EPA625	3n/19 23:27	ND	mg/kgdry	0.00631	0.ot	Dl,D7	HAV
I902112-03	C	4,4-DDT	02/15/19 6:00	EPA 625	3ntl9 23:27	ND	mg/kg dry	0.00551	0.ot	Dl,D7,Nl	H,W
1902112-03	C	Aldrin	02/15/19 6:00	EPA625	3n/19 23:27	ND	mg/kg dry	0.00647	0.ot	Dl,D7,NI	HAV
1902112-03	C	alpha-BHC	02/15/19 6:00	EPA625	3n/19 23:27	ND	mg/kg dry	0.00678	0.ot	Dl,D7,NI	HAV
1902112-03	C	beta-BHC	02/15/19 6:00	EPA625	3ntl9 23:27	ND	mg/kg dry	0.01437	0.02	Dl,D7,NI	HAV
1902112-03	C	Chlordane	02/15/19 6:00	EPA625	3n/19 23:27	ND	mg/kg dry	0.01517	0.08	Dl,D7	HAV
1902112-03	C	delta-BHC	02/15/19 6:00	EPA625	3nt19 23:27	ND	mg/kg dry	0.00287	0.ot	Dl,D7,NI	HAV
1902112-03	C	Dieldrin	02/15/19 6:00	EPA 625	3nt19 23:27	ND	mg/kg dry	0.00663	0.ot	Dl,D7,Nl	HAV
1902112-03	C	Endosulfan I	02/15/19 6:00	EPA625	3nt19 23:27	ND	mg/kg dry	0.00431	0.01	DI, D7, NI	HAV
1902112-03	C	Endosulfan II	02/15/19 6:00	EPA625	3nt19 23:27	ND	mg/kg dry	0.00583	0.ot	Dl,D7,NI	HAV

Laboratory License # AZ0159

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1902112-03	C	Endosulfan sulfate	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.00455	0.01	DI, D7, NI	HAY
1902112-03	C	Endrin	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.01062	0.02	N1,D1,D7	HAY
1902112-03	C	Endrin aldehyde	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.00958	0.01	D1,D7,NI	HAY
1902112-03	C	gamma-BHC (Lindane)	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.01102	0.02	D1,D7,NI	HAY
1902112-03	C	Heptachlor	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.00399	0.01	DI, D7, NI	HAY
1902112-03	C	Heptachlor Epoxide	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.00678	0.01	DI, D7, NI	HAY
I902112-03	C	PCB 1016	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.00878	0,02	D1,D7	HAY
1902112-03	C	PCB 1221	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.01357	0.02	DI, D7	HAY
1902112-03	C	PCB 1232	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.00559	0.02	DI, D7	HAY
1902112-03	C	PCB 1242	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.01038	0.02	DI, D7	HAY
1902112-03	C	PCB 1248	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.00838	0.02	D1,D7	HAY
1902112-03	C	PCB 1254	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.01517	0.02	D1,D7	HAY
1902112-03	C	PCB 1260	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.00639	0.02	DI, D7	HAY
1902112-03	C	Total PCBs	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.01517	0.02	DI, D7	HAY
1902112-03	C	Toxaphene	02/15/19 6:00	EPA 625	3/7/19 23:27	ND	mg/kg dry	0.14128	0.16	D1,D7	HAY
1902112-03	C	Methoxychlor	02/15/19 6:00	EPA 8270C	3/7/19 23:27	ND	mg/kg dry	0.00399	0.01	D1,D7,NI	HAY
1902112-03	C	I, I, I-Trichloroethane	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.004	0.01	QI	ADP
1902112-03	C	I, 1,2,2-Tetrachloroethane	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.001	0.01	QI	ADP
I902112-03	C	1,1,2-Trichloroethane	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.002	0.01	QI	ADP
I902112-03	C	1,1-Dichloroethane	02/15/19 6:00	EPA 624	2/28/19 1657	ND	mg/kg dry	0.003	0.01	QI	ADP
1902112-03	C	1,1-Dichloroethene	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.002	0.QI	QI	ADP
1902112-03	C	1,2-Dichlorobenzene	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.002	0.QI	QI	ADP
1902112-03	C	1,2-Dichloroethane	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.002	0.01	QI	ADP
1902112-03	C	1,2-Dichloropropane	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.002	0.01	QI	ADP
1902112-03	C	1,3-Dichlorobenzene	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.002	0.01	QI	ADP
1902112-03	C	1,4-Dichlorobenzene	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.003	0.01	QI	ADP
1902112-03	C	2-Chloroethyl vinyl ether	02/15/19 6:00	EPA 624	2/28/19 16:57	NR	mg/kg dry	0.005	0.01	N1,QI	ADP
I902112-03	C	Benzene	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.002	0.01	QI	ADP
)902112-03	C	Bromodichloromethane	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.005	0.01	QI	ADP
I902112-03	C	Bromoform	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.006	0.01	QI	ADP
1902112-03	C	Bromomethane	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.003	0.01	QI	ADP
1902112-03	C	Carbon Tetrachloride	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.007	0.01	QI	ADP
1902112-03	C	Chlorobenzene	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.001	0.01	QI	ADP
1902112-03	C	Chloroethane	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.004	0.01	QI	ADP
1902112-03	C	Chloroform	02/15/19 6:00	EPA624	2/28/19 16:57	ND	mg/kg dry	0.003	0.01	QI	ADP
1902112-03	C	Chloromethane	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.004	0.01	QI	ADP
1902112-03	C	cis-1,3-Dichloropropene	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.002	0.01	QI	ADP
I902112-03	C	Dibromochloromethane	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.001	0.01	QI	ADP
I902112-03	C	Ethyl Benzene	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.002	0.01	QI	ADP
I902112-03	C	Methylene Chloride	02/15/19 6:00	EPA 624	2/28/19 1657	ND	mg/kg dry	0.004	0.01	QI	ADP
I902112-03	C	Tetrachloroethene	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.004	0.01	QI	ADP
I902112-03	C	Toluene	02/15/19 6:00	EPA 624	2/28/19 1657	ND	mg/kg dry	0.003	0.01	QI	ADP
1902112-03	C	Total Trihalomethanes	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.006	0.01	QI	ADP
1902112-03	C	trans-1,2-Dichloroethene	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.003	0.01	QI	ADP
1902112-03	C	trans-1,3-Dichloropropene	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.002	0.01	QI	ADP
1902112-03	C	Trichloroethene	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.003	0.01	QI	ADP
1902112-03	C	Trichlorofluoromethane	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.005	0.01	QI	ADP
1902112-03	C	Vinyl chloride	02/15/19 6:00	EPA 624	2/28/19 16:57	ND	mg/kg dry	0.004	0.01	QI	ADP
1902112-03	C	1,2,4-Trichlorobenzene	02/15/19 6:00	EPA 8260	2/28/19 16:57	ND	mg/kg dry	0.002	0.01	QI	ADP
I902112-03	C	1,2-Dibromo-3-chloropropane	02/15/19 6:00	EPA 8260	2/28/19 16:57	ND	mg/kg dry	0.002	0.02	QI	ADP
I902112-03	C	1,2-Dibromoethane	02/15/19 6:00	EPA 8260	2/28/19 16:57	ND	mg/kg dry	0.002	0.01	QI	ADP
1902112-03	C	cis-1,2-Dichloroethene	02/15/19 6:00	EPA 8260	2/28/19 16:57	ND	mg/kg dry	0.004	0.QI	QI	ADP
I902112-03	C	m,p-Xylenes	02/15/19 6:00	EPA 8260	2/28/19 16:57	ND	mg/kg dry	0.003	0.02	QI	ADP
1902112-03	C	o-Xylene	02/15/19 6:00	EPA 8260	2/28/19 16:57	ND	mg/kg dry	0.002	0.QI	QI	ADP
1902112-03	C	Styrene	02/15/19 6:00	EPA 8260	2/28/19 16:57	ND	mg/kg dry	0.002	0.01	QI	ADP
1902112-03	C	Xylenes, total	02/15/19 6:00	EPA 8260	2/28/19 16:57	ND	mg/kg dry	0.003	0,02	QI	ADP
1902112-03	C	2,3,7,8-TCDD • Dioxin Scan	02/15/19 6:00	EPA 625	3/1/19 20:48	ND	ug/kgdry		1.64		SJM
1902112-03	C	1,2,4-Trichlorobenzene	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.06	0.08	DI, D7	SJM
1902112-03	C	2,3-Dichloroaniline	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.09	0.24	DI, D7	SJM
1902112-03	C	2,4,6-Trichlorophenol	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.05	0.08	DI, D7	SJM

Laboratory License # AZOI59

Lab ID:	Sample Type	Parameter	Sample Date/fime	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1902112-03	C	2,4-Dichlorophenol	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0,07	0.08	DI, D7	SJM
1902112-03	C	2,4-Dimethylphenol	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.14	0.24	DI, D7	SJM
1902112-03	C	2,4-Dinitrophenol	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.34	0.80	DI, D7, VI	SJM
1902112-03	C	2,4-Dinitrotoluene	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.09	0.24	DI, D7	SJM
1902112-03	C	2,6-Dinitrotoluene	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.06	0.08	DI, D7	SJM
1902112-03	C	2-Chloronaphthalene	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.06	0.08	DI, D7	SJM
1902112-03	C	2-Chlorophenol	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.05	0.08	DI, D7	SJM
1902112-03	C	2-Methyl-4,6-dinitrophenol	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.21	0.24	DI, D7	SJM
1902112-03	C	2-Methylphenol	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.05	0.08	DI, D7	SJM
1902112-03	C	2-Nitrophenol	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.11	0.24	DI, D7	SJM
1902112-03	C	3,3-Dichlorobenzidine	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.09	0.20	DI, D7, VI	SJM
1902112-03	C	4-Bromophenyl phenyl ether	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.05	0.08	DI, D7	SJM
1902112-03	C	4-Chloro-3-methylphenol	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.09	0.24	DI, D7	SJM
1902112-03	C	4-Chlorophenyl phenyl ether	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.05	0.08	DI, D7	SJM
1902112-03	C	4-Methylphenol	02/15/19 6:00	EPA625	2/28/19 17:55	11.02	mg/kg dry	0.07	0.08	D7, DI	SJM
1902112-03	C	4-Nitrophenol	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.19	0.24	DI, D7	SJM
1902112-03	C	Acenaphthene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.06	0.08	DI, D7	SJM
1902112-03	C	Acenaphthylene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.06	0.08	DI, D7	SJM
1902112-03	C	Anthracene	02/15/19 6:00	EPA625	2/28/19 I7:55	ND	mg/kg dry	0.08	0.08	DI, D7	SJM
1902112-03	C	Benzidine	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.26	0.40	DI, D7	SJM
1902112-03	C	Benzo[a]anthracene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.05	0.08	DI, D7	SJM
1902112-03	C	Benzo[a]pyrene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.08	0.08	DI, D7	SJM
1902112-03	C	Benzo[h]fluoranthene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.06	0.08	DI, D7	SJM
1902112-03	C	Benzo[ghi]perylene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.12	0.24	DI, D7	SJM
1902112-03	C	Benzo[k]fluoranthene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.09	0.24	DI, D7	SJM
1902112-03	C	his(2-<:hloroethoxy)methane	02/15/19 6:00	EPA625	2/28/19 I7:55	ND	mg/kg dry	0.08	0.08	DI, D7	SJM
1902112-03	C	his(2-<:hloroethyl)ether	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.08	0.24	DI, D7	SJM
1902112-03	C	his(2..:hloroisopropyl)ether	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0,07	0.08	DI, D7	SJM
1902112-03	C	his(2-ethylhexyl)phthalate	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.11	0.24	DI, D7	SJM
1902112-03	C	Butylbenzylphthalate	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.08	0.08	DI, D7	SJM
1902112-03	C	Carbazole	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.11	0.24	DI, D7	SJM
1902112-03	C	Chrysene	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.05	0.08	DI, D7	SJM
1902112-03	C	Dibenzo(a,h)anthracene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.12	0.24	DI, D7	SJM
1902112-03	C	Diethyl phthalate	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.09	0.24	DI, D7	SJM
1902112-03	C	Dimethyl phthalate	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.02	0.08	DI, D7	SJM
1902112-03	C	Di-n-hutyl phthalate	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.10	0.24	DI, D7	SJM
1902112-03	C	Di-n-octyl phthalate	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.10	0.24	DI, D7	SJM
1902112-03	C	Fluoranthene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.05	0.08	DI, D7	SJM
1902112-03	C	Fluorene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.06	0.08	DI, D7	SJM
1902112-03	C	Hexachlorobenzene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.02	0.08	DI, D7	SJM
)902112-03	C	Hexachlorobutadiene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.04	0.08	DI, D7	SJM
1902112-03	C	Hexachlorocyclopentadiene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.17	0.24	DI, D7	SJM
1902112-03	C	Hexachloroethane	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.05	0.08	D7, DI	SJM
1902112-03	C	lndeno(l,2,3-<:d)pyrene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.11	0.24	DI, D7	SJM
1902112-03	C	Isophorone	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.07	0.08	DI, D7	SJM
1902112-03	C	Naphthalene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0,07	0.08	DI, D7	SJM
1902112-03	C	n-Decane	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.08	0.08	Dl,D7	SJM
1902112-03	C	Nitrohenzene	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.08	0.24	DI, D7	SJM
1902112-03	C	N-Nitrosodimethylamine	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.08	0.24	DI, D7	SJM
1902112-03	C	N-Nitrosodi-n-propylamine	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.10	0.24	DI, D7	SJM
1902112-03	C	N-Nitrosodiphenylamine	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.24	0.40	DI, D7, PC3	SJM
1902112-03	C	n-Octadecane	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.09	0.24	DI, D7	SJM
1902112-03	C	Pentachlorophenol	02/15/19 6:00	EPA625	2/28/19 17:55	ND	mg/kg dry	0.16	0.24	DI, D7	SJM
1902112-03	C	Phenanthrene	02/15/19 6:00	EPA625	2/28/19 I7:55	ND	mg/kg dry	0.07	0.08	DI, D7	SJM
1902112-03	C	Phenol	02/15/19 6:00	EPA625	2/28/19 17:55	11.99	mg/kg dry	0.10	0.24	DI, D7	SJM
1902112-03	C	Pyrene	02/15/19 6:00	EPA 625	2/28/19 17:55	ND	mg/kg dry	0.06	0.08	DI, D7	SJM
1902112-03	C	1,2-Diphenylhydrazine	02/15/19 6:00	EPA 8270C	2/28/19 17:55	ND	mg/kg dry	0.04	0.08	DI, D7	SJM
1902112-03	C	1,4-Dichlorobenzene	02/15/19 6:00	EPA8270C	2/28/19 17:55	ND	mg/kg dry	0.05	0.08		SJM
1902112-03	C	2,4,5-Trichlorophenol	02/15/19 6:00	EPA8270C	2/28/19 17:55	ND	mg/kg dry	0.10	0.24		SJM
1902112-03	C	3 & 4-Methylphenol	02/15/19 6:00	EPA 8270C	2/28/19 17:55	ND	mg/kg dry	0.09	0.24		SJM

Lab ID:	Sample Type	Parameter	Sample Date/fime	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1902112-03	C	Pyridine	02115/19 6:00	EPA 8270C	2128119 17:55	**ND**	mg/kg **dry**	0.06	0.08		SJM
Chlorinated Effluent (26107-7000}											
1902013-01	D	Nitrate/Nitrile	02101/19 14:17	EPA 353.2	*216/19* 12:27	**1.54**	mg/L	003	0.20		AJH
1902013-0!	D	Total Kjeldahl Nitrogen	02101/19 14:17	EPA351.2	*218119* I 1:!5	**2.67**	mg/L	0.30	0.80		JGB
1902013-01	D	Nitrogen Total Water	02101/19 14:17	Calculated	218/19 11:15	**4.21**	mg/L	0.30	0.80		JGB
Plant Effluent (26107-7100}											
1902030-01	D	Temperature	*02104119* 14:10	SM25508	*214119* 14:10	**23.7**	ac		0.10		SMPLR
!902030-01	D	pH	*02104119* 14:10	SM4500 H B	*214119* 14:10	**7.1**	pH Units				SMPLR
1902030-01	D	Temp at time of pH, °C	02104/19 14: 10	SM4500 H B	*214119* 14:10	**23.3**	ac				SMPLR
1902030-01	D	Ammonia	*02104119* 14:10	SM4500-NH3-D	2113119 11 :18	**1.22**	mg/L	0.07	0.50		JGB
CL Ceriodaphnia dubia Reproduction											
1902076-01	C	LOEC % Effluent	02/1 1/19 8:00	EPA 1002	2/12119 15:55	**NC**	***NIA***	1.0	1.0		OTHER•
1902076-01	C	NOEC % Effluent	02/11/19 8:00	EPA 1002	2/12/19 15:55	**100**	***NIA***	1.0	1.O		OTHER•
1902076-01	C	TUc (IC25 Based)	02111/19 8:00	EPA 1002	2/12/19 15:55	**NC**	***NIA***	1.O	1.O		OTHER•
1902076-01	C	TUc (NOEC Based)	02/1 1/19 8:00	EPA 1002	2/12/19 15:55	**1.0**	***NIA***	1.O	1.O		OTHER•
• Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
CL Ceriodaphnia dubia Survival											
1902076-01	C	LOEC % Eftluent	02111/19 8:00	EPA 1002	2/12/19 15 :55	**NC**	***NIA***	1.O	1.O		OTHER•
1902076-01	C	NOEC % Effluent	02111119 8:00	EPA 1002	2112/19 15:55	**100**	***NIA***	1.O	1.0		OTHER•
1902076-01	C	TUc (IC25 Based)	02/11119 8:00	EPA 1002	2/12/19 15:55	**NC**	***NIA***	1.0	1.0		OTHER•
1902076-01	C	TUc (NOEC Based)	02/11119 8:00	EPA 1002	2112/19 I5:55	**1.0**	***NIA***	1.0	1.O		OTHER*
• Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
CL Pimephales promelas Growth											
1902076-01	C	LOEC % Effiuent	02/11/19 8:00	EPA 1000	2112/19 15:45	**NC**	***NIA***	1.0	1.O		OTHER•
1902076-01	C	NOEC % Eftluent	02/1 1119 8:00	EPA 1000	2112119 15:45	**100**	***NIA***	1.0	1.0		OTHER•
1902076-01	C	TUc (IC25 Based)	02111/19 8:00	EPA 1000	2/12119 15:45	**NC**	***NIA***	1.O	1.O		OTHER•
1902076-0!	C	TUc (NOEC Based)	02111/19 8:00	EPA 1000	2/12119 15:45	**1.0**	***NIA***	1.O	1.0		OTHER•
• Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
CL Pimephales promelas Survival											
1902076-0!	C	LOEC % Eftluent	02/11/19 8:00	EPA 1000	2112/19 15:45	**NC**	***NIA***	1.0	1.O		OTHER•
1902076-01	C	NOEC % Eftluent	02/1 1/19 8:00	EPA 1000	2112/19 I5:45	**100**	***NIA***	1.O	1.O		OTHER•
1902076-0!	C	TUc (IC25 Based)	02/11/19 8:00	EPA 1000	2/12119 15:45	**NC**	***NIA***	1.O	1.O		OTHER•
1902076-0!	C	TUc (NOEC Based)	02/11/!9 8:00	EPA 1000	2/12/19 15:45	**1.0**	***NIA***	1.0	1.O		OTHER•
• Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
CL Selenastrum capricornutum											
1902076-02	C	LOEC % Eftluent	02113/19 9:00	EPA 1003	2/14119 17:16	**NC**	*NIA*	1.0	1.0		OTHER•
1902076-02	C	NOEC % Eftluent	02/1 3/19 9:00	EPA 1003	2/14/19 17:16	**100**	***NIA***	1.0	1.O		OTHER•
1902076-02	C	TUc (IC25 Based)	02/13/19 9:00	EPA 1003	2/14/19 17:16	**NC**	***NIA***	1.O	1.0		OTHER•
!902076-02	C	TUc (NOEC Based)	02/13/19 9:00	EPA 1003	2114/19 17:16	**1.0**	***NIA***	1.0	1.0		OTHER•
• Analysis Performed by:Bio-Aquatic Testing, Inc. - See attached contract lab report for official results.											
190209!-01	D	Dissolved Oxygen	02/12/19 13:50	SM4500 OG	2/12/19 13:50	**7.2**	mg/L		0.01		SMPLR
1902091-0!	D	Temperature	02/12/19 13:50	SM25508	2/12119 13:50	**24.5**	ac		0.10		SMPLR
!902091-01	D	pH	02/12119 13:50	SM4500 H B	2112/19 13 :50	**7.1**	pH Units				SMPLR
1902091-0!	D	Temp at time of pH, °C	02112/19 13:50	SM4500 H B	2/12/19 13:50	**24.8**	ac				SMPLR
1902091-0!	D	Ammonia	02/12119 13:50	SM4500-NH3-D	2/1 3/19 11:26	**0.67**	mg/L	0.07	0.50		JGB
1902091-01	D	Antimony	02112/19 13:50	EPA 200.8	3/7/19 17:12	**0.68**	ug/L	0.35	1.00	J	JB
1902091-01	D	Arsenic	02/12/19 13:50	EPA 200.8	3/7/19 17:12	**3.09**	ug/L	0.18	1.00		JB
1902091-01	D	Barium	02112119 13:50	EPA 200.8	3/7/19 17:12	**59.5**	ug/L	0.55	1.00		JB
1902091-01	D	Beryllium	02/12/19 13:50	EPA 200.8	3/7/19 17:12	**ND**	ug/L	0.31	1.00		JB
!902091-01	D	Cadmium	02112119 13:50	EPA 200.8	3/7/19 17:12	**ND**	ug/L	0.16	1.00		JB
1902091-0!	D	Chromium, Hexavalent	02112/19 13:50	EPA 200.8	2/12119 13:50	**NA**	ug/L	0.400	1.00	N7	
1902091-01	D	Chromium	02112119 13:50	EPA 200.8	3/7/19 17:12	**0.68**	ug/L	0.29	1.00	J	JB
1902091-01	D	Copper	02/12119 13:50	EPA 200.8	3/7/19 17:12	**1.65**	ug/L	0.53	1.00		JB
!902091-01	D	Cyanide	02112119 13:50	SM4500-CN-E	2124/19 14:33	**2.54**	ug/L	1.67	5.00	M5,J	MGA
!902091-01	D	Cyanide Amenable	02112/19 13 :50	SM 4500-CN-G	2124/19 14:33	**NA**	ug/L	I.67	5.00	N7	MGA

Qualifier Definitions

E&	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
A	Absence
DI	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.
07	Minimum Reporting Limit adjusted to reflect sample dilution.
E6	Concentration estimated. Internal standard recoveries did not meet method acceptance criteria.
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).
NI	See case narrative.
N7	Additional analysis was not performed based on the "Total" result which was below the requested analyte's MCL/Action levelffrigger Level.
NA	Not Analyzed
NC	Not Calculable
NR	Not Reported
PC3	Semi-quantitation is included in the case narrative.
QI	Sample integrity was not maintained. See case narrative.
Q6	Sample was received above recommended temperature.
R13	MS/MSD RPO exceeded method acceptance limit. Matrix spike recovery was outside the acceptance criteria. Batch precision and accuracy were demonstrated.
R4	MS/MSD RPO exceeded the method acceptance limit. Recovery met acceptance criteria.
VI	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 ES 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
RPO	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

CHAIN OF CUSTODY

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

rORDER&SAIIPIE(SJ: l't01. l/2...b'3

PROJECT & LOCATION: Agua Nueva WRF - Thickened Sludge Pump (Semi-Annual)

PROJECT-LOCATION NUMBER: 2 $ 1 0 1 0 $ 0 0 (JOOCXXOCX)

SAMPLE START DATE: (:1 , / L/ ;?_ 0J7 (MMDDIYY OR MMIDDIYYYY)

SAMPLE START TIME: 0 00 (Military time)

CLIENT: IWC

SAMPLE END DATE: {}!?, • I ":J•&70 1 T (MMIDDIYY OR MM/00/YYYY)

SAMPLE END TIME: 0600 (Military time)

SAMPLER(s>t-£-,Jv._ 1111-;-q-l-;-l ."A1/-) 1.- E2

Pennlt Type: 0 APP. D Investigative 503
AZPDES ☐ Reuse D Process Control
01\NC OAir ☐ Other

Matrix: Biosolids ☐ Soil ☐ Wastewater
D Groundwater ☐ Stormwater OAir
D 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			☐	☐

WETMETHODS	D	C
AmmonIaasN	☐	☐
Chloride	0	0
Cyanide, Total t,_ 7	D	
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	☐	
0rganochlorine Pesticides & PCBs	☐	
Purgeable Organics (GCMS)	☐	
Semivolatlle 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 624+	☐	☐
Other		

EFFLUENT TOXICITY TESTING

	D	C
Chronic P. promelas	☐	☐
Chronic C. dubia	☐	☐
Chronic Se/enastruncapricomutum	D	D
Other		

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	D	D
BOD	O	O
COD	D	D
Collform, Fecal	O	O
Coliform, Total	D	D
Specific Conductance	D	D
E.coli	☐	0
Oxygen, Dissolved	D	D
pH	☐	☐
Solids, Total{t.#-1 <'•..4,,.J)	☐	
Solids, Total Dissolved	O	☐
Solids, Total Suspended	D	D
Solids, Total Volatile	D	☐
Solids, Volatile Suspended	☐	D
other	☐	D

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

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
D Chlorine Hach 10014		µg/1..
D Specific Conductance SM 2510 B	----	µmhos/cm
D Oxygen, Dissolved SM 4500-0 G		mg/l..
O pH @ pH Temp SM 4 B	@	pH Units 0 °C
D Temperature SM 25508		·C
0 Total Depth of Well		feet
☐ Depth to Water		feet
D Other		

Comments/Instructions: The lab shall composite the four discrete Purgeable Organics and Acrolein/Acrylonitrile samples.

G2 'If Ca: o1.--i$-l?
Cr, :J _ J bPZ -r.,.:Sz, .. 1 4 15-./
15, (1,5 0-Z-1'$-i? .foi:t //}-iJ'Z.1.8 0

Sa!m Blank Prep Data & Initials:
101-1±-;>015 11/e.j+-5R5I

Chain of Custody Record (Signatin• Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[illegible]	[illegible]	1.15	1500
Relinquished by:	Received by:	Date:	Time: (Military time)
[illegible]	[illegible]	[illegible]	[illegible]
Relinquished by:	Received by:	Date:	Time: (Military time)
[illegible]	[illegible]	[illegible]	[illegible]
Relinquished by:	Received by:	Date:	Tine: (Military time)

: u. WL- :d 02. -II

Sample Integrity/Preservation:

of Bottles Delivered @ 2.15.19 X (9) 0S

Transported on Ice
!B YES D NO

LabRac•Pt
Temperature: r' lo • °C
Initials: h lo<U

QS qualifier?
f9 YES D NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	J8	☐	☐
Sample labels match Chain of Custody?		☐	☐
Correct number of sample bottles were delivered?	[:3	☐	☐
Custody seals intact?	D	☐	?
Within holding time?		☐	☐
Sufficient sample volume for analysis?		☐	☐
Samples are h propelly preserved containers?		☐	☐
Sample containers damagedAeaking/frozen?	D	S	D
40 ml vials headspace, > ized air bubble?	0	?	☐
Received from a refrigerator?	O	?	☐

• Sb, As, Be, Cd, Cr, Cu, PU, NI, Se, Ag, 11, Zn Mercury(Co/d Vapo,,
- 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: 1902112-03
LOCATION ID: 26107 – 0600 SAMPLERS: Silva, Kaufman, Rucabado, Martinez SAMPLE DATE: 2·15·19
Last names only, primary sampler first

Sample Dore	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	Cyanide (T)	4 Aliquots for the duration of the discharge	Man	1000 ml	Dissolved Metals/None/Ice
C	Total Solids (for outside lab)		Man	1000 ml	General Purpose/None/Ice
C	Total Solids		Man	1000 ml	General Purpose/None/Ice
			Man	1000 ml	Dissolved Metals/None/Ice
			Man	1000 ml	Amber Glass/None/Ice
			Man	1000ml	Amber Glass/None/Ice
To be Composited by the Laboratory					
D	Purgeable Organics	Hand Composite	Man	4X40	None/Ice
D	Acrolein/Acrylonitrile		Man	4X40	None/Ice
		4 Aliquots for the duration of the discharge	Man	4X40	None/Ice
To be Submitted to an Outside Laboratory					
C	OCol0 .1/t4 IM	Hand Composite	Man	1000 ml	General Purpose/None/Ice
C	iO 2.1 (/·/'		Man	1000 ml	Dissolved Metals/None/Ice
C	:1.·/0 7/.. 16		Man	1000 ml	Amber Glass/None/Ice
C		4 Aliquots for the duration of the discharge	Man	1000 ml	Amber Glass/None/Ice

	Time	
Aliquot #1	2·14·19 0610	2L
Aliquot #2	2-14-19 1205	2L
Aliquot#3	2/14/19 1810	2L
Aliquot #4	2·15·19 0010	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

Case NarrativeM

1902091-01

EPA Method 624/8260 Purgeables and EPA Method 624 Acrolein/Acrylonitrile: QI: Sample refrigerator was discovered on 2/17/19 to be outside of method required temperature range. Samples were moved immediately, but the refrigerator was in noncompliance for an unknown amount of time. MCD 3/22/19

1902091-01

EPA Method 624/8260 Purgeables: Nl/NR: Sample was preserved after 7 days per laboratory method. Preservation to <2 depletes 2 CEVE if it is in the sample. 2CEVE cannot be reported on this sample. ADP 3/26/19

1902112-0l.-02.-02REI.-03

EPA Method 624/8260 Purgeables and EPA Method 624 Acrolein/Acrylonitrile: QI: Sample refrigerator was discovered on 2/17/19 to be outside of method required temperature range. Samples were moved immediately, but the refrigerator was in noncompliance for an unknown amount of time. MCD 3/22/19

1902112-0I. -02REI. -03

EPA Method 624 Purgeables Nl/NR:Sample was preserved after 7 days per laboratory method. Preservation to <2 depletes 2 CEVE ifit is in the sample. 2CEVE cannot be reported on this sample.ADP 3/27/I 9

1902112-02REI

EPA Method 624/82608 Purgeables: Nl and E6: The Internal Standard 1,4 Dichlorobenzene-d4 had 49.5% recovery, where the method required lower limit is 50%. The low recovery was confirmed through reanalysis. Associated target compounds that are ND have been flagged with Nl and compounds that were detected have been flagged with Nl/E6. ADP 3/27/19. Edited by MCD 4/2/19. Edited again by MCD 8/14/19.

Semi-Quantitation
Method: 625
1902112-02

Compound Name	Concentration-ug/L
Palmitic Acid	179

SJM 04/15/19

Semi-Quantitation
Method: 625
1902112-03

Compound Name	Concentration-mg/Kg
N,N-Dimethyl-1-dodecanamine	430
Palmitic Acid	55133
OleicAcid	69390
Stearic Acid	24800

SJM 04/15/19

Semi-Quantitation
Method: 625
1902112-01

Compound Name	Concentration-ug/L
2-Butoxyethanol	119
Benzyl Alcohol	93
Benzoic Acid	223
Benzeneacetic Acid	99
N,N-Dimethyl-1-dodecanamine	894
Dodecanoic Acid	155
Tetradecanoic Acid	191
Armine DM 16D	334
Palmitic Acid	46846
Oleic Acid	53703
Stearic Acid	22280

SJM 04/15/19

1902112-01, -02. -03

EPA Method 625 Pesticides: Target analytes flagged with NI failed the Blank Spike and Matrix Spike Duplicate Recoveries due to suspected extractor failure. All Matrix Spike Recoveries were acceptable, however, MS/MSD RPD was unacceptable. Surrogate Recoveries for all QC and batch samples were acceptable. HAV/MCD 04/16/19

PIMA COUNTY
WASTEWATER RECLAMATION
COMPLIANCE AND REGULATORY AFFAIRS OFFICE LABORATORY
2955 W Agua Nueva, Tucson, A Z 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**19021 2-03, 1902 3-02**	**DO**	**19-022880**
CONTRACT LAB	**Legend Technical Services, Inc., Phoenix;**	**SAMPLE GROUP**	**Cyanides#3**
ANALYSES	**Total Cyanide, Total Solids**	**REPORT ID**	**19B1982**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Solimsaoo\elementshare\TransferIn ?	y
Was the above-mentioned file converted from a .xis 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>Reparts)	y
Was the converted file attached to the sample in LIMS?	y
VALIDATING CONTRACT LAB REPORT, CHAIN OF CUSTODY(S), AND DO#:	
Is contract lab report signed and dated?	y
Is copy of contract lab COC included with contract lab report?	y
Do the contract lab COC and CRAO COC(s) list the same sample ID, sample date, and analysis requested?	y
Do the sample dates and received dates on the CL report match the CL COC?	y
Does the CL report include all requested analysis?	y
Is the CL licensed in AZ for reported methods?	y
Does the DO match COC in types and number of tests?	NIA
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
Do CL report and CL spreadsheet report the same sample result(s), sample date(s), and analysis date(s)?	y
Was a case narrative included in contract lab reoort?	y
Does the data packet include a QC report from the primary lab and any secondary subcontract labs?	y
Did the CL report list aoolicable AZ data qualifiers?	y
Were any dilutions made?	y
Were any results from diluted samples reported as ND?	y
Were the results from any diluted samples Qualified accordingly?	y
Was QC included for every analysis method (e.g. Blk, LCS, MS, MSD)?	y
Did QC pass stated acceptance limits? If not, was it Qualified?	y
Were samples analyzed within required holding times?	y
SOCs: Are MDLs below water quality standards? (If not, notify Belinda Gamboa-Felix.)	NIA
Semivolatiles & Volatiles: Were all analvtes delivered?	NIA
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	NIA
Was Belinda Gamboa-Felix notified of any exceedences?	NIA
WET TESTING SPECIFIC REQUIREMENTS	
Is statement of Pass/Fail reflected in endpoints?	NIA
Ceriodaphnia: Survival and reproduction data included?	NIA
P. Promelas: Survival and growth data included?	NIA
Selenastrum: Growth data included?	NIA
Was chemistry data included?	NIA

Are Reference Toxicant Test results and Control Charts within limits?	N/A
Was PMSD Determination included and within acceptable ranQe? (minimum acceptable= 13)	N/A
Do endpoints include TUc, NOEC, LOEC, and IC25?	NIA
Do statistics verify endpoints?	N/A
Were Control Charts updated to include month of analysis?	N/A
Reviewer Initials: ABR **Review Date:** 3-19-19	

PEER/FINAL REVIEW:	PR	FR
LIMS/Excel data matches printed CL report?	/	
Analysis dates are correct?	vr	
Correct data qualifiers included, if necessary?		
CRAO report shows result is from contract lab?	v'	
CRAO report shows correct Contract Lab (e.g. Legend Technical Services of Arizona, Phoenix)?		
DO received in Pima Core?	✓	
Analysis set to Reported?		✓

Peer Reviewer Initials:	JLe	**Review Date:**	3-;J-J.-,9
Final Reviewer Initials:	JEC	**Review Date:**	3·2h·tq

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

TI.'IS #:	-DEVIATION:	CORRBCIWE AtTIQN

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

LEGEND
Technical Services, Inc.

4585 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (520) 327-0518
www.legend11roup.com

05 March 2019

Joe Doranski
Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745
Fax: (520) 579-6002

RE: Cyanide

Laboratory Work Order No.: 1981982

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical result◆. for ◆e aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full . Samples for this project were received by the laboratory on 02/19/19 12:30.

The samples were processed in accordance with the Chain of Custody. document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was. reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Kaitlyn M. Martel For Alyssa Mazza
Laboratory Technician I
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Pima ♦o_u♦. R'fVRD C O Lab 295♦)\' CIIIle A gua Nueva Tucson, AZ 85745	Project: Cyanide Project Number: Cyanides #3 2/19/19 Project Manager: Joe Doranski.	Rtpoitad:.c 03/05/19 09:'3

ANALYTICAL REPORT FOR SAMPLES

sample ID.	Laboratory ID	Matrix	Type	Oat.Sampled	Dat. Received
1902112-03	19B1982–01	Solid (Dry Weight)	Composite	02/15/19 06:00	02/19/1912:30
1902113-02	19B1982–02	Solid (Dry Weight)	Composite	02/15/19 06:00	02/19/19 12:30

Sample Condition Upon Receipt:

Temperature: 2.00 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding fimes: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed on a "wer basis unless designated as "dry weight".

Pima County RWRD CRAO lab 2955 W Calle·Ag\Ja Nueva Tucson, AZ &5745	Project: Cyanide Project Number': Cyanides #3 2/19/19 Project Manager, Joe Doranski	R4!11Qrtec: 03/0si19 09:23

1902112-03 (19B1982-01) Solid (Dry Weight) (Composite) Sampled: 02115119 06:00 Received: 02/19119 12:30

Analyte	Result	°MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.										
Inorganic Chemistry										
Cyanide, Total	<	33.3	111	mg/kgdry	10	B9B1553	02/22/19 09:13	02/22/19 16:23	EPA 9014	D1,E8
%Solids	0.9		1''	%	1	B9B1518	02/21/19 15:40	02/21/19 15:40	SM 2540 G	

1902113-02 (19B1982-02) Solid (Dry Weight) (Composite) Sampled: 02/15/19 06:00 Received: 02/19119 12:30

Analyte	Result	MDL	RL	Units	DIlUllon	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Servi?'.85 A ◊ . Inc.										
Inorganic Chemistry										
Cyanide, Total	0.382	0.11	0.637	mg/kg dry	1	B981553	02/22/19 09: 13	02/22/1916:23	EPA9014	E4,M2
% Solids	16		1	%	1	B9B1518	02/21/1915:40	02/21/19 15:40	SM 2540G	

Pima nty RWRD CRAO Lab 2955 '!j l)e i\g_ua Nueva Tucson, /1:Z 85745	Pr6ject: Cyanide oj u_mt,e.r.' Eya_ 's 13 19Y19 Project Manager: Joe Doranski	Reported: 03/05/19 09:23

m ,, "Notes and Definltiohs

M2	Matrix ·spike recovery was low; the_associated bl nk spike recovery was acceptable.
ES	Analyte reported to MDL per project specification. Target analyte was ·not detected in the sample:
E4-	Concentration estimated. Analyte w s etec:ted bel w labo tory miryi um porting lev l (MRL), but above t BL
D1	Sample required dilution due to matrix.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	MatJix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Pima County RWRD CRAO lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Cyanide Project Number: Cyanides #3 2/19/19 Project Manager: Joe Doranski	Reported: 03/05/19 09:23

19B1982

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.

☐1N31 N. 2S11 A.....,.•- AZ IIOOZ! • (902) S 2 U, oo • Fa (902) 32 ole 101
046808 . - V - R d , Slo423 • TUCIOI\ AZ 115714 • (520)1;17-1234 • F u (520) 327-0511

"9 - Lal_j_

Clearly

Company	Address	City	State	Zip	Phone	Fax Number or Email Address
[redacted]ty CRAO Lab	2955 W Calle Agua Nuava	Tucaon	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Cyanld. #3 — Project Number — Joe Doran.kl — P.O. No. 19-022880 — Fax Results ☐ Email Results ☐ — QC Report ☐ EOD ☒ — Special Detection Limits ☐

Laboratory Authorization Required for Rush

Sample klontillcatlon	Dale	Thne	Sample I.Ocatlon	U	S	Sample Type	Compliance	No. of Containers		Total cyanide mg/kg	Total % solids dry weight														
1902112-03	0211511•	BOD	Agua Nueva WRF - thickened sludge	X		G	X	2		X	X														109
190211 2	02115119	eoo	Tres Rios WRF, _led cake	X		G	X	2		X	X														02

Comments / Special Instructions: Report cyanide in dryweight per Joe Doranski 2/19/19 MM

Temperature	2.0	°C
Custody Seals	Y	N
Cooler Intact	Y	N
	N	N

WHITE-LAB YELLOW-CLIENT

	Relinquished by	Date/Time	Received by	Date/Time
①	Sampler Signature / Sampler Printed Name: Greg Spence	2/19/19 2 09	Signature / Printed Name: Casey Sas	2/19/19 209
②	Signature / Printed Name	Date / Time	Signature / Printed Name: @ lab	2/19/19 230
③	Signature / Printed Name: Amanda Ficazzo	2/19/19 1600	Signature / Printed Name: Courier	2/19/19 1600

courier 2/20/19 730 — mWhaley 2/20/19 730

FORM CS-0162 (07/16)

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: 08/13/2019
Laboratory License: AZ0159

Sample Analysis Report

Agua Nueva WRF

April2019

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 Chapt

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

8·26·19
Date

Laboratory License # AZO 159

Lab ID:	Sample .Type	Parameter	Sample Daterfime	Analysis Method	Analysis Daterfime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1904088-0 I	C	Di-n-butyl phthalate	04/12/19 6:00	EPA 625	4/22/19 17:55	**ND**	ug/L	2.50	12.00	DI, D7	SJM
1904088-0 I	C	Di-n-octyl phthalate	04/12/19 6:00	EPA 625	4/22/19 17:55	**ND**	ug/L	2.55	12.00	DI, D7	SJM
1904088-01	C	Fluoranthene	04/12/19 6:00	EPA625	4/22/19 17:55	**ND**	ug/L	1.32	4.00	DI, D7	SJM
1904088-0 I	C	Fluorene	04/12/19 6:00	EPA 625	4/22/19 17:55	**ND**	ug/L	1.54	4.00	DI, D7	SJM
1904088-01	C	Hexachlorobenzene	04/12/19 6:00	EPA 625	4/22/19 17:55	**ND**	ug/L	0.62	4.00	DI, D7	SJM
.I904088-0 I	C	Hexachlorobutadiene	04/12/19 6:00	EPA 625	4/22/19 17:55	**ND**	ug/L	1.01	4.00	DI, D7	SJM
1904088-0 I	C	Hexachlorocyclopentadiene	04/12/19 6:00	EPA 625	4/22/19 17:55	**ND**	ug/L	4.23	12.00	DI, D7	SJM
1904088-0 I	C	Hexachloroethane	04/12/19 6:00	EPA 625	4/22/19 17:55	**ND**	ug/L	1.26	4.00	DI, D7	SJM
1904088-01	C	Indeno(l,2,3-cd)pyrene	04/12/19 6:00	EPA 625	4/22/19 17:55	**ND**	ug/L	2.83	12.00	DI, D7	SJM
1904088-0 I	C	lsophorone	04/12/19 6:00	EPA625	4/22/19 17:55	**ND**	ug/L	1.66	4.00	DI, D7	SJM
1904088-01	C	Naphthalene	04/12/19 6:00	EPA 625	4/22/19 17:55	**ND**	ug/L	1.77	4.00	DI, D7	SJM
1904088-01	C	n-Decane	04/12/19 6:00	EPA 625	4/22/19 17:55	**ND**	ug/L	1.95	4.00	DI, D7	SJM
1904088-0 I	C	Nitrobenzene	04/12/19 6:00	EPA625	4/22/19 17:55	**ND**	ug/L	2.10	12.00	DI, D7	SJM
1904088-0 I	C	N-Nitrosodimethylamine	04/12/19 6:00	EPA625	4/22/19 17:55	**ND**	ug/L	2.09	12.00	DI, Q7, PC3	SJM
1904088-0 I	C	N-Nitrosodi-n-propylamine	04/12/19 6:00	EPA625	4/22/19 17:55	**ND**	ug/L	2.43	12.00	DI, D7	SJM
1904088-0 I	C	N-Nitrosodiphenylamine	04/12/19 6:00	EPA625	4/22/19 17:55	**ND**	ug/L	6.08	20.00	DI, D7	SJM
1904088-0 I	C	n-Octadecane	04/12/19 6:00	EPA625	4/22/19 17:55	**ND**	ug/L	2.18	12.00	DI, D7	SJM
1904088-0 I	C	Pentachlorophenol	04/12/19 6:00	EPA 625	4/22/19 17:55	**ND**	ug/L	4.02	12.00	DI, D7	SJM
I904088-0 I	C	Phenanthrene	04/12/19 6:00	EPA625	4/22/19 17:55	**ND**	ug/L	1.63	4.00	DI, D7	SJM
1904088-01	C	Phenol	04/12/19 6:00	EPA625	4/22/19 17:55	**84.8**	ug/L	2.59	12.00	D7, DI	SJM
1904088-0 I	C	Pyrene	04/12/19 6:00	EPA 625	4/22/19 17:55	**ND**	ug/L	1.38	4.00	DI, D7	SJM
1904088-0 I	C	1,2-Diphenylhydrazine	04/12/19 6:00	EPA 8270C	4/22/19 17:55	**ND**	ug/L	0.98	4.00	DI, D7	SJM
1904088-0IREI	C	Lead	04/12/19 6:00	EPA 200.8	5/13/19 15:01	**1.23**	ug/L	0.10	2.00	D1,J	JB
1904088-0IREI	C	Thallium	04/12/19 6:00	EPA 200.8	5/13/19 15:01	**ND**	ug/L	0.09	2.00	DI	JB
1904088-0IREI	C	Zinc	04/12/19 6:00	EPA 200.8	5/13/19 15:01	**145**	ug/L	0.86	2.00	D2	JB

Thickened Sludge Pump {26107-0600)

1904088-03	C	Antimony	04/12/19 6:00	EPA6010D	6/7/19 16:32	**ND**	mg/kg dry		7.35		MLB
1904088-03	C	Arsenic	04/12/19 6:00	EPA 6010D	6/7/19 12:15	**ND**	mg/kg dry		7.35		MLB
1904088-03	C	Beryllium	04/12/19 6:00	EPA6010D	6/7/19 12:15	**ND**	mg/kg dry		1.47		MLB
1904088-03	c	Cadmium	04/12/19 6:00	EPA6010D	6/7/19 12:15	**ND**	mg/kg dry		2.94		MLB
1904088-03	C	Chromium	04/12/19 6:00	EPA6010D	6/7/19 12:15	**ND**	mg/kg dry		7.35		MLB
1904088-03	C	Copper	04/12/19 6:00	EPA6010D	6/7/19 12:15	**92.0**	mg/kg dry		7.35		MLB
1904088-03	C	Lead	04/12/19 6:00	EPA6010D	6/7/19 12:15	**ND**	mg/kg dry		7.35		MLB
1904088-03	C	Mercury	04/12/19 6:00	EPA 74718	5/2/19 12: 12	**ND**	mg/kg dry		0.31		MJC
1904088-03	C	Molybdenum	04/12/19 6:00	EPA6010D	6/7/19 12:15	**ND**	mg/kg dry		2.94		MLB
1904088-03	C	Nickel	04/12/19 6:00	EPA6010D	6/7/19 12:15	**ND**	mg/kg dry		7.35		MLB
1904088-03	C	Selenium	04/12/19 6:00	EPA6010D	6/7/19 12:15	**ND**	mg/kg dry		14.70		MLB
1904088-03	C	Silver	04/12/19 6:00	EPA6010D	6/11/19 12:31	**0.899**	mg/kg dry		0.74		MLB
1904088-03	C	Thallium	04/12/19 6:00	EPA6010D	6/7/19 12:15	**ND**	mg/kg dry		7.35		MLB
1904088-03	C	Zinc	04/12/19 6:00	EPA 6010D	6/7/19 12:15	**175**	mg/kg dry		7.35		MLB
1904088-03	C	Cyanide, Total	04/12/19 6:00	EPA 9014	4/19/19 13:31	**ND**	mg/kg dry	2.19	7.30	ES	ALK •
• Analysis Performed by:Legend Technical Services of Arizona, Inc. - See attached contract lab report for official results.											
1904088-03	C	% Solids	04/12/19 6:00	SM 2540 G	4/17/19 16:05	1	%		1		SLL "
• Analysis Performed by:Legend T hnical Services of Arizona, Inc. - See attached contract lab report for official results.											
1904088-03	C	% Solids	04/12/19 6:00	SM 2540G	4/13/19 14:30	**1.56**	%		0.01		AV
1904088-03	C	Acrolein	04/12/19 6:00	EPA624	4/17/19 20:56	**ND**	mg/kg dry	0.00360	0.01		JEL
1904088-03	C	Acrylonitrile	04/12/19 6:00	EPA624	4/17/19 20:56	**ND**	mg/kg dry	0.00280	0.01		JEL
1904088-03	C	4,4-DDD	04/12/19 6:00	EPA625	4/24/19 04:39	**ND**	mg/kg dry	0.00292	0.01	D1,D7	HAY
1904088-03	C	4,4-DDE	04/12/19 6:00	EPA625	4/24/19 04:39	**ND**	mg/kg dry	0.00461	0.01	D1,D7	HAY
1904088-03	C	4,4-DDT	04/12/19 6:00	EPA625	4/24/19 04:39	**ND**	mg/kg dry	0.00403	0.01	D1,D7	HAY
1904088-03	C	Aldrin	04/12/19 6:00	EPA625	4/24/19 04:39	**ND**	mg/kg dry	0.00473	O.ot	D1,D7	HAY
1904088-03	C	alpha-BHC	04/12/19 6:00	EPA625	4/24/19 04:39	**ND**	mg/kg dry	0.00496	0.01	D1,D7	HAY
1904088-03	C	beta-BHC	04/12/19 6:00	EPA625	4/24/19 04:39	**ND**	mg/kg dry	0.01050	0.01	D1,D7	HAY
1904088-03	C	Chlordane	04/12/19 6:00	EPA625	4/24/19 04:39	**ND**	mg/kg dry	0.01109	0.06	D1,D7	HAY
1904088-03	C	delta-BHC	04/12/19 6:00	EPA625	4/24/19 04:39	**ND**	mg/kg dry	0.00210	0.01	D1,D7	HAY
1904088-03	C	Dieldrin	04/12/19 6:00	EPA625	4/24/19 04:39	**ND**	mg/kg dry	0.00484	0.01	D1,D7	HAY
1904088-03	C	Endosulfan I	04/12/19 6:00	EPA625	4/24/19 04:39	**ND**	mg/kg dry	0.00315	0.01	D1,D7	HAY
1904088-03	C	Endosulfan II	04/12/19 6:00	EPA625	4/24/19 04:39	**ND**	mg/kg dry	0.00426	0.01	D1,D7	HAY

Laboratory License# AZ0159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1904088-03	C	Endosulfan sulfate	04/12/19 6:00	EPA625	4/24/19 04:39	ND	mg/kg dry	0.00333	0.01	DI, D7	HAV
1904088-03	C	Endrin	04/12/19 6:00	EPA625	4/24/19 04;39	ND	mg/kg dry	0.00776	0.01	DI, D7	HAV
1904088-03	C	Endrin aldehyde	04/12/19 6:00	EPA625	4/24/19 04:39	ND	mg/kg dry	0.00700	0.oI	DI, D7	HAV
1904088-03	C	gamma-BHC (Lindane)	04/12/19 6:00	EPA625	4/24/19 04:39	ND	mg/kg dry	0.00805	0.01	DI, D7	HAY
1904088-03	C	Heptachlor	04/12/19 6:00	EPA625	4/24/19 04:39	-ND	mg/kg dry	0.00292	0.01	D1,D7	HAY
1904088-03	C	Heptachlor Epoxide	04/12/19 6:00	EPA625	4/24/19 04:39	ND	mg/kg dry	0.00496	0.Ql	D1,D7	HAY
1904088-03	C	PCB 1016	04/12/19 6:00	EPA625	4/24/19 04:39	ND	mg/kg dry	0.00642	0.04	DI, D7	HAY
1904088-03	C	PCB 1221	04/12/19 6:00	EPA625	4/24/19 04:39	ND	mg/kg dry	0.00992	0.01	D1,D7	HAY
1904088-03	C	PCB 1232	04/12/19 6:00	EPA625	4/24/19 04:39	ND	mg/kg dry	0.00408	0.01	DI, D7	HAY
1904088-03	C	PCB 1242	04/12/19 6:00	EPA625	4/24/19 04:39	ND	mg/kg dry	0.00759	0.Ql	D1,D7	HAY
1904088-03	C	PCB 1248	04/12/19 6:00	EPA62S	4/24/19 04: 39	ND	mg/kg dry	0.00613	0.ol	D1,D7	HAY
1904088-03	C	PCB 1254	04/12/19 6:00	EPA62S	4/24/19 04: 39	ND	mg/kg dry	0.01109	0.oJ	D1,D7	HAY
1904088-03	C	PCB 1260	04/12/19 6:00	EPA62S	4/24/19 04:39	ND	mg/kg dry	0.00467	0.oJ	D1,D7	HAY
1904088-03	C	Total PCBs	04/12/19 6:00	EPA625	4/24/19 04:39	ND	mg/kg dry	0.Ql\09	0.04	D1,D7	HAY
1904088-03	C	Toxaphene	04/12/19 6:00	EPA625	4/24/19 04:39	ND	mg/kg dry	0.10329	0.12	D1,D7	HAY
1904088-03	C	Methoxychlor	04/12/19 6:00	EPA8270C	4/24/19 04:39	ND	mg/kg dry	0.00292	0.01	D1,D7	HAY
1904088-03	C	I, I, I-Trichloroethane	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.004	0.Ql		ADP
1904088-03	C	I, 1,2,2-Tetrachloroethane	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.001	0 l		ADP
1904088-03	C	I, 1,2-Trichloroethane	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.002	0.01		ADP
1904088-03	C	1, 1-Dichloroethane	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.003	0.01		ADP
1904088-03	C	1, 1-Dichloroethene	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.002	0.01		ADP
1904088-03	C	1,2-Dichlorobenzene	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.002	0.01		ADP
1904088-03	C	1,2-Dichloroethane	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kgdry	0.002	0.Ql		ADP
1904088-03	C	1,2-Dichloropropane	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.002	0.oJ		ADP
1904088-03	C	1,3-Dichlorobenzene	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.002	0.Ql		ADP
1904088-03	C	1,4-Dichlorobenzene	04/12/19 6:00	EPA624	4/16/19 16:50	031	mg/kg dry	0.003	0.oJ		ADP
1904088-03	C	2-Chloroethy I viny I ether	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.005	0.02		ADP
1904088-03	C	Benzene	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.002	0.Ql		ADP
1904088-03	C	Bromodichloromethane	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.005	0.Ql		ADP
1904088-03	C	Bromoform	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.006	0.Ql		ADP
1904088-03	C	Bromomethane	04/12/19 '6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.003	0.01		ADP
1904088-03	C	Carbon Tetrachloride	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.007	0.Ql		ADP
1904088-03	C	Chlorobenzene	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.001	0 l		ADP
1904088-03	C	Chloroethane	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.004	0 l		ADP
1904088-03	C	Chloroform	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.003	Q0I		ADP
1904088-03	C	Chloromethane	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.004	0.oI		ADP
1904088-03	C	cis-1,3-Dichloropropene	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.002	0.Ql		ADP
1904088-03	C	Dibromochloromethane	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.001	0.Ql		ADP
1904088-03	C	Ethy I Benzene	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.002	0.Ql		ADP
1904088-03	C	Methylene Chloride	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.004	0.Ql		ADP
1904088-03	c	Tetrachloroethene	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.004	0.01		ADP
1904088-03	C	Toluene	04/12/19 6:00	EPA624"	4/16/19 16:50	ND	mg/kg dry	0.003	0.01		ADP
1904088-03	c	Total Trihalomethanes	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.006	0.oI		ADP
1904088-03	C	trans-1,2-Dichloroethene	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.003	0.Ql		ADP
1904088-03	C	trans-1,3-Dichloropropene	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.002	0.01		ADP
1904088-03	C	Trichloroethene	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.003	0.01		ADP
1904088-03	C	Trichlorofluoromethane	04/12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.005	0.oJ		ADP
1904088-03	C	Viny I chloride	04/ 12/19 6:00	EPA624	4/16/19 16:50	ND	mg/kg dry	0.004	0.Ql		ADP
1904088-03	C	1,2,4-Trichlorobenzene	04/12/19 6:00	EPA8260	4/16/19 16:50	ND	mg/kg dry	0.044	0.20		ADP
1904088-03	C	1,2-Dibromo-3-chloropropane	04/12/19 6:00	EPA8260	4/16/19 16:50	ND	mg/kg dry	0.036	0.40		ADP
1904088-03	C	1,2-Dibromoethane	04/12/19 6:00	EPA8260	4/16/19 16:50	ND	mg/kg dry.	0.040	0.20		ADP
1904088-03	C	cis-1,2-Dichloroethene	04/12/19 6:00	EPA8260	4/16/19 16:50	ND	mg/kg dry	0.080	0.20		ADP
1904088-03	C	m,p-Xylenes	04/12/19 6:00	EPA8260	4/16/19 16:50	ND	mg/kg dry	0.064	0.40		ADP
1904088-03	C	o-Xylene	04/12/19 6:00	EPA8260	4/16/19 16:50	ND	mg/kg dry	0.032	0.20		ADP
1904088-03	C	Styrene	04112/19 6:00	EPA8260	4/16/19 16:50	ND	mg/kg dry	0.032	0.20		ADP
1904088-03	C	Xylenes, total	04/12/19 6:00	EPA8260	4/16/19 16:50	ND	mg/kg dry	0.064	0.40		ADP
1904088-03	C	2,3,7,8-TCDD - Dioxin Scan	04112/19 6:00	EPA625	5/17/19 14:37	ND	ug/kgdry		1.60		SJM
1904088-03	C	1,2,4-Trichlorobenzene	04/12/19 6:00	EPA625	4/22/19 18:33	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1904088-03	C	2,3-Dichloroaniline	04/12/19 6:00	EPA625	4/22/19 18:33	ND	mg/kg dry	0.09	0.24	D1,D7	SIM
1904088-03	C	2,4,6-Trichlorophenol	04/12/19 6:00	EPA625	4/22/19 18:33	ND	mg/kg dry	0.05	0.08	D7,DI	SIM

Laboratory License# AZ0159

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Dateffime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1904088-03	C	2,4-Dichlorophenol	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1904088-03	C	2,4-Dimethylphenol	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.14	0.24	D1,D7	SJM
1904088-03	C	2,4-Dinitrophenol	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.34	0.40	D1,D7	SJM
1904088-03	C	2,4-Dinitrotoluene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1904088-03	C	2,6-Dinitrotoluene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1904088-03	C	2-Chloronaphthalene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1904088-03	C	2-Chlorophenol	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1904088-03	C	2-Methyl-4,6-dinitrophenol	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.21	0.24	D1,D7	SJM
1904088-03	C	2-Methylphenol	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1904088-03	C	2-Nitrophenol	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.11	0.24	D1,D7	SJM
1904088-03	C	3,3-Dichlorobenzidine	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.09	0.20	D7,D1	SJM
1904088-03	C	4-Bromophenyl phenyl ether	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.05	0.08	DI, D7, SJI	SJM
1904088-03	C	4-Chloro-3-methylphenol	04/12/19. 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1904088-03	C	4-Chlorophenyl phenyl ether	04/12/19 6:00	EPA62S.	4/22/19 18:33	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1904088-03	C	4-Methylphenol	04/12/19 6:00	EPA62S	4/22/19 18:33	22.36	mg/kg dry	0.07	0.08	DJ,D7	SJM
1904088-03	C	4-Nitrophenol	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.19	0.24	DJ,D7	SJM
1904088-03	C	Acenaphthene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1904088-03	C	Acenaphthylene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1904088-03	C	Anthracene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.08	0.08	DI, D7, SJI	SJM
1904088-03	C	Benzidine	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.26	0.40	DJ,D7	SJM
1904088-03	C	Benzo[a]anthracene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.05	0.08	D7,D1	SJM
1904088-03	C	Benzo[a]pyrene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1904088-03	C	Benzo[b] fluoranthene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1904088-03	C	Benzo[ghi]perylene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.12	0.24	D1,D7	SJM
1904088-03	C	Benzo[k] fluoranthene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1904088-03	C	bis(2-chloroethoxy)methane	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1904088-03	C	bis(2-chloroethyl)ether	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.08	0.24	D1,D7	SJM
1904088-03	C	bis(2-chloroisopropyl)ether	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.07	0.08	DJ,D7	SJM
1904088-03	C	bis(2-ethylhexyl)phthalate	04/12/19 6:00	EPA62S	4/22/19 18:33	8.29	mg/kg dry	0.11	0.24	DJ,D7	SJM
1904088-03	C	Butylbenzylphthalate	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1904088-03	C	Carbazole	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.11	0.24	DJ, D7, Sl1	SJM
1904088-03	C	Chrysene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1904088-03	C	Dibenzo(a,h)anthracene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.12	0.24	D1,D7	SJM
1904088-03	C	Diethyl phthalate	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1904088-03	C	Dimethyl phthalate	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.02	0.24	DJ,D7	SJM
1904088-03	C	Di-n-butyl phthalate	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.10	0.24	DJ, D7, S11	SJM
1904088-03	C	Di-n-octyl phthalate	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.10	0.24	D1,D7	SJM
1904088-03	C	Fluoranthene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kgdry	0.05	0.08	DI, D7, SJI	SJM
1904088-03	C	Fluorene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.06	0.08	DI, D7	SJM
1904088-03	C	Hexachlorobenzene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.02	0.08	DI, D7, S11	SJM
1904088-03	C	Hexachlorobutadiene	04/12/19 6:00	EPA625	4/22/19 18:33	ND	mg/kg dry	0.04	0.08	D1,D7	SJM
1904088-03	C	Hexachlorocyclopentadiene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.17	0.24	D1,D7	SJM
1904088-03	C	Hexachloroethane	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.05	0.08	Di,D7	SJM
1904088-03	C	Indeno(1,2,3-cd)pyrene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.11	0.24	D1,D7	SJM
1904088-03	C	Isophorone	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1904088-03	C	Naphthalene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1904088-03	C	n-Decane	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.08	0.08	DJ,D7	SJM
1904088-03	C	Nitrobenzene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.08	0.24	D1,D7	SJM
1904088-03	C	N-Nitrosodimethylamine	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.08	0.24	DI, D7, PC3	SJM
1904088-03	C	N-Nitrosodi-n-propylamine	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.10	0.24	DJ,D7	SJM
1904088-03	C	N-Nitrosodiphenylamine	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.24	0.40	D1,D7	SJM
1904088-03	C	n-Octadecane	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.09	0.24	DI,D7,SJI	SJM
1904088-03	C	Pentachlorophenol	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.16	0.24	DJ, D7, SJI	SJM
1904088-03	C	Phenanthrene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.07	0.08	DI, D7, SJI	SJM
1904088-03	C	Phenol	04/12/19 6:00	EPA62S	4/22/19 18:33	41.16	mg/kg dry	0.10	0.24	D1,D7	SJM
1904088-03	C	Pyrene	04/12/19 6:00	EPA62S	4/22/19 18:33	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1904088-03	C	1,2-Diphenylhydrazine	04/12/19 6:00	EPA8270C	4/22/19 18:33	ND	mg/kg dry	0.05	0.08	D!,D7	SJM
1904088-03	C	1,4-Dichlorobenzene	04/12/19 6:00	EPA8270C	4/22/19 18:33	ND	mg/kg dry	0.22	0.24		SJM
1904088-03	C	2,4,5-Trichlorophenol	04/12/19 6:00	EPA8270C	4/22/19 18:33	ND	mg/kg dry	0.10	0.24		SJM
1904088-03	C	3 & 4-Methylphenol	04/12/19 6:00	EPA8270C	4/22/19 18:33	ND	mg/kg dry	0.05	0.24		SJM

Qualifier Definitions

R7	LFB/LFBD RPO exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
A	Absence
DI	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.
D6	Minimum Reporting Limit (MRL) adjusted due to an automatic IOX dilution performed on this sample for the purpose of reporting traditional drinking water analytes for wastewater requirements.
D7	Minimum Reporting Limit adjusted to reflect sample dilution.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL), but above the MDL.
ES	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. The
LI	associated blank spike recovery was above laboratory acceptance limits.
L2	The associated blank spike recovery was below laboratory acceptance limits.
NI	See case narrative.
N4	The Minimum Reporting Limit (MRL) verification check did not meet the laboratory acceptance limit.
N7	Additional analysis was not performed based on the "Total" result which was below the requested a11alyte's MCL/Action level/frigger Level.
NA	Not Analyzed
NC	Not Calculable
NR	Not Reported
PC3	Semi-quantitation is included in the case narrative.
Q6	Sample was received above recommended temperature.
RS	Sample RPO exceeded the method acceptance limit.
SI I	Surrogate recovery was high. Data reported per ADEQ policy 0154.000
T4	Tentatively identified compound. Concentration is estimated and based on the closest internal standard.
VI	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
UC	Under Construction
EB	Equipment Blank
NA	Not Analyzed

Case Narrative(s)

Semi-Quantitation
Method: 625
1904088-02

Compound Name	Concentration-ug/L
Palmitic Acid	163

SJM 05/17/19

Semi-Quantitation
Method: 625
1904088-01

Compound Name	Concentration-ug/L
2-Butoxyethanol	98
Benzoic acid	209
Benzeneacetic Acid	252
Dodecananoic Acid	244
Tetradecanoic Acid	386
Palmitic Acid	74364
OleicAcid	99011
Stearic Acid	26826

SJM 05/17/19

Semi-Quantitation
Method: 625
1904088-03

Compound Name	Concentration-mg/Kg
Tetradecanoic Acid	320
Palmitic Acid	79339
OleicAcid	104713
Stearic Acid	29756

SJM 05/17/19

1904107-01
Total Dissolved Solids, SM 2540C: Analysis rerun due to failing QC (duplicate RPD, > 10%). The reanalysis had passing QC and is Reported. ESW 8/13/19

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
WATER QUALITY
SAMPLE COLLECTION REPORT

SAMPLE LOCATION: Agua Nueva WRF -Thickened Sludge Pump **LIMS:** tt,0!J{Og'$-0J

LOCATION ID: 26107 - 0600 **SAMPLERS:** 5,'lvz;..1 k4.....,f.4t'"'",R.-c...c.-,h; ,. M,a,<.,'7·,u

Last names only, primary sampler first

SAMPLE DATE: Oq-I L.-.)O15

Sample Dore	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	Metals (T) + Molybdenum		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 (for outside lab)		Man	1000 ml	General Purpose/None/Ice
To be Composited by the Laboratory					
D	Purgeable Organics	Hand Composite 4 Aliquots for the duration of the discharge	Man	4X40	None/Ice
D	Acrolein/Acrylonitrile		Man	4X40	None/Ice

	Time
Aliquot #1 t,,//11/2 q	oc.-1<
Aliquot #2 t-4H	12..1<
Aliquot #3	
Aliquot #4	

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

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
D 17631 N. 25th Avenue• Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-6101
04585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page ♦ of ___J___

Please Print Clearly

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W. Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
SOCs	Agua Nueva WRF	Joe Doranski	19-027733	Fax Results ☐ Email Results X QC Report ☐ EDD ☒ Special Detection Limits ☐

DW=Drinking Water, WW=Wastewater, SW=Surface Wr, GW=Groundweter, S=Soil/Solid, T=Trevel Blank, F=Food, G=Sludge/Biosolids

Laboratory Authorization Required for Rush

ft Standard 10 - 15 Day

D Other

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Compliance	No. of Containers	504	515	*625.1	531	547	548	**549	***608.3	8141	1613	Tributyltin (TIC)	Uranium 200.8	T. cyanide mg/kg	Total % solids			Lab No.
1904089-01	04/12/19	600	Agua Nueva WRF - plant effluent	X		WW	X	23	x	x	x	x	x	x	x	x	x	x	x	x					01
Travel Blank						DI		1	x																02
1904088-03	04/12/19	600	Agua Nueva WRF - thickened sludge	X		G	X	2													X	X			

Comments /Special Instructions: *625.1 ext -include Permethrin **549-Paraquat & Diquat ***608.3 ext include Mirex

Sample Condition Upon Receipt (Lab Use)		
No. of Coolers/Jars		
Temperature		°C
Custody Seals	y	N
Sealed Bottles	Y	N
Preserved	y	N

	Relinquished By		Received By	
①	Sampler Signature: Greg Spence	Date 4/12/19	Signature: Brian Merritt	Date 4/12/19
	Sampler Printed Name: Greg Spence	Time 1215	Printed Name: Brian Merritt	Time 1315
②	Signatu"	Date	Signatul1'	Date
	Printed Name	nme	Printed Name	nme
③	Signature	Date	Signature	Date
	Printed Name	Time	Printed Name	Time

WHITE-LAB YELLOW-CLIENT

FORM CS-016.2 (07/18)

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
17631 N 25th Avenue• Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-6101
04585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page L of 1

Please Print Clearly

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W. Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
SOCs	Agua Nueva WRF	Joe Doranski	19-027733	Fax Results ☐ Email Results X QC Report ☐ EDD ☒ Special Detection Limits ☐

DW=Drinking Water, WW=Wastewater, SW=Surface Water, GW=Groundwater, S=Soil/Solid, T=Travel Blank, F=Food, G=Sludge/Biosolids

Laboratory Authorization Required for Rush

♦ Standard 10-15 Day

D Other

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Compliance	No. of Containers	504*	515	*625.1	531	547	548	**549	***608.3	8141	1613	Tributyltin (TIC)	Uranium 200.8	T. cyanide mg/kg	Total % solids			
1904089-01	04/12/19	600	Agua Nueva WRF - plant effluent	x		WW	X	23	x	x	x	x	x	x	x	x	x	x	x	x					01
Travel Blank						DI		1	x																02
1904088-03	04/12/19	600	Agua Nueva WRF - thickened sludge	X		G	X	2													X	X			

Comments/ Special Instructions: *625.1 ext -include Permethrin **549-Paraquat & Diquat ***608'.3 ext include Mirex

Sample Condition Upon Receipt (Lab Use)		
No. of Containers		
Temperature		°C
Custody Seals	y	N
Seals Intact	y	N
Preserved	y	N

	Relinquished By		Relinquished By	
①	Sampler Signature	Date 4/12/19	Signature	Date 4/12/19
	Sampler Printed Name Greg Spence	Time 1215	Printed Name	Time 1215
②	Signature	Date	Signature	Date
	Printed Name	Time	Printed Name	Time
③	Signature	Date	Signature	Date
	Printed Name	Time	Printed Name	Time

WHITE-LAB YELLOW-CLIENT

FORM CS-016.2 (07/18)

PIMA COUNTY
WASTEWATER RECLAMATION

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

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	19040'9-01,190408 -03	DO	19-027733
CONTRACT LAB	Legend Technical Services, St. Paul, Phoenix; Eurofins Eaton Analytical, Inc.; Pace Analytical, Mt. Juliet, Minneapolis	SAMPLE GROUP	socs
ANALYSES	EPA 504.1, EPA 515.3, EPA 548.1, EPA 549.2, EPA-5 16138-Tetras, EPA 608.3, EPA 625.1, EPA 200.8, EPA 531.2, EPA 547, EPA 81418, EPA 9014, SM 2540G	REPORT ID	19D1590

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Solimsann\elementshare\TransferIn ?	y
Was the above-mentioned file converted from a .xis 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>Proiect Manaaement>Reoorts)	y
Was the converted file attached to the sample in LIMS?	y
VALIDATING CONTRACT LAB REPORT, CHAIN OF CUSTODY(S), AND DO#:	
Is contract lab report signed and dated?	y
Is coov of contract lab COC included with contract lab report?	y
Do the contract lab COC and CRAO COC(s) list the same sample ID, sample date, and analvsis reauested?	y
Do the sample dates and received dates on the CL report match the CL COC?	y
Does the CL report include all requested analysis?	y
Is the CL licensed in AZ for reported methods?	y
Does the DO match COC in types and number of tests?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
Do CL report and CL spreadsheet report the same sample result(s), sample date(s), and analysis date(s)?	y
Was a case narrative included in contract lab report?	y
Does the data packet include a QC report from the primary lab and any secondary subcontract labs?	y
Did the CL report list applicable AZ data aualifiers?	y
Were any dilutions made?	y
Were any results from diluted samples reported as ND?	y
Were the results from any diluted samples aualified accordingly?	y
Was QC included for every analvsis method (e.a. Blk, LCS, MS, MSD)?	y
Did QC pass stated acceptance limits? If not, was it qualified?	y
Were samples analyzed within required holding times?	y
SOCs: Are MDLs below water qualitv standards? 0fnot, notify Belinda Gamboa-Felix.)	N (Y)
Semivolatiles & Volatiles: Were all analytes delivered?	y
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	N/A
Was Belinda Gamboa-Felix notified of any exceedences?	N/A

QA-18 SubcontractDataChecfist-Reports Rev 18
Effective 01-23-2019

WET TESTING SPECIFIC REQUIREMENTS	
Is statement of Pass/Fail reflected in endpoints?	N/A
Ceriodaphnia: Survival and reproduction data included?	N/A
P. Promelas: Survival and growth data included?.	N/A
Selenastrum: Growth data included?	N/A
Was chemistry data included?	NIA
Are Reference Toxicant Test results and Control Charts within limits?	N/A
Was PMSD Determination included and within acceptable range? (minimum acceptable= 13)	N/A
Do endpoints include TUc, NOEC, LOEC, .and IC25?	N/A
Do statistics verify endpoints?	N/A
Were Control Charts updated to include month of analysis?	N/A
Reviewer Initials: ABR	**Review Date:** 07-15-19

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. Legend Technical Services of Arizona, Phoenix)?	✓	
DO received in Pima Core?	✓	
Analysis set to Reported?		✓
Peer Reviewer Initials: JR	**Review Date:** 7-16-19	
Final Reviewer Initials: JEC	**Review Date:** 7-22-19	

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QNQC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor.		Date:	

I.IMS#k	DIMA.110	CORRECTUYa;ACTION

DEVIATIONS FROM ACCEPTABLE QA/QC:

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

CORRECTIVE ACTION:

Request re◆ort 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 18
Effective 01-23-2019

Page 2 of 2

LEGEND
Technical Services, Inc.

4585 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (520) 327-0518
www.legend-group.com

28 June 2019

Joe Doranski
Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745
Fax (520) 579-6002

RE: SOCs

Laboratory Work Order No.: 19D1590

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 04/12/19 12:45.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method- sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

P. Brian Merritt For Alyssa Mazza
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Pima_ County R\NRD CRAO Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: SOCs Project Number: Agua Nueva \NRF Project Manager: Joe Doranski	eported: 06/28/19 11 :4

ANALYTICAL REPORT FOR SAMPLES

SampleID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
1904089-01	19D1590-01	Wastewater	<?omposite	04/12/19 06:00	04/12/19 12:45
Travel Blank	19D1590-02	Water		04/12/19 06:00	04/12/19 12:45
1904088-03	19D1590-03	Solid (Dry \Neight)	Composite	04/12/19 06:00	04/12/1912:45

Sample Condition Upon Receipt:

Temperature: 5.70 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: ·An holding times were met unl ss, otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)0004, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All sainples were analyzed on a "wet" basis unless designated as "dry weight".

This report contains data that were produced by a subcontracted laboratory certified for the fields of testing performed:

Eurofins Eaton Analytical, Inc. AZ0432
Pat Muff
574-472-5503

Legend Technical Services, St. Paul AZ0557
Bach Pham
651.221.4062

Pace Analytical AZ0014
JoAnn Richardson
612.607.6407

Pace National (fl<a ESC) AZ0612
Daphne Richards
800.767.5859

Report revised 5/16/19 to display 625.1 as the correct method of analysis. PBM

Report revised 6/26/19 to report QC in ug/L. PBM

Pima County RWRD CRAO Lab
;2955 W Calle Agua Nueva
;rucson,'AZ 85745

Project: socs
Project Number: Agua Nueva WRF
Project Manager: Joe Doranski

Reported:
06/28/1911:43

1904089-01 (19D1590-01) Wastewater (Composite) Sampled: 04/12/19 06:00 Received: 04/12/19 12:45

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				ESCIAZ0612						
81418										
Ronnel	ND	0.252	1.00	ug/l	1	M3126637E	04/17/19 20:04	04/23/1916:23	S141B	EB
Stiroptios	ND	0.226	1.00	ug/l	1	M3126637♦	04/17/19 20:04	04/23/19 16:23	S141B	EB
Sulfotep	ND	0.202	1.00	ug/l	1	M3126637E	04/17/19 20:04	04/23/1916:23	S141B	EB
TEPP	ND	9.74	20.0	ug/l	1	M3126637E	04/17/19 20:04	04/23/19 16:23	S141B	EB
Tokuthion (Prothothiofos)	ND	0.254	1.00	ug/l	1	M3126637E	04/17/19 20:04	04/23/1916:23	B141B	EB
Triphloronate	ND	0.213	1.00	ug/l	1	M3126637E	04/17/19 20:04	04/23/19 16:23	B141B	EB
Surrogate: Triphenyl Phosphate			*79.8%*	*42.0-129*		*WG12663*	*04/17/19*	*04123/19*	*8141B*	

75

1904088-03 (19D1590-03) Solid (Dry Weight) (Composite) Sampled: 04/12/19 06:00 Received: 04/12/19 12:45

1 Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				Legend Technical Services of Arizoi:ia, Inc.						
Inorganic Chemistry_										
Cyanide, Total	<	2.19	7.30	mg/kg dry	1	B9D1672	04/19/1910:30	04/19/1913:31	EPA9014	EBa
%Solids	1		1	o/o	1	B9D159B	04/17/1916:05	04/17/19 16:05	SM2540G	

Pima County RWRD CRAO Lab 2955 WCalleAgua Nueva ♦ucson, AZ 85745	Project: SOCs Project Number: Agua Nueva WRF Project Manager. Joe Doranski	Reported: 06{2811911:43

Notes and Definitions

T4	Tentatively identified compound. Concentration is estimated and based on the closest internal standard.
R7	LFBILFBD RPO exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
ND	ND
N4	The Minimum Reporting Limit (MRL) verification check did not meet the laboratory acceptance limit.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
L2	The associatE;d blank spike recovery was below laboratory acceptance limits.
L1	The associated blank spike recovery was above laboratory acceptance limits.
E8c	Analyte reported to the MDL per project specification. Target analyte was not detected in the sample.
E8b	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
E8a	Analyte reported to MDL per project specification ..Target analyte was not detected in the sample.
E8	[Undefined]
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL), but above the MDL.
06	Minimum Reporting Limit (MRL) adjusted due to an automatic 1OX dilution perfonned on this sample for the purpose of reporting traditional drinking water analytes for wastewater requirements.
01	Sample required dilution due to matrix.
<	<
BLK	Method Blank
LCS/Oup	Laboratory Control Sample/laboratory Fortified Blank/Duplicate
MS/Oup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPO	Relative Percent Difference

Pima County RWRD CRAO Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: SOCS Project Number: Agua Nueva WRF Project Manager. Joe Doranski	Reported: 06/28/1911 :43

19D1590

CHAIN OF CUSTODY RECORD

LEGEND
Technical Services, Inc.

017831N.25CIIA-•I'IIoonlx.AZIISD23•(902)◆100.f . . ◆32c-a101
04511SS. P a l o - Rd,SW423• T - , A Z 15714 •(520) ◆-1234 •Fa (520) 327◆11

Page J of L

Client Name	Project Name	Project Manager	P.O. No.	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W. Calle Agua Nueva	Tucson		AZ	85745	520-724-6016	joseph.doranski@pima.gov
SOC,	Agua Nueva WRF	Joe Doranski	19-027733				Fax Results ☐ Email Results X; QC Report ☐ EDD ☑ Special Detection Limits ☐

Laboratory Authonzalion Required for Rueh

S=Soil/Solid T=Travel Blank F=Food G=Sludge/Biosolids

Client's sample Identification	Date	Time	Sample Location	Ice	Sample	Compliance	No. of Containers	504	515	625.1	531	547	548	549	608.3	814	161.3	Tributyltin (TIC)	Uranium 200.8	T. cyanide mg/kg	Total % solids				
1904069-01	001211e	600	.Agua Nueva WRF - plant effluent	x	WW	X	23	x	x	x	x	x	x	x	x	x	x	x							01
Travel Blank					DI		1	x																	02
1904086-03	0412/19	500	Agua Nueva WRF - thickened sludge	x	G	X	2												X	X					03

WEEKEND/HOLIDAY SAMPLES

Comments / Special Instrudions: "825.1 ext-Include Pennelhrin -541H>araquat & Dtquat -•60II.'3 ext Include Min,x

(1)	Greg Spence	Date 4/12/19 Time 12:15	Signature Brian Merritt	Date 4/12/19 Time 12:15	
(2)	Brian Merritt	Date 4/12/19 Time 1600	Signature Routier	Date 4/12/19 Time 1600	
(3)	C Lab	Date 4/13/19 Time 0820	Signature Michelle Yoshioka	Date 4/13/19 Time 0820	

	2.7
	5.7 °C
	Y N
	Y N
	Y N

WHITE-LAB YELLOW-CLIENT

FORM CS-018.2 (07/18)

PIMA COUNTY
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: 11/07/2019
Laboratory License: AZ0159

Sample Analysis Report

Agua Nueva WRF

July 2019

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

IIf!Bl!CZ
Date

Laboratory License# AZ0159

Lab ID:	Sample Type	Parameter	Sample Date/fime		Analysis Method	Analysis Date/fime		Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1907086-01	C	Carbazole	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	2.67	12.00	DI, D7	SJM
1907086-01	C	Chrysene	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	1.14	4.00	DI,D7	SJM
1907086-01	C	Dibenzo{a,h)anthracene	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	3.07	12.00	DI, D7	SJM
1907086-01	C	Diethyl phthalate	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	2.24	12.00	DI, D7	SJM
1907086-01	C	Dimethyl phthalate	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	0.58	4.00	DI, D7	SJM
1907086-0 I	C	Di-n-butyl phthalate	07/12/19	6:00	EPA625	7/23/19	18:48	9.09	ug/L	2.50	12.00	DI, D7	SJM
1907086-01	C	Di•n-octyl phthalate	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	2.55	12.00	DI, D7	SJM
1907086-0 I	C	Fluoranthene	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	1.32	4.00	DI, D7	SJM
1907086-01	C	Fluorene	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	1.54	4.00	DI, D7	SJM
1907086-01	C	Hexachlorobcnune	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	0.62	4.00	DI, D7	SJM
1907086-01	C	Hexachlorobutadiene	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	1.01	4.00	D7, DI	SJM
1907086-0 I	C	Hexachlorocyclopentadiene	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	4.23	12.00	DI,D7	SJM
1907086-01	C	Hexachloroethane	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	1.26	4.00	DI,D7	SJM
1907086-01	C	Indeno(1,2,3-cd)pyrene	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	2.83	12.00	DI,D7	SJM
1907086-0t	C	Isophorone	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	1.66	4.00	DI, D7	SJM
1907086-01	C	Naphthalene	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	1.77	4.00	DI, D7	SJM
1907086-0 I	C	n-Decane	07/12/19	6:00	EPA625	7/23/19	I 8:48	ND	ug/L	1.95	4.00	DI, D7	SJM
1907086-0 I	C	Nitrobenzene	07/12/19	6:00	EPA625	7/23/19	I 8:48	ND	ug/L	2.10	12.00	DI, D7	SJM
1907086-0 I	C	N-Nitrosodimethylamine	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	2.09	12.00	DI, D7	SJM
1907086-01	C	N•Nitrosodi-n•propylamine	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	2.43	12.00	DI, D7	SJM
1907086-01	C	N-Nitrosodiphenylamine	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	6.08	20.00	DI, D7, PC3	SJM
1907086-0 I	C	n-Octadecane	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	2.18	12.00	DI, D7	SJM
1907086-0 I	C	Pentachlorophenol	07/12/19	6:00	EPA625	7/23/19	I 8:48	ND	ug/L	4.02	12.00	DI, D7	SJM
1907086-0I	C	Phenanthrene	07/12/19	6:00	EPA625	7/23/19	I 8:48	ND	ug/L	1.63	4.00	DI, D7	SJM
1907086-01	C	Phenol	07/12/19	6:00	EPA625	7/23/19	18:48	15.3	ug/L	2.59	12.00	DI, D7	SJM
1907086-0 I	C	Pyrene	07/12/19	6:00	EPA625	7/23/19	18:48	ND	ug/L	1.38	4.00	DI, D7	SJM
1907086-01	C	1,2-Diphenylhydrazine	07/12/19	6:00	EPA8270C	7/23/19	18:48	ND	ug/L	0.98	2.00	D7, NI, DI	SJM
1907086-0IRE2	C	Zinc	07/12/19	6:00	EPA 200.8	7/17/19	18:35	156	ug/L	0.86	10.00	D2	JB
Thickened Sludge Pump (26107-0600)													
1907086-03	C	Antimony	07/12/19	6:00	EPA6010D	7/30/19	12:14	ND	mg/kgdry		11.44		MLB
1907086-03	C	Arsenic	07/12/19	6:00	EPA6010D	7/26/19	16:22	ND	mg/kg dry		11.44		MLB
1907086-03	C	Berylliwn	07/12/19	6:00	EPA6010D	7/26/19	16:22	ND	mg/kgdry		2.29		MLB
1907086-03	C	Cadmiwn	07/12/19	6:00	EPA6010D	7/26/19	16:22	ND	mg/kg dry		4.58		MLB
1907086-03	C	Chromium	07/12/19	6:00	EPA6010D	7/26/19	16:22	ND	mg/kg dry		11.44		MLB
1907086-03	C	Copper	07/12/19	6:00	EPA6010D	7/26/19	16:22	124	mg/kg dry		11.44		MLB
1907086-03	C	Lead	07/12/19	6:00	EPA6010D	7/30/19	13:45	ND	mg/kg dry		11.44		MLB
1907086-03	C	Mercury	07/12/19	6:00	EPA 7471B	8ntl9	15:46	0.85	mg/kg dry		0.40		MJC
1907086-03	C	Molybdenwn	07/12/19	6:00	EPA6010D	7/26/19	16:22	5.12	mg/kg dry		4.58		MLB
1907086-03	C	Nickel	07/12/19	6:00	EPA6010D	7/26/19	16:22	ND	mg/kg dry		11.44		MLB
1907086-03	C	Seleniwn	07/12/19	6:00	EPA6010D	7/26/19	16:22	ND	mg/kg dry		22.89		MLB
1907086-03	C	Silver	07/12/19	6:00	EPA6010D	7/26/19	16:22	1.23	mg/kgdry		1.14		MLB
1907086-03	C	Arsenic	07/12/19	6:00	TCLP/EPA 6010D	8/22/19	13:52	ND	mg/L		0.03		MLB
1907086-03	C	Bariwn	07/12/19	6:00	TCLP/EPA6010D	8/22/19	13:52	0.140	mg/L		0,03		MLB
1907086-03	C	Cadmium	07/12/19	6:00	TCLP/EPA6010D	8/22/19	13:52	ND	mg/L		Q01		MLB
1907086-03	C	Chromiwn	07/12/19	6:00	TCLP/EPA 6010D	8/22/19	13:52	ND	mg/L		0.03		MLB
1907086-03	C	Lead	07/12/19	6:00	TCLP/EPA6010D	8/22/19	15:13	ND	mg/L		0.03		MLB
1907086-03	C	Mercury	07/12/19	6:00	TCLP/EPA 7470A	8/8/19	10:48	NA	mg/L		0.00	N7	MJC
1907086-03	C	Seleniwn	07/12/19	6:00	TCLP/EPA6010D	8/22/19	13:52	ND	mg/L		0.05		MLB
1907086-03	C	Silver	07/12/19	6:00	TCLP/EPA6010D	8/22/19	13:52	ND	mg/L		0.0025		MLB
1907086-03	C	Thalliwn	07/12/19	6:00	EPA6010D	7/30/19	10:29	ND	mg/kg dry		11.44		MLB
1907086-03	C	Zinc	07/12/19	6:00	EPA6010D	7/26/19	16:22	326	mg/kg dry		11.44		MLB
1907086-03	C	%Solids	07/12/19	6:00	SM2540G	7/13/19	13:21	1.24	%		0.01		MSM
1907086-03	C	Acrolein	07/12/19	6:00	EPA624	7/24/19	17:41	ND	mg/kg dry	0.00360	0,01		JEL
1907086-03	C	Acrylonitrile	07/12/19	6:00	EPA624	7/24/19	17:41	ND	mg/kg dry	0.00280	0,01	NI	JEL
1907086-03	C	4,4-DDD	07/12/19	6:00	EPA 625	7/24/19	22:28	ND	mg/kg dry	0.00247	0,01	DI,D7	HAY
1907086-03	C	4,4-DDE	07/12/19	6:00	EPA625	7/24/19	22:28	ND	mg/kg dry	0.00390	0.01	DI,D7	HAY
1907086-03	C	4,4-DDT	07/12/19	6:00	EPA 625	7/24/19	22:28	ND	mg/kg dry	0.00341	0,01	DI,D7	HAY
1907086-03	C	Aldrin	07/12/19	6:00	EPA625	7/24/19	22:28	ND	mg/kg dry	0.00400	0.01	DI, D7, NI	HAY

Laboratory License# AZ0159

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Dateffime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1907086-03	C	alpha-BHC	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kg dry	0.00420	0.01	DI,D7,Nt	HAV
1907086-03	C	beta-BHC	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kgdry	0.00889	0.01	DI,D7	HAV
1907086-03	C	Chlordane	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kgdry	0.00938	0.05	DI, D7	HAV
1907086-03	C	delta-BHC	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kgdry	0.00178	0.01	DI,D7	HAV
1907086-03	C	Dieldrin	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kgdry	0.00410	0.01	DI,D7	HAV
1907086-03	C	Endosulfan I	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kg dry	0.00267	0.01	DI,D7	HAV
1907086-03	C	Endosulfan II	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kg dry	0.00361	0.01	DI,D7	HAY
1907086-03	C	Endosulfan sulfate	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kg dry	0.00282	0.01	DI, D7, NI	HAY
1907086-03	C	Endrin	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kg dry	0.00657	0.01	DI,D7	HAY
1907086-03	C	Endrin aldehyde	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kgdry	0.00593	0.01	DI,D7	HAY
1907086-03	C	gamma-BHC (Lindane)	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kg dry	0.00682	0.01	D7,DI	HAY
1907086-03	C	Heptachlor	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kg dry	0.00247	0.01	DI,D7,NI	HAY
1907086-03	C	Heptachlor Epoxide	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kgdry	0.00420	0.01	DI,D7	HAY
1907086-03	C	PCB 1016	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kg dry	0.00543	0.01	DI,D7	HAY
1907086-03	C	PCB 1221	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kg dry	0.00840	0.01	DI, D7	HAY
1907086-03	C	PCB 1232	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kgdry	0.00346	0.01	DI, D7	HAY
1907086-03	C	PCB 1242	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kgdry	0.00642	0.01	DI, D7	HAY
1907086-03	C	PCB 1248	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kgdry	0.00519	0.01	DI,D7	HAY
1907086-03	C	PCB 1254	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kgdry	0.00938	0.QI	DI,D7	HAY
1907086-03	C	PCB 1260	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kg dry	0.00395	0.01	DI, D7	HAY
1907086-03	C	Total PCBs	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kgdry	0.00938	0.01	DI, D7	HAY
1907086-03	C	Toxaphene	07/12/19 6:00	EPA625	7/24/19 22:28	ND	mg/kg dry	0.08742	0.10	DI,D7	HAY
1907086-03	C	Methoxychlor	07/12/19 6:00	EPA8270C	7/24/19 22:28	ND	mg/kgdry	0.00247	0.01	D1,D7	HAY
1907086-03	C	I, I, I-Trichloroethane	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.004	0.01		ADP
1907086-03	C	1, 1,2,2-Tetrachloroethane	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.001	0.01		ADP
1907086-03	C	I, I).-Trichloroethane	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kgdry	0.002	0.01		ADP
1907086-03	C	I, 1-Dichloroethane	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.003	0.01		ADP
1907086-03	C	1, 1-Dichloroethene	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kgdry	0.002	O.QI		ADP
1907086-03	C	1,2-Dichlorobcnzene	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kgdry	0.002	O.QI		ADP
1907086-03	C	1,2-Dichloroethane	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kgdry	0.002	0.01		ADP
1907086-03	C	1,2-Dichloropropane	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.002	0.01		ADP
1907086-03	C	1,3-Dichlorobcnzene	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.002	0.01		ADP
1907086-03	C	1,4-Dichlorobenzene	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.003	O.QI		ADP
1907086-03	C	2-Chloroethyl vinyl ether	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kgdry	0.005	O.QI		ADP
1907086-03	C	Benzene	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.002	0.01		ADP
1907086-03	C	Bromodichloromethane	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kgdry	0.005	0.01		ADP
1907086-03	C	Bromoform	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kgdry	0.006	0.01		ADP
1907086-03	C	Bromomethane	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kgdry	0.003	0.01		ADP
1907086-03	C	Carbon Tetrachloride	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.007	0.01		ADP
1907086-03	C	Chlorobenzene	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kgdry	0.001	0.01		ADP
1907086-03	C	Chloroethane	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.004	O.ot		ADP
1907086-03	C	Chloroform	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.003	0.01		ADP
1907086-03	C	Chloromethane	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.004	0.01		ADP
1907086-03	C	cis-1,3-Dichloropropcne	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.002	0.01		ADP
1907086-03	C	Dibromochloromethane	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.001	0.01		ADP
1907086-03	C	Ethyl Benzene	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.002	O.QI		ADP
1907086-03	C	Methylene Chloride	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.004	0.01		ADP
1907086-03	C	Tetrachloroethene	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.004	0.01		ADP
1907086-03	C	Toluene	07/12/19 6:00	EPA624	7/24/19 17:41	36.28	mg/kg dry	0.003	0.01		ADP
1907086-03	C	Total Trihalomethanes	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.006	0.01		ADP
1907086-03	C	trans• I ,2-Dichloroethene	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.003	0.01		ADP
1907086-03	C	trans-1,3-Dichloropropcne	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.002	0.01		ADP
1907086-03	C	Trichloroethene	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.003	0.01		ADP
1907086-03	C	Trichlorofluoromethane	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.005	0.01		ADP
1907086-03	C	Vinyl chloride	07/12/19 6:00	EPA624	7/24/19 17:41	ND	mg/kg dry	0.004	O.ot		ADP
1907086-03	C	1,2,4-Trichlorobenzene	07/12/19 6:00	EPA8260	7/24/19 17:41	ND	mg/kg dry	0.002	O.QI		ADP
1907086-03	C	1,2-Dibromo-3-chloropropane	07/12/19 6:00	EPA8260	7/24/19 17:41	ND	mg/kg dry	0.002	0.02		ADP
1907086-03	C	1,2-Dibromoethane	07/12/19 6:00	EPA8260	7/24/19 17:41	ND	mg/kg dry	0.002	0.01		ADP
1907086-03	C	cis-1,2-Dichloroethene	07/12/19 6:00	EPA8260	7/24/19 17:41	ND	mg/kg dry	0.004	0.01		ADP
1907086-03	C	m,p-Xylenes	07/12/19 6:00	EPA8260	7/24/19 17:41	ND	mg/kg dry	0.003	0.02		ADP

Laboratory License# AZ0159

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Dateffime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1907086-03	C	o-Xylene	07/12/19 6:00	EPA8260	7/24/19 17:41	ND	mg/kg dry	0.002	0.01		ADP
1907086-03	C	Styrene	07/12/19 6:00	EPA8260	7/24/19 17:41	ND	mg/kg dry	0.002	0.01		ADP
1907086-03	C	Xylenes, total	07/12/19 6:00	EPA8260	7/24/19 17:41	ND	mg/kg dry	0.003	0.02		ADP
1907086-03	C	2,3,7,8-TCDD-DioxinScan	07/12/19 6:00	EPA625	8/9/19 15:11	ND	ug/kg dry		2.02		SJM
1907086-03	C	1,2,4-Trichlorobenzene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1907086-03	C	2,3-Dichloroaniline	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1907086-03	C	2,4,6-Trichlorophenol	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.05	0.08	Dl,D7	SJM
1907086-03	C	2,4-Dichlorophenol	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.o7	0.08	Dl,D7	SJM
1907086-03	C	2,4-Dimethylphenol	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.14	0.24	D1,D7	SJM
1907086-03	C	2,4-Dinitrophenol	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.34	0.80	Dl,D7	SJM
1907086-03	C	2,4-Dinitrotoluene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1907086-03	C	2,6-Dinitrotoluene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.06	0.08	Dl,D7	SJM
1907086-03	C	2-Chloronaphthalene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1907086-03	C	2-Chlorophenol	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1907086-03	C	2-Methyl-4,6-dinitrophenol	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.21	0.24	D1,D7	SJM
1907086-03	C	2-Methylphenol	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.05	0.08	Dl,D7	SJM
1907086-03	C	2-Nitrophenol	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.11	0.24	Dl,D7	SJM
1907086-03	C	3,3-Dichlorobenzidine	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.09	0.20	Dl,D7	SJM
1907086-03	C	4-Bromophenyl phenyl ether	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1907086-03	C	4-Chloro-3-methylphenol	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1907086-03	C	4-Chlorophenyl phenyl ether	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.05	0.08	Dl,D7	SJM
1907086-03	C	4-Methylphenol	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1907086-03	C	4-Nitrophenol	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.19	0.24	Dl,D7	SJM
1907086-03	C	Acenaphthene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1907086-03	C	Acenaphthylene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1907086-03	C	Anthracene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1907086-03	C	Benzidine	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.26	0.40	Dl,D7	SJM
1907086-03	C	Benzo[a]anthracene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.05	0.08	Dl,D7	SJM
1907086-03	C	Benzo[a]pyrene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1907086-03	C	Benzo(b]fluoranthene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1907086-03	C	Benzo[ghi]perylene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.12	0.24	D1,D7	SJM
1907086-03	C	Benzo[k]fluoranthene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.09	0.24	D7,D1	SJM
1907086-03	C	bis(2-chloroethoxy)methane	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1907086-03	C	bis(2-chloroethyl)ether	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.08	0.24	Dl,D7	SJM
1907086-03	C	bis(2-chloroisopropyl)ether	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.07	0.08	Dl,D7	SJM
1907086-03	C	bis(2-ethylhexyl)phthalate	07/12/19 6:00	EPA625	7/23/19 19:25	16.34	mg/kg dry	0.11	0.24	Dl,D7	SJM
1907086-03	C	Butylbenzylphthalate	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1907086-03	C	Carbazole	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.11	0.24	Dl,D7	SJM
1907086-03	C	Chrysene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.05	0.08	Dl,D7	SJM
1907086-03	C	Dibenzo(a,h)anthracene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.12	0.24	Dl,D7	SJM
1907086-03	C	Diethyl phthalate	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.09	0.24	Dl,D7	SJM
1907086-03	C	Dimethyl phthalate	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.02	0.08	Dl,D7	SJM
1907086-03	C	Di-n-butyl phthalate	07/12/19 6:00	EPA625	7/23/19 19:25	27.53	mg/kg dry	0.10	0.24	D1,D7	SJM
1907086-03	C	Di-n-octyl phthalate	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.10	0.24	D1,D7	SJM
1907086-03	C	Fluoranthene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1907086-03	C	Fluorenc	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1907086-03	C	Hexachlorobenzene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.02	0.08	D1,D7	SJM
1907086-03	C	Hexachlorobutadiene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.04	0.08	D1,D7	SJM
1907086-03	C	Hexachlorocyclopentadiene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.17	0.24	Dl,D7	SJM
1907086-03	C	Hexachloroethane	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kgdry	0.05	0.08	Dl,D7	SJM
1907086-03	C	Indeno(1,2,3-cd)pyrene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.11	0.24	D1,D7	SJM
1907086-03	C	Isophorone	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1907086-03	C	Naphthalene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1907086-03	C	n-Decane	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.08	0.08	Dl,D7	SJM
1907086-03	C	Nitrobenzene	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.08	0.24	D1,D7	SJM
1907086-03	C	N-Nitrosodimethylarnine	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.08	0.24	D1,D7	SJM
1907086-03	C	N-Nitrosodi-n-propylarnine	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.10	0.24	Dl,D7	SJM
1907086-03	C	N-Nitrosodiphenylamine	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.24	0.40	Dl,D7,PC3	SJM
1907086-03	C	n-Octadecane	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1907086-03	C	Pentachlorophenol	07/12/19 6:00	EPA625	7/23/19 19:25	ND	mg/kg dry	0.16	0.24	Dl,D7	SJM

Laboratory License # AZ0159

Lab ID:	Sample Type	Parameter	Sample Date/fime	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst	
1907086-03	C	Phenanthrene	07/12/19 6:00	EPA62S	7/23/19 19:25	ND	mg/kg dry	0.o7	0.08	Dl,D7	SJM	
1907086-03	C	Phenol	07/12/19 6:00	EPA62S	7/23/19 19:25	10.67	mg/kg dry	0.10	0.24	Dl,D7	SJM	
1907086-03	C	Pyrene	07/12/19 6:00	EPA62S	7/23/19 19:25	ND	mg/kgdry	0.06	0.08	Dl,D7	SJM	
1907086-03	C	1,2-Diphenylhydrazine	07/12/19 6:00	EPA8270C	7/23/19 19:25	ND	mg/kgdry	0.05	0.08	Dl,D7,NI	SJM	
1907086-03	C	1,4-Dichlorobenzene	07/12/19 6:00	EPA8270C	7/23/19 19:25	ND	mg/kg dry	0.22	0.24		SJM	
1907086-03	C	2,4,S-Trichlorophenol	07/12/19 6:00	EPA8270C	7/23/19 19:25	ND	mg/kg dry	0.10	0.24		SJM	
1907086-03	C	3 & 4-Methylphenol	07/12/19 6:00	EPA8270C	7/23/19 19:25	ND	mg/kg dry	0.05	0.24		SJM	
1907086-03	C	Pyridine	07/12/19 6:00	EPA8270C	7/23/19 19:25	ND	mg/kg dry	0.06	0.08		SJM	
1907086-03	C	Chlordane	07/12/19 6:00	TCLP/EPA8270C	8/13/19 16:17	NA	ug/L	1.38	3.00	N7	HAV	
1907086-03	C	Endrin	07/12/19 6:00	TCLP/EPA8270C	8/13/19 16:17	NA	ug/L	0.200	0.50	N7	HAV	
1907086-03	C	gamma-BHC (Lindane)	07/12/19 6:00	TCLP/EPA8270C	8/13/19 16:17	NA	ug/L	0.270	0.50	N7	HAY	
1907086-03	C	Heptachlor	07/12/19 6:00	TCLP/EPA8270C	8/13/19 16:17	NA	ug/L	0.270	0.50	N7	HAY	
1907086-03	C	Heptachlor Epoxide	07/12/19 6:00	TCLP/EPA 8270C	8/13/19 16:17	NA	ug/L	0.290	0.50	N7	HAY	
1907086-03	C	Methoxychlor	07/12/19 6:00	TCLP/EPA8270C	8/13/19 16:17	NA	ug/L	0.270	0.50	N7	HAY	
1907086-03	C	Toxaphene	07/12/19 6:00	TCLP/EPA8270C	8/13/19 16:17	NA	ug/L	3.79	6.00	N7	HAY	
1907086-03	C	1, 1-Dichloroethene	07/12/19 6:00	TCLP/EPA8260B	7/25/19 15:36	NA	ug/L	0.110	0.50	N7	ADP	
1907086-03	C	1,2-Dichloroethane	07/12/19 6:00	TCLP/EPA 8260B	7/25/19 15:36	NA	ug/L	0.0900	0.50	N7	ADP	
1907086-03	C	1,4-Dichlorobenzene	07/12/19 6:00	TCLP/EPA 8260B	7/25/19 15:36	NA	ug/L	0.170	0.50	N7	ADP	
1907086-03	C	Benzene	07/12/19 6:00	TCLP/EPA 8260B	7/25/19 15:36	NA	ug/L	0.110	0.50	N7	ADP	
1907086-03	C	Carbon Tetrachloride	07/12/19 6:00	TCLP/EPA8260B	7/25/19 15:36	NA	ug/L	0.340	0.50	N7	ADP	
1907086-03	C	Chlorobenzene	07/12/19 6:00·	TCLP/EPA8260B	7/25/19 15:36	NA	ug/L	0.0600	0.50	N7	ADP	
1907086-03	C	Chloroform	07/12/19 6:00	TCLP/EPA8260B	7/25/19 15:36	NA	ug/L	0.140	0.50	N7	ADP	
1907086-03	C	Hexachlorobutadiene	07/12/19 6:00	TCLP/EPA8260B	7/25/19 15:36	NA	ug/L	0.230	0.50	N7	ADP	
1907086-03	C	Methyl Ethyl Ketone	07/12/19 6:00	TCLP/EPA 8260B	7/25/19 15:36	NA	ug/L	0.290	0.50	N7	ADP	
1907086-03	C	Tetrachloroethene	07/12/19 6:00	TCLP/EPA8260B	7/25/19 15:36	NA	ug/L	0.180	0.50	N7	ADP	
1907086-03	C	Trichloroethene	07/12/19 6:00	TCLP/EPA8260B	7/25/19 15:36	NA	ug/L	0.130	0.50	N7	ADP	
1907086-03	C	Vinyl chloride	07/12/19 6:00	TCLP/EPA8260B	7/25/19 15:36	NA	ug/L	0.210	0.50	N7	ADP	
1907086-03	C	1,4-Dichlorobenzene	07/12/19 6:00	TCLP/EPA 8270C	8/27/19 09:59	NA	ug/Ldry	1.37	2.00	N7	SJM	
1907086-03	C	2,4,S-Trichlorophenol	07/12/19 6:00	TCLP/EPA 8270C	8/27/I9 09:59	NA	ug/Ldry	2.46	10.00	N7	SJM	
1907086-03	C	2,4,6-Trichlorophenol	07/12/19 6:00	TCLP/EPA 8270C	8/27/19 09:59	NA	ug/Ldry	1.14	5.00	N7	SJM	
1907086-03	C	2,4-Dinitrotoluene	07/12/19 6:00	TCLP/EPA 8270C	8/27/19 09:59	NA	ug/Ldry	1.44	5.00	N7	SJM	
1907086-03	C	2-Methylphenol	07/12/19 6:00	TCLP/EPA8270C	8/27/19 09:59	NA	ug/Ldry	1.09	2.00	N7	SJM	
1907086-03	C	3 & 4-Methylphenol	07/12/19 6:00	TCLP/EPA8270C	8/27/19 09:59	NA	ug/Ldry	1.07	4.00	N7	SJM	
1907086-03	C	Hexachlorobenzene	07/12/19 6:00	TCLP/EPA 8270C	8/27/19 09:59	NA	ug/Ldry	0.610	2.00	N7	SJM	
1907086-03	C	Hexachlorobutadiene	07/12/19 6:00	TCLP/EPA 8270C	8/27I9 09:59	NA	ug/Ldry	0.880	2.00	N7	SJM	
1907086-03	C	Hexachloroethane	07/12/19 6:00	TCLP/EPA 8270C	8/27/19 09:59	NA	ug/Ldry	1.09	2.00	N7	SJM	
1907086-03	C	Nitrobenzene	07/12/19 6:00	TCLP/EPA 8270C	8/27/19 09:59	NA	ug/Ldry	1.84	5.00	N7	SJM	
1907086-03	C	Pentachlorophenol	07/12/19 6:00	TCLP/EPA 8270C	8/27/19 09:59	NA	ug/Ldry	6.10	10.00	N7	SJM	
1907086-03	C	Pyridine	07/12/19 6:00	TCLP/EPA 8270C	8/27/19 09:59	NA	ug/Ldry	1.55	2.00	N7	SJM	
1907086-04	C	Total Solids	07/12/19 6:00	2S40 G-2011	7/22/19 18:00	4.25	%				KBC	*
• Analysis Performed by:ESC AZ06I2 • See attached contract lab report for official results.												
1907086-04	C	2.4,5-TP (Silvex)	07/12/19 6:00	81S!A	7/22/19 23:57	ND	mg/I	0.000667	0.00200	ES	LEL	*
1907086-04	C	2,4-D	07/12/19 6:00	81S!A	7/22/19 23:57	ND	mg/I	0.000667	0.00200	ES	LEL	*
• Analysis Performed by:ESC AZ06I2 - See attached contract lab report for official results.												
1907086-04	C	Sulfide	07/12/19 6:00	9030B	7/24/19 17:49	13200	mg/kg dry	179	588		JD	*
• Analysis Performed by:ESC AZ0612 • See attached contract lab report for official results.												
1907086-04	C	Flashpoint	07/12/19 6:00	EPA IOIOA(Mod.)	7/18/19 18:15	No Flash	°p			T6	CGP	*
• Analysis Performed by:Lcgend Technical Services of Arizona, Inc. - See attached contract lab report for official results.												
1907086-04	C	Cyanide, Total	07/12/19 6:00	EPA 9014	7/22/19 14:38	ND	mg/kg dry	1.42	4.72	DI, ES	KB	*
• Analysis Performed by:Legend Technical Services of Arizona, Inc. - See attached contract lab report for official results.												
1907086-04	C	pH	07/12/19 6:00	EPA904S D	7/23/19 14:00	7.2	pH Units			HS	BG	*
• Analysis Performed by:Lcgend Technical Services of Arizona, Inc. - See attached contract lab report for officia! results.												
1907086-04	C	Temperature	07/12/19 6:00	pH Temperature	7/23/19 14:00	12.6	·C			HS	BG	*
• Analysis Performed by:Lcgend Technical Services of Arizona, Inc. - See attached contract lab report for official results.												
1907086-04	C	%Solids	07/12/19 6:00	SM2S40G	7/18/19 15:50	1	%		1		SLL	*
• Analysis Performed by:Legend Technical Services of Arizona, Inc. • See attached contract lab report for official results.												

Chlorinated Effluent (26107-7000}

1907038-01	D	Nitrate/Nitrite	07/05/19 11:10	EPA3S3.2	7/8/19 11:23	4.11	mg/L	0.04	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.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL), but above the MDL.
ES	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
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.
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. The associated blank spike recovery was below method acceptance limits.
L4	Matrix spike recovery was high; the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M1	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
N1	See case narrative.
N7	Additional analysis was not performed based on the "Total" result which was below the requested analyte's MCL/Action level!fri$_{g\,g}$er Level.
NA	Not Analyzed
NC	Not Calculable
PC3	Semi-quantitation is included in the case narrative.
R4	MS/MSD RPO exceeded the method acceptance limit. Recovery met acceptance criteria.
RS	MS/MSD RPO exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
T6	The reported result cannot be used for compliance purposes.

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 ES 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
RPO	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
UC	Under Construction
EB	Equipment Blank
NA	Not Analyzed

Case Narrative(s)

Semi-Quantitation
Method: 625
1907063-01

Compound Name	Concentration-ug/L
Palmitic Acid	588

SJM 08/02/19

1907063-01
EPA Method 625 Semi-volatiles: Matrix spike and blank spike both fail recovery for 4-Methylphenol, Hexachloroethane, 2,3-Dichloroaniline, 2-Chloronaphthalene, n-Octadecane and Carbazole. CCV passes QC criteria for these analytes. SJM 08/02/19

Semi-Quantitation
Method: 625
1907086-02

Compound Name	Concentration-ug/L
Palmitic Acid	116

SJM 08/06/19

Semi-Quantitation
Method: 625
1907086-01

Compound Name	Concentration-ug/L
Benzoic Acid	110
N,N-Dimethyl 1-dodecanamine	397
Tetradecanoic Acid	98
Palmitic Acid	17611
OleicAcid	22575
Stearic Acid	7578

SJM 08/07/19

Semi-Quantitation
Method: 625
1907086-03

Compound Name	Concentration-mg/Kg
N,N-Dimethyl-1-dodecanamine	754
Tetradecanoic Acid	344
Palmitic Acid	67942
OleicAcid	89418
Stearic Acid	24287

SJM 08/07/19

1907086-01, -03
EPA Method 625 Semi-volatiles: Target analytes flagged with NI failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. SJM 08/07/19

1907086-01, -03
EPA Method 625 Pesticides: Target analytes flagged with NI failed the MS Recovery and/or MS/MSD RPO from the same extraction batch but the spike was performed on a different sample. The associated Blank Spike recoveries were acceptable. HAV 08/22/2019. Edited by MCD 08/22/2019.

1907086-03
EPA Method 624 Acrylonitrile: Target analytes flagged with NI failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. JEL 08/26/2019

1907086-02
SM 4500-CN E Contract lab results are expressed in fewer than three significant figures due to the fact that the contract lab normally reports total cyanide results in mg/L, not ug/L. ABR 8-28-19

CHAIN OF CUSTODY RECORD

t:EGEND Technical Services, Inc.
0 17631 N. 25th Avenue • Phoenix, 1Z 85023 • (602) 324-6100 • Fax (602) 324-6101
04585 S. Palo Verde Rd, Ste 423 • Tucson, 1Z 85714 • (520) 327-1234 • Fax (520) 327-0518

Page 1 of 1

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Quarterlies		Joe Doranski	20-001380	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Drinking Water; WW=Wulf/Nlaler; SW=Surface Water; GWzGroundwater; O=Other; S=Soil/Solid; T=Travel Blank; F=Food; G=Sludge/Biosolids

TURNAROUND TIME: Laboratory Authorization Required for Rush; tZ Standard 10 - 15 Day; D Other

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Compliance	No. of Containers	TCLP herbicides	Total cyanide mg/kg	Total % solids dry weight	pH	Total cyanide	Sulfide mg/kg	Ignitability	Sulfate mg/kg	
1907086-01	07/12/19	600	Agua Nueva WRF - plant influent	X		WW	X	1					X				01
1907086-02	07/12/19	600	Agua Nueva WRF - plant effluent	X		WW	X	1					X				02
1907086-04	07/12/19	600	Agua Nueva WRF - thickened sludge	X		G	X	6	X	X	X	X		X	X		03
1907087-01	07/12/19	800	Tres Rios WRF - raw influent	X		WW	X	1					X				O
1907087-02	07/12/19	600	Tres Rios WRF - final effluent #3	X		WW	X	1					X				„ D,6
1907087-04	07/12/19	600	Tres Rios WRF - dewatered cake	X		S	X	7	X	X	X	X		X	X	X	~~O~~ OC: 07/12/19

Comments / Special Instructions: Please report results from the sludge and cake cyanide, sulfate, sulfide samples in mg/kg dry weight.

SAMPLE CONDITION UPON RECEIPT (LAB USE)		
Temperature	°C	
Seal Intact	Y	N
Cooler Intact	Y	N
Sample Intact	Y	N

	RELINQUISHED BY		RECEIVED BY	
①	Sampler Signature: DV	Date: 7/12/19	Signature:	Date: 7/12/19
	Sampler Printed Name: Greg Spence	Time: 1311	Printed Name: Cuse Sos	Time: 1311
@	Signature	Date	Signature	Date
	Printed Name	Time	Printed Name	Time
③	Signatun,	Date	Signature	Date
	Printed Name	Time	Printed Name	Time

WHITE-LAB YELLOW-CLIENT

FORM CS-016.2 (07/18)

Pima County Regional Wastewater Reclamation Department
COffil'liancc and Rtgulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1907086-03

PROJECT & LOCATION: Agua Nueva WRF - Thickened Sludge Pump (Annual)

PROJECT-LOCATION NUMBER: 26107-0600

SAMPLESTARTDATE: 01- H -;l0Lq

SAMPLESTARTTIME: 0ERO0

CLIENT: IWC

SAMPLE END DATE: 01-

SAMPLE END TIME: 0EE00

SAMPLER(S): Silva, Tomchak, Riccaboni, Martinez (Print Last Name(s) Only)

Permit Type: O APP; AZPDES; 01v-c; D Investigative; Reuse; Air; ■ so3; D Process Control; Other

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

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	D	D	D	D
Antimony	0	0	0	0
Arsenic	D	D	D	D
Barium	0	0	0	0
Beryllium	□	D	D	D
Boron	D	D	D	D
Cadmium	D	D	D	D
Calcium	□	0	0	0
Chromium	D	D	D	D
Cobalt	0	0	0	0
Copper	□	□	□	□
Hardness	0	0	0	0
Iron	D	D	D	D
Lead	D	D	D	D
Magnesium	D	D	D	D
Manganese	SJ	D	D	□
Mercury			D.	
Mercury LL	□	□	□	□
Molybdenum	0	0	0	0
Nickel	0	0	0	0
Potassium	0	0	0	0
Selenium	□	□	D	D
Silver				D
Sodium	B	B	B	B
Thallium				
Tin	□	□	□	□

METALS	Tot	Diss	D	C
Titanium	D	D	D	D
Vanadium	O	O	O	O
Zinc	D	D	D	D
PPMs •	X		O	
TCLP Metals			D	
503 Metals . .			D	
Dissolved Cr+6			D	D

T-M ETH ODS	D	C
Ammonia as N	D	D
Chloride @ 7-12-19	0	0
~~Cyanide, Total~~	□	■
Cyanide, Amenable	D	D
Fluoride		O
Ignitability		D
HM	D	D
Total Petroleum Hydrocarbons	D	D
Volat.,le Acids	D	D
Other 1 24+		0
Other	□	□
Nitrate/Nitrite as N	□	□
Nitrogen, Total Kjeldahl	O	O
Nitrogen, Total as N	O	O
Orthophosphate as P	O	O
Phosphorus, Total as P	D	D
	B	8
	B	8
Other	□	D
Other	□	

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrffe		D
Dioxin GC/SIM/MS Scan	O	
Organochlorine Pesticides & PCBs	D	
PIl'geable Organics (GCMS)		0
Semivolatlle Organics (GCMS)	D	
Bis(2-ethylhexyl) phthalate	D	D
Digester Gas	D	D
Oil and Grease	O	O
Organic Carbon, Total	D	D
Organic Carbon, Dissolved	O	O
TCLP Herbicides (Contract Lab)	0	0
TCLP Pesticides	□	■
TCLP Semivolatile Organics	D	■
..,CLP Volatile Organics	■	0
Other		

EFFLUENT TOXICITY TESTING

	D	C
Chronic P. prome/a:s	D	D
Chronic *C. dubia*	□	□
Chronic *Selena:slrum caprlcomutum*	D	D
Other	□	D

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	D	D
BOD	O	O
COD	D	D
Coliform, Fecal	O	O
Coliform, Total	D	D
Specific Conductance	D	D
E. coli	□	□
Oxygen, Dissolved	O	O
pH	D	D
Solids, Total	O	
Solids, Total Dissolved	O	O
Solids, Total Suspended	D	D
Solids, Total Volatile	D	D
Solids, Volatile Suspended	□	0
Other	D	D

OTHER	D	C
Paint Filter	D	D
	□	□
	O	0
	D	D

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
D Chlorine Hach 10014		l-l91.
D Specific Conductance SM 2/510 B		µmhos/cm
D Oxygen, Dissolved SM 4/500-0 G		mg/l..
□ pH @ pH Temp SM 4/500-H B	CI	pHUnMs0° C
□ Temperature SM 25/50 B		°C
O Total Depth of Well		feet
□ Depth to water		feet
0 Other		

Comments: 11uc11on

The i.b shall composil9 the four dilcnlte Purgeable Or,anics and Acrolein/Acrylonitrile samples.

Septum Blank Pn,p Date & Initials:

Sample Intagrlty/Pl'lllervatlon:

Delivered

Transported IEI YES D NO

Ice NO

Temperature: 1 oC

Initials: W

QS qualifier? YES NO

LAB USE ONLY

Samplelnapection:	Yes	No	NA
~~Chain of Custody Record completed appropriately?~~	~~D~~	~~D~~	
Sample labels match Chain of Custody?		O	O
Correct number of sample bottles - " ' delllll9red?		o	o
custody seals intact?	D	D	8]
holding time?	S	O	0
Sufficient sample volume for analysis?		D	D
Samplesare in property preMMld containers?		D	D
Sample containers dama...,"-kind"'"'zen?	D	1P1	0
40 ml vials head1pace.> bubble?	O	[I	O
Received from a refrigerator?	O	,&1	O

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date: (Military time)
Relinquished by:	Received by:	Date: Time: (Military time)
Refrigerator Relinquished by:	Received by:	Date: Time: (Military time)
Relinquished by:	Received by:	Date: 07/12/19 Time: 0"1.4 (Military time)

• Sb, As, S.. Cd, Cr, Cu, Pb, Ni, Se, Ag, 11, Zn, Mercury(Ccld Vapot.)
- As, Cd, Cr. Cu. Pb, Mercury, Mo, Ni, Se, Zn

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

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1907086-04

PROJECT & LOCATION: Agua Nueva WRF - Thickened Sludge Pump (Annual)

PROJECT-LOCATION NUMBER: 26_1=0=7=0=600 (0000/0000Q)

SAMPLE START DATE: 0 t l-:i.o 19 (MM/DD/YYYY)

SAMPLE START TIME: 0 00

CLIENT: MVC

SAMPLE END DATE: 6 ,2-2019 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: Dt"o--0 (c-y-)

SAMPLER(S): S; h,a.i"fo,M.c.lvt,k, Rcll; Mg,, -/-:"ez... (Pmt I.MI Homo(•) Only)

Permit Type: 0 APP ■ AZPDES OnNC 0 Investigative ☐ Reuse ☐ Air ■ soJ D Process Control Od11er

Matrix: ■ Biosolids D Groundwater D Industrial ☐ Soil ☐ Stormwater ☐ Surface Water 0 Wastewater O Air ☐ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	D	O	D	D
Antimony	0	0	0	0
Arsenic	D	D	D	D
Barium	0	0	0	0
Beryllium	0	0	0	0
Boron	D	D	D	D
Cadmium	D	D	D	D
Calcium	0	D	D	D
Chromium	D	D	D	D
Cobalt	D	D	D	D
Copper	☐		☐	☐
Hardness	0	0	0	0
Iron		DD	DD	DD
Lead	DD			
Magnesium	☐	☐	☐	☐
Manganese	0	0	☐	☐
Mercury	O	D	D	D
Mercury LL	0	D	D	D
Molybdenum	☐	D	☐	☐
Nickel	0	D	D	D
Potassium	0	0	0	0
Selenium	D	D	D	D
Silver	O	D	D	D
Sodium	☐	☐	☐	D
Thallium	D	D	D	D
Tin	O	D	☐	☐

METALS	Tot	Diss	D	C
Titanium	O	O	D	D
Vanadium	O	O	O	O
Zinc	O	D	O	D
PPMs *	0	0	0	0
TCLP Metals			O	O
503 Metals -			D	D
Dissolved Cr+6			D	D

t--M-ETH_O_D_S----	D	C
Ammonia as N	☐	☐
Chloride	☐	☐
Cyanide, Total (,...trust)	☐	■
Cyanide, Amenable	D	D
...ity ,	B	
Nitrate as N	☐	☐
Nitrite as N	D	☐
Nitrate/Nitrite as N	D	D
Nitrogen, Total Kjeldahl	O	D
Nitrogen, Total as N	☐	☐
Orthophosphate as P	O	O
Phosphorus, Total as P	D	D
Sulfate	D	D
Sulfide / '-'"-1-,,..f)	☐	
Other _L_____	D	☐
Other _____	☐	D

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonitrile	D	D
Dioxin GCISIM/MS Scan	O	O
Organochlorine Pesticides & PCBs	D	D
Purgeable Organics (GCMS)	0	0
Semivolatile Organics (GCMS)	0	0
Bis(2-ethylhexyl) phthalate	D	D
Digester Gas	D	D
on and Grease	D	D
Organic Carbon, Total	D	D
Organic Carbon, Dissolved	D	D
TCLP Herbicides (Contract Lab)	0	
TCLP Pesticides	D	D
TCLP Semivolatile Organics	D	D
Volatile Organics	B	B
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	D	D
Other _____	☐	D
Other _____	D	

EFFLUENT TOXICITY TESTING

	D	C
Chronic P. promelas	D	O
Chronic C. dubia	D	D
Chronic Se/enastrum capricomutum		
Other _____	D	O

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	D	D
BOD	O	O
COD	D	D
Coliform, Fecal	O	O
Coliform, Total	O	O
Specific Conductance	D	D
E. coli	D	D
Oxygen, Dissolved	D	D
pH	D	O
Solids, Total (Utttirl>,.fl	D	■
Solids, Total Olssolved	O	O
Solids, Total Suspended	D	D
Solids, Total Volatile	D	D
Volatile Suspended	B	B
a.;		

OTHER	D	C
Paint Filter	D	D
Corrosivity pH (C,, i,...f)	D	
_____	O	0
_____	O	O
_____	O	O

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
O Chlorine Hedi 10014		µg/1..
O Specific Conductance SM 2510 s		µmhos/cm
O Oxygen, Dissolved SM 4500-0 G		mg/I..
O pH @ pH Temp SM 4!500-HS	0	pH Units O• C
D Temperature SM 2550 8		•C
O Total Depth of Well		feet
O Depth to Water		feet
Other		

,J TS. GCD 171 1?.!'i'

!!0

Septum Blank Prep Date & Initiala:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
		07-11-19	1500
Relinquished by:	Received by:	Date:	Time: (Military time)
	Refrigerator	7/12/19	0130
Relinquished by:	Received by:	Date:	Time: (Military time)
Refrigerator		07-12-19	0600
Relinquished by:	Received by:	Date:	Time: (Military time)
	Kyle Wilmore	07/12/19	0922
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

of Bottles Delivered 7-12-19 5(6) KLW

Transported on Ice ☒ YES ☐ NO

Lab Receipt

Temperature: 5.3 °C

Initials: KLW

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, S., Cd, Cr, Cu, PU, NI, Se, Ag, 11, Zn, Mercury(Ccld Vapo,j
- 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: 1 '1 !J1 0 3 , -- 0 3 .t 0 'f
LOCATION ID: 26107-0600 SAMPLERS: 5:/_ \ To111.-dv..k,. R,·u:..t:t@ort.' SAMPLE DATE: O=1-f 2-1 "j
Last names only, primary sampler first L_t,(.A, ·., e Z..

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	1000ml	Amber Glass/None/Ice
C	Organochlorine Pest & PCB's		Man	1000ml	Amber Glass/None/Ice
C	Dioxin		Man	1000ml	Amber Glass/None/Ice
C	Priority Pollutant & 503 Metals		Man	1000ml	Dissolved Metals/None/Ice
C	Total Solids (for outside lab)				
C	Total Solids		Man	1000ml	General Purpose/None/Ice
C	TCLP Metals		Man	1000ml	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
C	Cyanide (T}		Man	1000 ml	Dissolved Metals/None/Ice
To be Composited by the Laboratory					
D	Purgeable Organics	Hand Composite 4 Aliquots for the duration of the discharge	Man	4X40	None/Ice
D	Acrolein/Acrylonitrile		Man	4X40	None/Ice
D	TCLP Volatile Organics		Man	4X40	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	TCLP Herbicides		Man	1000ml	Amber Glass/None/Ice

	Date	Time
Aliquot #1	7-11-19	0625
Aliquot #2	7-11-19	1150
Aliquot #3	7-11-19	1750
Aliquot #4	7-12-19	~~7206~~ 1145

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

LEGEND
Technical Services, inc.

4585 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (520) 327-0518
www.legend-group.com

21 August 2019

Greg Spence
Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745
Fax: (520) 579-6002

RE: Environmental Analysis & Testing
Laboratory Work Order No.: 19G1581

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results. relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were re_ceived by the laboratory on 07/12/19 13:35.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the _date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

;:.8'.,..:,.-/i

P. Brian Merritt For Alyssa Mazza
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Pima County RWRO CRAO Lab	Project: Environmental Analysis & Testing	
2955 W Calle Agua Nueva	Project Number: Environmental Analysis & Testing	.Reported:
Tucson, AZ 85745	Project Manager: Greg Spence	08/21/19 11:47

ANALYTICAL REPORT FOR SAMPLES

1·SampleID	Laboratory ID	Matrix	lype	Date Sampled	Date Received
1907086-01	19G1581-01	Wastewater	Composite	07/12/19 06:00	07/12/19 13:35
1907086-02	19G1581-02	Wastewater	Composite	07/12/19 06:00	07/12/19 13:35
1907086-04	19G1581-03	Solid (Ory Weight)	Composite	07/12/19 06:00	07/12/19 13:35
1907087-01	19G1581-04	Wastewater	Composite	07/12/19 06:00	07/12/19 13:35
1907087-02	19G1581-05	Wastewater	Composite	07/12/19 06:00	07/12/19 13:35
1907087-04	19G1581-06	Solid (Ory Weight)	Composite	07/12/19 06:00	07/12/19 13:35
1907086-04	19G1581-07	Solid	Composite.	07/12/19 06:00	07/12/19 13:35
1907087-04	19G1581-08	Solid	Composite	07/12/19 06:00	07/12/19 13:35

Sample Condition Upon Receipt:

Temperature: 6.00 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ{PHX)0004, AZ{TUC)OO04, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed on a "wer basis unless designated as "dry weight".

8151 TCLP required login as a separate sample due to login matrix/report units as wet wet.

This report contains data that were produced by a subcontracted laboratory certified for the fields of testing performed.

Pace National (fka ESC) AZ0612
Daphne Richards
800.767.5859

Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Environmental·Analysis & Testing
Project Number: Environmental Analysis & Testing
Project Manager: Greg Spence

Reported:
08/21/1911:47

1907086-01 (19G1581-01) Wastewater (Composite) Sampled: 07/12/19 06:00 Received: 07/12/19 13:35

Analyte	Resuit	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Meth	Notes
Legend Technical Services of Arizona, ·Inc.										
Inol'98nic Chemistry										
Cyanide, Total	<	0.003	0.010	mg/l_	1	B9G1470	07/16/19 14:45	07/16/1917:01	SM4500 CN E	E8a

1907086-02 (19G1581-02) Wastewater (Composite) Sampled: 07/12/19 06:00 Received: 07/12/1913:35

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	·Method.	Notes
Legend Technical Services of Arizona, Inc.										
Inorganic Chemistry										
Cyanide, Total	0.003	0.003	0.010	mg/l_	1	B9G1470	07/16/19 14:45	07/16/1917:01	SM 4500 CN E	E4

1907086-04 (19G1581-03) Solid (Dry Weight) (Composite) Sampled: 07/12/19 06:00 Received: 07/12/19 13:35

Analyte	Result	MDL	RL	Units	Dilution	BatcH	Prepared.	Analyzed	Method	Notes
Legend Technical Services of .Anzona, Inc.										
Inorganic Chemistry										
Cyanide, Total	<	1.42	4.72	mg/kg dry	5	B9G1n8	07122/19 11:33	07/22/19 14:38	EPA9014	01, eea
Flashpoint	No Flash			·F	1	B9G1588	07/18/1918:15	07/18/19 18:15	EPA 1010A (Mod.}	T6
Temperature	12.6			·C	1	B9G1718	07/23/19 14:00	07/23/19 14:00	pH Temperature	H5
pH	7.2			pH Units	1	B9G1718	07/23/19 14:00	07/23/19 14:00	EPA9045 D	H5
% Solids	1		1	%	1	B9G1548	07/18/19 15:50	07/18/1915:50	SM 2540 G	
ESCAZ0612										
2540 G-2011										
Total Solids	4.25			%	1	NG131530E07/22/1914:36		07/22/19 18:00	2540 G-2Q11	
9030B										
Sulfide	13200	179	588	mg/kg dry	1	NG131763c07/24/19 12:59		07/24/19 17:49	9030B	

1907087-01 (19G1581-04) Wastewater (Composite) Sampled: 07/12/19 06:00 Received: 07/12/1913:35

Analyte	Result	MDL	Rl	Units	Dilution	Batch	. pared	Analyzed	Method	Noles
Legend Technical Services of Arizona, Inc.										
Inorganic Chemistry										
Cyanide, Total	0.003	0.003	0.010	mg/l_	1	B9G1575	07/19/1912:14	07/19/1915:14	SM 4500 CN E	E4

1907087-02 (19G1581-05) Wastewater (Composite) Sampled: 07/12/19 06:00 Received: 07/12/19 13:35

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Anmyzed	Method	Notes
Legend Technical Services of Arizona, Inc.										
Inorganic Chemistry										
Cyanide, Total	0.005	0.003	0.010	mg/l_	1	B9G1575	07/19/19 12:14	07/19/19 15:14	SM 4500 CN E	E4

1907087-04 (19G1581-06) Solid (Dry Weight) (Composite) Sampled: 07/12/19 06:00 Received: 07/12/19 13:35

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.										
Inorganic Chemistry										

Legend Technical Services of Arizona, Inc.

Laboratory Work Order No.: 1981581

The results in thi:, report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

I.·VP-ag_e 3 o f 1 6_,

Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Environmental Analysis & Testing
Project Number: Environmental Analysis & Testing
Project Manager: Greg Spence

Reported:
08/21/19 11:47

1907087-04 (19G1581-06) Solid (Dry Weight) (Composite) Sampled: 07/12/19 06:00 Received: 07/12119 13:35

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				Legend Technical Services of Arizona, Inc.						
Inorganic Chemistry										
Cyanide, Total	1.12	·0.224	0.746	mg/kg dry	1	B9G1572	07/19/19 12:14	07/19/1915:14	EPA9014	
Flashpoint	No Flash			"F	1	B9G1588	07/18/1918:15	07/18/1918:15	EPA 1010A (Mod.)	TS
Temperature	19.7			·C	1	B9G1718	07/23/1914:oo	07/23/1914:00	pH Temperature	HS
pH	7.8			pH Units	1	B9G1718	07/23/1914:00	07/23/1914:00	EPA9045 D	HS
% Solids	13		1	%	1	B9G1548	07/18/19 15:50	07/18/19 15:50	SM 2540G	
				ESCAZ0612						
2540 G-2011										
Total Solids	13.2			%	1	NG131530E	07/22/1914:36	071'2211918:00	2540 G-2011	
9030B										
Sulfide	ND	57.8	189	mg/kg dry	1	NG131617	407/23/19 07:30	07/23/19 15:53	9030B	ES
9056A										
Sulfate	3230	4.32	379	mg/kg dry	1	NG131263€	07/19/19 00:1 o	07/19/19 04:10	9056A	

1907086-04 (19G1581-07) Solid (Composite) Sampled: 07/12119 06:00 Received: 07/12119 13:35

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				ESCAZ0612						
8151A										
2,4,5-TP (Silvex)	ND	0.000667	0.00200	mg/l	1	NG131520	107/22/19 08:02	07122/19 23:57	8151A	ES
2,4-0	ND	0.000667	0.00200	mg/l	1	NG131520	107/22/19 08:02	07/22/19 23:57	8151A	ES
Surrogate: 2,4-Dichlorophenyf Acetic Acid			79.0%		14.0:-158	WG13152 01	07/22/19	07122/19	815/A	

1907087-04 (19G1581-08) Solid (Composite) Sampled: 07/12/19 06:00 Received: 07/12/19 13:35

Analyte	R8$Ult	MDL	RL	I.mils	Pilution	Batch	Prepared.	Analyzed	Method	Notes
				ESCAZ0612						
8151A										
2,4,5-TP (Silvex)	ND	0.000667	0.00200	mg/l	1	NG131520	107/'12/19 08:02	07/23/19 00:10	8151A	E8
2,4-0	ND	0.000667	0.00200	mg/l	1	NG131520	107I22/19 08:02	07123/19 00:10	8151A	E8
Surrogate: 2,4-Dichlorophenyf Acetic Acid			n.0%		14.0-158	WG13152 01	07/22119	07/23119	8151A	

Pima County RWRD CRAO Lab	Project: Environmental Analysis & Testing	
2955 W Calle Agua Nueva	Project Number: Environmental Analysis & Testing	Reported:
Tucson, AZ 85745	Project Manager: Greg Spence	08/21/19 11:47

Notes and Definitions

T6	The reported result cannot be used for compliance purposes.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike recovery was acceptable
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
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.
E8a	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
EB	[Undefined]
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL), but above the MDL.
E1	Concentration estimated. Analyte exceeded calibration range. Reanalysis not possible due to insufficient sample.
D1	Sample required dilution due to matrix.
_FX	No Flash
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPO	Relative Percent Difference

Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Environmental Analysis & Testing
Project Number: Environmental Analysis & Testing
Project Manager: Greg Spence

Reported:
08/21/1911:47

19G1581

CHAIN OF CUSTODY RECORD

LEGEND
Technical Services, Inc.

017113fII.ZIIIA,_..,.....,_AZI5023•11DZ)32"'100•Far(902)-101
04!1!S,,..,Vw11Rd,Slo4D•n-.AZIIB7t4•(SZO)S17-1:134•Fa(!III)327-GII1t

Pllgo_l_d__i_

Please Print Clearly

Company Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Number: Qu1r1lirliel
Contact: Joe Doranski
P.O. No.: 20-001380
Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

DW=Drinking Water, WW=Wastewater, SW=Surface Water, GW=Groundwater, O=Other

Laboramry Authorization Required Ior Fluah

Client's Sample IdentificaUon	Oita	Time	Sample Lacatfon	Composite	Grab	Sample Type	Compilance	No. of Containors	TCLP herbicides 8151	Total cyanide mg/kg	Total % solids dry weight	Total cyanide	Sulfide mg/kg	Ignitability	Sulfate mg/kg	
1907086-01	0712219	00	Agua Nueva WRF • plant influen(	X		ww	X	1				X				01
1907088-02	0112210	00	Ague Nueva WRIF -plant effluent	I		ww	X	1				X				02
1907086-04	0111211,	00	Agua Nueva WRIF - thickened sludg	x		G	X	6	X	X	X	X	X	X		03/07
1907087-01'	0111211,	00	Tres Rios WRF - raw influent	X		ww	X	1				X				04
1907087-02	0112219	00	Ties Rice WRIF -final effluen(13	X		ww	X	1				X				05
1907087-04	0112219	00	Tres Rioa WRF - dewatered cake	x		S	X	7	X	X	X	X	X	X	X	~~06~~ 06/08 3/12/19

Comments / Special Instructions: Please report results from the sludge and cake cyanide, sulfate, sulfide samples in mg/kg dry weight.
BKT TCLP required be in as separate samples due to begin matrix / report units -

Temperature	6.0 °C
Intact	Y (N)
Cooler	Y N
Sealed	(Y) N

	Sampler Signature / Printed Name	Date	Time	Signature / Printed Name	Date	Time
1	Greg Spence	7/12/19	311	Cassy Sos	7/12/19	311
2	Alyssa Marra	7/15/19	1600	Carter	7/15/19	1330 1335
3	Colin	7/16/19	730	Michael	7/16/19	730

WHITE-LAB YELLOW-CLIENT

FORM CS-018.2 (07/18)

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

July 26, 2019

Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Legend Technical Services of Arizona.Inc

Sample Delivery Group:	L1119018
Samples Received:	07/16/2019
Project Number:	19G1581
Description:	
Report To:	Alyssa Mazza 17631 N. 25th Avenue Phoenix, AZ 85023

Entire Report Reviewed By: Jr i 1Nkd;

Daphne Richards
Project Manager

Results relate onlf to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, Without written approval of the laboralofy. Where applicable, sampling conducted by Pace Analytical Naflonal Is performed per guidance provtded h laboratory standard operaUng procedures ENV-S0P-MT JL-0067 and ENV-S0P-MTJL-0068. Where sampling conducted by the customer. results relate to the accuracy of the information p(ovtded, and as the samples are received.

TABLE OF CONTENTS

CP: Co'/er Page	1
Tc: Table *of* Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
19G1581-03 L1119018-01	5
19G1581-06 L1119018-02	6
19G1581-06 L1119018-03	7
19G1581-03 L1119018-04.	8
Qc: Quality Control Summary	9
Total Solids by Method 2540 G-2011	9
Wet Chemistry by Method 9030B	10
Wet Chemistry by Method 9056A	12
Chlorinated Acid Herbicides (GC) by Method 8151 :	13
Chlorinated Acid Herbicides (GC) by Method 8151A	15
Gl: Glossary *of* Terms	17
Al: Accreditations & Locations	18
Sc: Sample Chain of Custody	19

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.

	Collected by	Collected date/time	Received date/time
19G1581-03 L1119018-01 Solid		07/12119 06:00	07/16/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1315308	1	07/22/1914:36	07/22/1918:00	KBC	Mt. Juliet, TN
Wet Chemistry by Method 9030B	WG1317633	1	07/24/1912:59	07/24/1917:49	JD	Mt. Juliet, TN
Chlorinated Acid Herbicides (GQ by Method 8151	WG1314051	5	07/19/19 07:21	07/22/19 11:07	LEL	Mt. Juliet. TN

	Collected by	Collected date/time	Received date/time
19G1581-06 L1119018-02 Solid		07/12119 06:00	07/16/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1315308	1	07/22/1914:36	07/22/1918:00	KBC	Mt. Juliet, TN
Wet Chemistry by Method 9030B	WG1316174	1	07/23/19 07:30	07/23/1915:53	BAM	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1312638	1	07/19/19 00:10	07/19/19 04:10	ELN	Mt Jul\et, TN

	Collected by	Collected date/time	Received date/time
.19G1581-06 L1119018-03 Waste		07/12/19 06:00	07/1611908:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	location
Preparation by Method 1311	WG1312962	1	07/17/1914:50	07/17/1914:50	CGD	Mt. ◆uliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG1315201	1	07/22/19 08:02	07/22/19 23:57	LEL	Mt. Juliet, TN

	Collected by	Collected date/time	Received date/time
19G1581-03 L1119018-04 Waste		07/12/19 06:00	07/16/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG1312962	1	07/17/1914:50	07/17/1914:50	CGD	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG1315201	1	07/22/19 08:02	07/23/19 00:10	LEL	Mt. Juliet, TN

E]
E]
E]
E1
Al
l9sc]

CASE NARRATIVE

ONE LAB. NATIONWIDE.

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. unless qualified or notated within the report. Where applicable, all MDL {LOO) and RDL {LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne R Richards

Daphne Richards
Project Manager

ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Legend Technical Services of Arizona.Inc	19G1581	L1119018	07/26/19 12:52	4 of 21

19G1581-03 SAMPLE RESULTS - 01 ONE LAB. NATIONWIDE.

Collected date/time: 07/12/19 06:00 L1119018

Total Solids by Method 2540 G-2011

Analyte	Result %	Dilution	Analysis date/time	
Total Solids	4.25	1	07/22/201918:00	WG1315308

Wet Chemistry by Method 9030B

Analyte	Result(dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date/time	
Sulfide	13200	588	1	07/24/201917:49	WG1317633

Chlorinated Acid Herbicides (GC) by Method 8151

Analyte	Result(dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date/time	
2,4-D	ND	8.23	5	07/22/201911:07	WG1314051
Dalapon	ND	8.23	5	07/22/201911:07	WG1314051
2.4-DB	ND	8.23	5	07/22/201911:07	WG1314051
Dicamba	ND	8.23	5	07/22/201911:07	WG1314051
Dichloroprop	ND	8.23	5	07/22/201911:07	WG1314051
Dinoseb	ND	8.23	5	07/22/201911:07	WG1314051
MCPA	ND	765	5	07/22/201911:07	WG1314051
MCPP	ND	765	5	07/22/201911:07	WG1314051
2,4,5-T	ND	8.23	5	07/22/2019 11:07	WG1314051
2,4,5-TP (Silvex)	ND	8.23	5	07/22/2019 11:07	WG1314051
(SI I, 4-DichlorophenyfAcetic Add	*54.1*	*22.0-132*		*07/22/101911:07*	WG1314051

19G1581-06 SAMPLE RESULTS - 02 ONE LAB. NATIONWIDE.

Collected date/time: 07/12/19 06:00 L1119018

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date /time	Batch
Total Solids	13.2		1	07/22/201918:00	WG1315308

Wet Chemistry by Method 9030B

Analyte	Result(dry) mg/kg	Qualifier	RDL{dry) mg/kg	Dliution	Analysis date/time	Batch
Sulfide	ND		189	1	07/23/201915:53	WG1316174

Wet Chemistry by Method 9056A

Analyte	Result(dry) mg/kg		ROL(dry) mg/kg	DikJtion	.Analysis date /time	Batch
Sulfate	3230		379	1	07n9/2019 04:10	WG1312638

Cp Tc Ss Cn Sr Qc Gl Al Sc

19G1581-06 SAMPLE RESULTS - 03 ONE LAB. NATIONWIDE.

Collected date/time: 07/12/19 06:00 L1119018

Preparation by Method 1311

Analyte	Result	Prep date/time	
TCLP Extraction	-	7/17/2019 2:50:58 PM	WG1312962
Fluid	1	7/17/2019 2:50:58 PM	WG1312962
Initial pH	7.42	7/17/2019 2:50:58 PM	WG1312962
Final pH	5.24	7/17/2019 2:50:58 PM	WG1312962

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/1	RDL mg,1	Limit mg/1	Dilution	Analysis date/time	Batch
2,4,5-TP (Silvex)	ND	0.00200	1	1	07/22/2019 23:57	WG1315201
2,4-D	ND	0.00200	10	1	07/22/2019 23:57	WG1315201
(SJ 2. Dichloropheny/ Acetic_Acid	*79.0*	*14.0-158*			*07/22/2019 23:57*	WG1315201

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

19G1581-03 SAMPLE RESULTS - 04 ONE LAB. NATIONWIDE.

Collected date/time: 07/12/19 06:00 L1119018

Preparation by Method 1311

Analyte	Result	Prep date/time	
TCLP Extraction	-	7/17/2019 2:50:58 PM	WG1312962
Fluid	1	7/17/2019 2:50:58 PM	WG1312962
Initial pH	7.58	7/17/2019 2:50:58 PM	WG1312962
Final pH	5.01	7/17/2019 2:50:58 PM	WG1312962

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/1	ROI mg/l	Limit mg/l	Dliution	Analysis date/time	Batch
2,4,5-TP (Silvex)	ND	0.00200	1	1 .	07/23/2019 00:10	WG1315201
2,4-D	ND	0.00200	10	1	07/2312019 00:10	WG1315201
(SJ 2,4-Dich/orophenyl Acetic Acid	77.0	14.0-158			07/23/2019 00:10	WG1315201

Cp Tc Ss Cn Sr Qc Gl Al Sc

ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Legend Technical Services of Arizona.Inc	19G1581	l1119018	07/26/19 12:52	8 of21

GLOSSARY OF TERMS

ONE LAB. NATIONWIDE.

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Guide to Reading and Understanding Your Laboratory Report

The Information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation. and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer. and contained within this report. include Permit Limits, Project Name. Sample ID. Sample Matrix, Sample Preservation. Field Blanks. Field Spikes, Field Duplicates. On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils}.
MDL	Method Detection L1mlt
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit
RDL(dry)	Reported Detection Limit
Rec.	Recovery.
RPO	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample. Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
u	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report. the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target% recovery ranges or % difference value that the ·laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPO) from a qualtty control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present. a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result {corrected for any sample specific characteristics) reported for your sample. ff there was no measurable result returned for a specific analyte. the result in this column may state "ND" {Not Detected) or "BDL• (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non<onformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the doc\,lment created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed .on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
El	Concentration estimated. Analyte exceeded calibration range. Reanalysis not possible due to insufficient sample.
L1	The associated blank spike recovery was above laboratory acceptance limits.
L2	The associated blank spike recovery was below laboratory acceptance limits.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike recovery was acceptable.
M6	Matrix spike recovery was high. Data reported per ADEQ policy 0154.000. Matrix Interference was confirmed.
M7	Matrix spike recovery was low. Data reported per ADEQ policy 0154.000. Matrix interference was confirmed.
R2	RPD/RSD exceeded the laboratory acceptance limit.
R5	MS/MSD RPO exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

ACCREDITATIONS & LOCATIONS

ONE LAS. NATIONWIDE.

Pace National Is the only environmental laboratory accredtted/certifll!d to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughOut the country. Our capacity and capab tty from our single location laboratory is comparable to the collective totals of the network laboratories in our industty. The most significant benefitto our one location design Is the design of our laboratory campus. The model Is conducive to accelerated productivity, decreasing tum-around time, and preventing cross contamination, thus protecting sample Integrity. Our focus on premium quanty and prompt service allows us to be YOUR LAB OF CHOICE.

- Not an certifications held by the laboratory are applicable to the results reported in the attached repon.
- Accreditation IS only applicable to the test methods specified on eac scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-ISQ.i
Alaska	17–026	Nevada	TN--03-2002-34
Arizona	AZ0612.	New Hampsllire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico'	n/a
Colorado	TN00003	New York	11742
Connectieut	PH–0197	North Carolina	Env375
Florida	E87487	North Carolina '	DW21704
Georgia	NEIAP	North Car lna '	41
Georgia•·	923	North Dakota	R-140
IdahO	TN00003	Ohio-VAP	CL0069
IHlnoiS	O<!g 8	OldahOma	9915
Indiana	C-TN–01	Oregon	TN200002
Iowa	364	Pennsytvania	68--02979
Kansas	E-102TT	Rhode Island	IA000356
i em ky ;,	90010	South Caronna	84004
Ken.lucky'.	16	South Dakota	n/a
Louisiana	Al30792	Te nessee "	2006
Louisiana'	IA180010	Texas	T104704245-18-15
Maine	TN0002	Texas'	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia_	460132
Minnesota	047-999-395	Was ington	C847
Mississippi	TN00003	W Virgin	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2IA

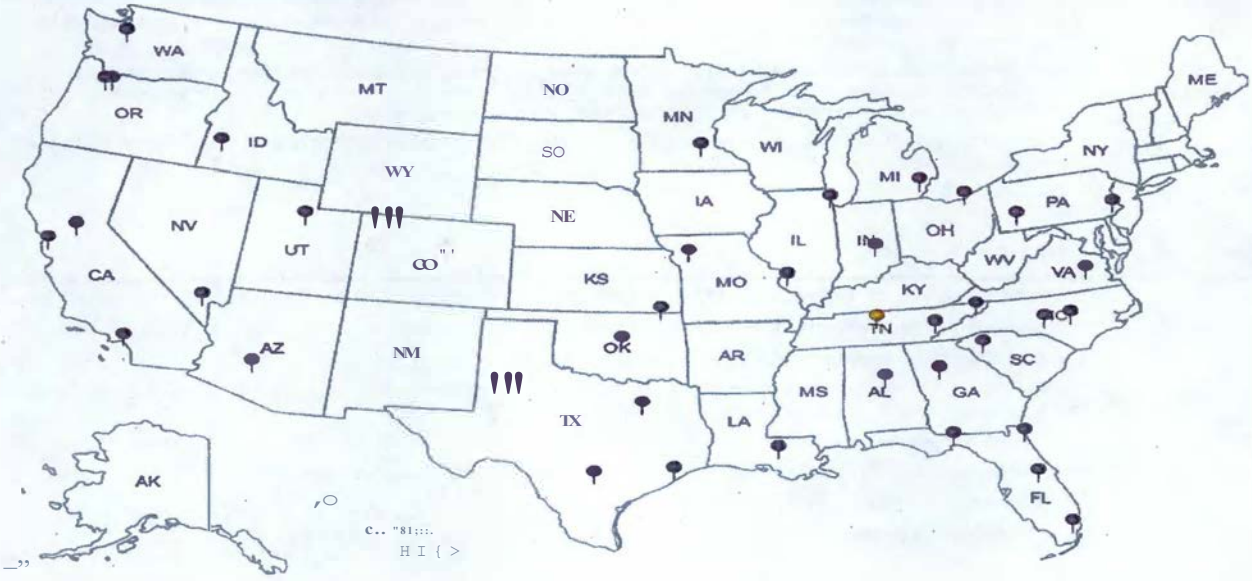
Third Party. I=ederal Accreditations

AIIA-ISO 17025	1461.0I	AI'AIAP.LC EMIAP	100789
A2IA- ISO 17025 [1]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

' Drinking Water [2] Underground Storage Tanks 'Aquatie Toxicity • ChemicaUMicrobiological [1] Mold •Wastewater· n/a Accreditation not apphcable

Our Locations

Pace National has sixty-four ctlent support centers that provide sample pickup and/or the delivery of sampHng supplies. If you would ftke assistance from one of our support offices, please contact our main office. Pace National performs an testing at our central laboratory.



Legend Technical Services of Arizona, Inc.

PO Number: 1981581

LEGEND
Technical Services, Irie.

SUBCONTRACT ORDER

19G1581

L119018

SENDING LABORATORY:

Legend Technical Services of Arizona, Inc.
17631 North 25th Avenue
Phoenix, AZ 85023
Phone:602-324-6100
Fax: 602-324-6101
Project Manager: Alyssa Mazza

RECEIVING LABORATORY:

Pace National (fka ESC)
12065 Lebanon Rd.
MI Juliet, TN 37122
Phone :(602) 377-2696
Fax: (615) 758-5859

Project: Environmental-Analysis & Testing

Client: Pima County RWRD CRAO Lab% Tucson

Analysis	Due	Expires	Leach Date & Time	Sample Comments
Sample ID: 1961581-03 Solid DY,WE Sampled:07/12/19 06:00				.. 0(
8151- Subcontract	07/26/19 06:00			
Sulfide, Total	07/23/19 15:00	07/19/19 06:00		

Containers Supplied:
03_1000ml Plastic Cod to 4+ c (A)
02_1000mLAmber Gius Cool lg 4. C (E)

For method 608: __ p H check ____..Cl2 check
Special Instructions/Comments:

Sample ID: 19G1581-06 Solid WE. Sampled:07/12119 08:00				-02
8151A-TCLP Subcontract	07/23/19 15:00	07/26/19 06:00		
Sulfate- Solid (9056- Sub-col	07/23/19 15:00	08/09/19 06:00		
Sulfide, Total	07/23/19 15:00	07/19/19 06:00		

Containers Supplied:
03_1000ml Plastic Cod to 4+ C(A)
03_1000ml Plastic Cod to 4+ C(B)
02_1000ml Ambel Glass Cod to 4+ C(E)

For method 608: _ p H check _,__ Cl2 check
Special **Instructions/Comments:**

• The sample matrix for leachates supplied to the MN laboratory reflects the matrix of the original sample received by LEGEND AZ.
•For matrices other than Drinking Water requiring drinking water methods (such as EPA 505, etc.), a 10x dilution is acceptable. Appropriate data qualifiers are to be used.

Released By (Print & Sign)	Date	Time	Received By (Print & Sign)	Date	Time
Alyssa Mazza x Alyssa Mazza	7/15/19	1500	Fedex x	1/15/fq	, 00
x			Malik T.	7/1(.0	:45

D"(... Page 1 of 1

PIMA COUNTY
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: 01/28/2020
Laboratory License: AZ0159

Sample Analysis Report

Agua Nueva WRF

October 2019

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

1/27/2020
Date

Laboratory License# AZ0159

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1910138-01	C	Chryscnc	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	1.14	4.00	D1,D7	SJM
1910138-01	C	Dibcnzo(a.h)anthracene	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	3.07	12.00	D1,D7	SJM
1910138-01	C	Diethyl phthalate	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	2.24	12.00	D1,D7	SJM
1910138-01	C	Dimethyl phthalate	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	0.S8	4.00	Dt,D7	SJM
1910138-01	C	Di-n-butyl phthalate	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	2.50	12.00	D1,D7	SJM
1910138-01	C	Di-n-octyl phthalate	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	2.SS	12.00	D1,D7	SJM
1910138-01	C	Fluoranthene	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	1.32	4.00	D1,D7	SJM
1910138-01	C	Fluorene	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	1.54	4.00	D1,D7,NI	SJM
1910138-01	C	Hexachlorobcnzene	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	0.62	4.00	D1,D7	SJM
1910138-01	C	Hexachlorobutadiene	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	1.01	4.00	D1,D7	SJM
1910138-01	C	Hexachlorocyclopentadiene	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	4.23	12.00	Dt,D7,NI	SJM
1910138-01	C	Hexachloroethane	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	1.26	4.00	Dt,D7,NI	SJM
1910138-01	C	Indcno(l,2,3-cd)pyrene	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	2.83	12.00	Dt,D7	SJM
1910138-01	C	lsophorone	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	1.66	4.00	D7,D1	SJM
1910138-01	C	Naphthalene	I0/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	1.77	4.00	D1,D7	SJM
1910138-01	C	n-Decane	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	1.9S	4.00	D1,D7	SJM
1910138-01	C	Nitrobenzene	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	2.10	12.00	D1,D7	SJM
1910138-01	C	N-Nitrosodimethylamine	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	2.09	12.00	D1,D7,PC3	SJM
1910138-01	C	N-Nitrosodi-n-propylamine	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	2.43	12.00	D1,D7	SJM
1910138-01	C	N-Nitrosodiphenylamine	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	6.08	20.00	D1,D7	SJM
1910138-01	C	n-Octadecane	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	2.18	12.00	D1,D7,NI	SJM
1910138-01	C	Pentachlorophenol	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	4.02	12.00	D1,D7	SJM
1910138-01	C	Phenanthrene	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	1.63	4.00	D1,D7	SJM
1910138-01	C	Phenol	10/18/19 6:00	EPA62S	11n/19 17:22	19.8	ug/L	2.59	12.00	D1,D7	SJM
1910138-01	C	Pyrene	10/18/19 6:00	EPA62S	11n/19 17:22	ND	ug/L	1.38	4.00	D1,D7	SJM
1910138-01	C	1,2-Diphenylhydrazine	10/18/19 6:00	EPA8270C	11n/19 17:22	ND	ug/L	0.98	4.00	D1,D7	SJM
1910138-0IREI	C	Zinc	10/18/19 6:00	EPA200.8	10/31/19 18:47	140	ug/L	0.62	2.00	D2	JB

Thickened Sludge Pump (26107-0600)

1910138-03	C	Antimony	10/18/19 6:00	EPA6010D	10/30/19 14:07	ND	mg/kg dry		9.66		MLB
1910138-03	C	Arsenic	10/18/19 6:00	EPA6010D	10/30/19 12:46	ND	mg/kg dry		9.66		MLB
1910138-03	C	Beryllium	10/18/19 6:00	EPA6010D	10/30/19 12:46	ND	mg/kg dry		1.93		MLB
1910138-03	C	Cadmium	10/18/19 6:00	EPA6010D	10/30/19 12:46	ND	mg/kg dry		3.86		MLB
1910138-03	C	Chromium	10/18/19 6:00	EPA6010D	10/30/19 12:46	ND	mg/kg dry		9.66		MLB
1910138-03	c ·	Copper	10/18/19 6:00	EPA6010D	10/30/19 12:46	66.3	mg/kgdry		9.66		MLB
1910138-03	C	Lead	10/18/19 6:00	EPA6010D	10/30/19 12:46	ND	mg/kgdry		9.66		MLB
1910138-03	C	Mercury	I0/18/19 6:00	EPA 747 IB	11/1/19 16:08	ND	mg/kg dy		0.41		MJC
1910138-03	C	Molybdenum	10/18/19 6:00	EPA6010D	10/30/19 12:46	ND	mg/kg dy		3.86		MLB
1910138-03	C	Nickel	10/18/19 6:00	EPA6010D	10/30/19 12:46	ND	mg/kg dy		9.66		MLB
1910138-03	C	Selenium	10/18/19 6:00	EPA6010D	10/30/19 12:46	ND	mg/kg dy		19.32		MLB
1910138-03	C	Silver	10/18/19 6:00	EPA6010D	10/30/19 14:07	ND	mg/kg dy		0.97		MLB
1910138-03	C	Thallium	10/18/19 6:00	EPA6010D	10/30/19 12:46	ND	mg/kg dy		9.66		MLB
1910138-03	C	Zinc	10/18/19 6:00	EPA6010D	10/30/19 12:46	204	mg/kgdry		9.66		MLB
1910138-03	C	Cyanide, Total	10/18/19 6:00	EPA9014	10/2S/19 14:2S	ND	mg/kg dy	2.22	7.41	ES	CGP •

• Analysis Performed by:Legend Technical Services of Arizona, Inc. - See attached contract lab report for official results.

1910138-03	C	%Solids	10/18/19 6:00	SM2540G	10/23/19 13:40	1	%		1		CGP •

• Analysis Performed by:Legend Technical Services of Arizona, Inc. - See attached contract lab report for official results.

1910138-03	C	% Solids	10/18/19 6:00	SM2540G	10/21/19 13:36	1.21	%		0.01		TLG
1910138-03	C	Acrolein	10/18/19 6:00	EPA624	10/29/19 18:23	ND	mg/kg dy	1.67	8.25		JEL
1910138-03	C	Acrylonitrile	10/18/19 6:00	EPA624	10/29/19 18:23	ND	mg/kg dy	2.89	8.25		JEL
1910138-03	C	4,4-DDD	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dy	0.16494	0.41	D1,D7	HAY
1910138-03	C	4,4-DDE	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kgdry	0.26061	0.41	D1,D7	HAY
1910138-03	C	4,4-DDT	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kgdry	0.22762	0.41	D1,D7	HAY
1910138-03	C	Aldrin	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kgdry	0.26721	0.41	D1,D7	HAY
1910138-03	C	alpha-BHC	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dy	0.2804 1	0.41	D1,D7	HAY
1910138-03	C	bcta-BHC	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dy	0.S9380	0.82	D1,D7	HAY
1910138-03	C	Chlordane	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dy	0.62679	3.26	D1,D7	HAY
1910138-03	C	delta-BHC	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dy	0.11876	0.41	D1,D7	HAY
1910138-03	C	Dieldrin	I0/18/19 6:00	EPA 625	11/9/19 00:26	ND	mg/kg dy	0.27381	0.41	D1,D7	HAY

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
1910138-03	C	Endosulfan I	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.17814	0.41	DI,D7	HAV
1910138-03	C	Endosulfan II	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.24082	0.41	DI,D7	HAV
1910138-03	C	Endosulfan sulfate	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.18804	0.41	DI,D7	HAV
1910138-03	C	Endrin	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.43875	0.82	DI,D7	HAV
1910138-03	C	Endrin aldehyde	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.39587	0.41	DI,D7	HAV
19)0138-03	C	gamma-BBC (Lindane)	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.45525	0.82	DI,D7	HAV
19)0138-03	C	Heptachlor	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.16494	0.41	DI,D7	HAV
1910138-03	C	Heptachlor Epoxide	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.28041	0.41	DI,D7	HAV
1910138-03	C	PCB 1016	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.36288	0.82	DI,D7	HAV
1910138-03	C	PCB 1221	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.56081	0.82	DI,D7	HAV
1910138-03	C	PCB 1232	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.23092	0.82	DI,D7	HAV
1910138-03	C	PCB 1242	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.42886	0.82	DI,D7	HAV
1910138-03	C	PCB 1248	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.34638	0.82	DI,D7	HAV
1910138-03	C	PCB 1254	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.62679	0.82	D7,DI	HAV
1910138-03	C	PCB 1260	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	0.26391	0.82	DI,D7	HAV
1910138-03	C	Total PCBs	10/18/19 6:00	EPA62S	11/9/) 9 00:26	ND	mg/kg dry	0.62679	0.82	DI,D7	HAV
1910138-03	C	Toxaphene	10/18/19 6:00	EPA62S	11/9/19 00:26	ND	mg/kg dry	5.8390	6.53	DI,D7	HAV
)910138-03	C	Methoxychlor	10/18/19 6:00	EPA8270C	11/9/19 00:26	ND	mg/kg dry	0.165	0.41	DI,D7	HAV
1910138-03	C	1,1,1-Trichloroethane	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kg dry	0.31	0.82		ADP
1910138-03	C	I, 1,2,2-Tetrachloroethane	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kg dry	0.10	0.82		ADP
1910138-03	C	I, 1,2-Trichloroethane	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kg dry	0.15	0.82		ADP
1910138-03	C	I, 1-Dichloroethane	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kg dry	0.28	0.82		ADP
1910138-03	C	I, 1-Dichloroethene	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kg dry	0.18	0.82		ADP
1910138-03	C	1,2-Dichlorobenzene	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kgdry	0.13	0.82		ADP
1910138-03	C	1,2-Dichloroethane	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kg dry	0.15	0.82		ADP
1910138-03	C	1,2-Dichloropropane	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kg dry	0.16	0.82		ADP
1910138-03	C	1,3-Dichlorobenzene	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kg dry	0.13	0.82		ADP
1910138-03	C	1,4-Dichlorobenzene	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kg dry	0.28	0.82		ADP
1910138-03	C	2-Chloroethyl vinyl ether	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kg dry	0.43	0.82		ADP
1910138-03	C	Benzene	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kg dry	0.18	0.82		ADP
1910138-03	C	Bromodichloromethane	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kgdry	0.40	0.82		ADP
1910138-03	C	Bromoform	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kgdry	0.49	0.82		ADP
1910138-03	C	Bromomethanc	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kg dry	0.21	0.82		ADP
1910138-03	C	Carbon Tetrachloride	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kg dry	0.59	0.82		ADP
1910138-03	C	Chlorobenzene	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kgdry	0.10	0.82		ADP
1910138-03	C	Chloroethane	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kg dry	0.30	0.82		ADP
1910138-03	C	Chloroform	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kg dry	0.23	0.82		ADP
1910138-03	C	Chloromethane	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kg dry	0.33	0.82		ADP
1910138-03	C	cis-1,3-Dichloropropene	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kg dry	0.15	0.82		ADP
1910138-03	C	Dibromochloromethane	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kg dry	0.10	0.82		ADP
)910138-03	C	Ethyl Benzene	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kg dry	0.15	0.82		ADP
1910138-03	C	Methylene Chloride	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kgdry	0.35	0.82		ADP
1910138-03	C	Tetrachloroethene	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kg dry	0.30	0.82		ADP
1910138-03	C	Toluene	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kg dry	0.21	0.82		ADP
1910138-03	C	Total Trihalomethanes	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kg dry	0.49	0.82		ADP
1910138-03	C	trans-1,2-Dichloroethene	10/18/19 6:00	EPA624	10/30/19 17:14	ND	mg/kg dry	0.23	0.82		ADP
1910138-03	C	trans-1,3-Dichloropropene	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kgdry	0.18	0.82		ADP
1910138-03	C	Trichloroethene	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kg dry	0.21	0.82		ADP
1910138-03	C	Trichlorofluoromethane	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kg dry	0.45	0.82		ADP
1910138-03	C	Vinyl chloride	10/18/19 6:00	EPA624	10/30/19 17: 14	ND	mg/kg dry	0.35	0.82		ADP
1910138-03	C	1,2,4-Trichlorobenzene	10/18/19 6:00	EPA 8260	10/30/19 17: 14	ND	mg/kg dry	0.181	0.82		ADP
1910138-03	C	1,2-Dibromo-3-chloropropane	10/18/19 6:00	EPA8260	10/30/19 17:14	ND	mg/kg dry	0.148	0.82		ADP
)910138-03	C	1,2-Dibromoethane	10/18/19 6:00	EPA8260	10/30/19 17:14	ND	mg/kg dry	0.396	0.82		ADP
1910138-03	C	cis-1,2-Dichloroethene	10/18/19 6:00	EPA8260	10/30/19 17:14	ND	mg/kg dry	0.330	0.82		ADP
1910138-03	C	m,p-Xylenes	10/18/19 6:00	EPA8260	10/30/19 17:14	ND	mg/kg dry	0.264	1.65		ADP
1910138-03	C	a-Xylene	10/18/19 6:00	EPA8260	10/30/19 17:14	ND	mg/kg dry	0.132	0.82		ADP
1910138-03	C	Styrene	10/18/19 6:00	EPA8260	10/30/19 17:14	1.06	mg/kg dry	0.132	0.82		ADP
1910138-03	C	Xylenes, total	10/18/19 6:00	EPA8260	10/30/19 17:14	ND	mg/kgdry	0.264	1.65		ADP
1910138-03	C	2,3,7,8-TCDD- Dioxin Scan	10/18/19 6:00	EPA62S	11/1/19 12:06	ND	ug/kg dry		2.06		SJM
1910138-03	C	1,2,4-Trichlorobenzene	10/18/19 6:00	EPA62S	11/1/19 18:02	ND	mg/kg dry	9.90	13.20	DI,D7,NI	SJM

Laboratory License# AZO 159

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Dateffime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1910138-03	C	2,3-Dichloroaniline	10/18/19 600	EPA 625	11/7/19 1802	ND	mg/kg dry	14. 12	39.59	DI, D7, L4, NI	SJM
1910138-03	C	2,4,6-Trichlorophenol	10/18/19 6:00	EPA 625	11/7/19 18:02	ND	mg/kg dry	8.91	13.20	DI. D7	SJM
1910138-03	C	2,4-Dichlorophenol	10/18/19 600	EPA 625	11/7/19 1802	ND	mg/kg dry	11.28	13.20	DI, D7	SJM
1910138-03	C	2,4-Dimethylphenol	10/18/19 6 00	EPA 625	11/7/19 18:02	ND	mg/kg dry	23.49	39.59	DI, D7	SJM
1910138-03	C	2,4-Dinitrophenol	10/18/19 6:00	EPA 625	11/7/19 18 02	ND	mg/kg dry	56.87	65.98	DI, D7	SJM
1910138-03	C	2,4-Dinitrotoluene	10/18/19 6:00	EPA 625	11/7/19 18:02	ND	mg/kg dry	15.24	39.59	DI, D7	SJM
1910138-03	C	2,6-Dinitrotoluene	10/18/19 6:00	EPA 625	11/7/19 18:02	ND	mg/kg dry	9.30	13.20	DI, D7	SJM
1910138-03	C	2-Chloronaphthalene	10/18/19 6 00	EPA 625	11/7/19 1802	ND	mg/kg dry	9.70	13.20	DI, D7, NI	SJM
1910138-03	C	2-Chlorophenol	I0/18/19 6:00	EPA 625	11/7/19 1802	ND	mg/kg dry	845	13.20	D1,D7	SJM
I9 D 138-03	C	2-Methyl-4,6-dinitrophenol	I0/18/19 6:00	EPA 625	11/7/19 18:02	ND	mg/kg dry	35.43	39.59	DI, D7	SJM
1910138-03	C	2-Methylphenol	10/18/19 600	EPA 625	11/7/19 1802	ND	mg/kg dry	7.59	13.20	DI, D7, NI	SJM
1910138-03	C	2-Nitrophenol	I0/18/19 6:00	EPA 625	11/7/19 18:02	ND	mg/kg dry	18.80	39.59	D1,D7	SJM
1910138-03	C	3,3-Dichlorobenzidine	10/18/19 6 00	EPA 625	11/7/19 18:02	ND	mg/kg dry	14.58	32.99	DI, D7	SJM
1910138-03	C	4-Bromophenyl phenyl ether	10/18/19 6:00	EPA 625	11/7/19 1802	ND	mg/kg dry	7.85	13.20	DI, D7	SJM
1910138-03	C	4-Chloro-3-methylphenol	10/18/19 6:00	EPA 625	11/7/19 18:02	ND	mg/kg dry	14.32	39.59	DI, D7, NI	SJM
1910138-03	C	4-Chlorophenyl phenyl ether	10/18/19 6:00	EPA 625	11/7/19 18:02	ND	mg/kg dry	8 18	13.20	DI,D7	SJM
1910138-03	C	4-Methylphenol	10/18/19 6 00	EPA 625	11/7/19 18:02	ND	mg/kg dry	11.28	13.20	DI, D7. L4, NI	SJM
1910138-03	C	4-Nitrophenol	I0/18/19 6 00	EPA625	11/7/19 I8:02	ND	mg/kg dry	31.21	39.59	Dl, D7	SJM
1910138-03	C	Acenaphthene	10/18/19 6 00	EPA625	11/7/19 1802	ND	mg/kg dry	10.09	13.20	D1, D7	SJM
1910138-03	C	Acenaphthylene	10/18/19 6 00	EPA625	11/7/19 1802	ND	mg/kg dry	1042	13.20	Dl, D7	SJM
1910138-03	C	Anthracene	10/18/19 6 00	EPA625	11/7/19 1802	ND	mg/kg dry	13.20	13.20	DI, D7	SJM
1910138-03	C	Benzidine	I0/18/19 6:00	EPA 625	lln/19 18:02	ND	mg/kg dry	43.02	65.98	DI. D7, NI	SJM
1910138-03	C	Benzo[a]anthracene	10/18/19 6 00	EPA 625	11/7/19 I8:02	ND	mg/kg dry	8.25	13.20	D1,D7	SJM
1910138-03	C	Benzo[a]pyrene	10/18/19 6 00	EPA 625	11/7/19 1802	ND	mg/kg dry	12.93	13.20	DI, D7	SJM
1910138-03	C	Benzo[b]fluoranthene	10/18/19 600	EPA625	lln/19 1802	ND	mg/kg dry	1042	13.20	DI, D7	SJM
I9 D 138-03	C	Benzo[ghi]perylene	I0/18/19 6 00	EPA625	lln/19 1802	ND	mg/kg dry	1940	39.59	DI, D7	SJM
1910138-03	C	Benzo[k]fluoranthene	I0/18/19 6 00	EPA625	lln/19 18:02	ND	mg/kg dry	15.11	39.59	Dl, D7	SJM
1910138-03	C	bis(2-chloroethoxy)methane	I0/18/19 6 00	EPA625	11/7/19 1802	ND	mg/kg dry	13.06	13.20	Dl, D7	SJM
1910138-03	C	bis(2-chloroethyl)ether	10/18/19 6:00	EPA625	11/7/19 I8:02	ND	mg/kg dry	13.99	39.59	DI, D7	SJM
1910138-03	C	bis(2-chloroisopropyl)ether	10/18/19 6:00	EPA625	11/7/19 18:02	ND	mg/kg dry	11.88	13.20	Dl, D7	SJM
1910138-03	C	bis(2-ethylhexyl)phthalate	I0/18/19 6:00	EPA 625	11/7/19 18:02	ND	mg/kg dry	18.61	39.59	DI, D7	SJM
1910138-03	C	Butylbenzylphthalate	10/18/19 6 00	EPA625	11/7/19 1802	ND	mg/kg dry	12.54	13.20	DI, D7	SJM
1910138-03	C	Carbazole	10/18/19 600	EPA 625	11/7/19 1802	ND	mg/kg dry	17.62	39.59	D1,D7	SJM
1910138-03	C	Chrysene	I0/18/19 6 00	EPA 625	lln/19 1802	ND	mg/kg dry	7.52	13.20	DI, D7	SJM
1910138-03	C	Dibenzo(a.h)anthracene	10/18/19 6:00	EPA 625	lln/19 1802	ND	mg/kg dry	20.26	39.59	D1,D7	SJM
I9 D 138-03	C	Diethyl phthalate	I0/18/19 6:00	EPA625	11/7/19 1802	ND	mg/kg dry	14.78	39.59	Dl, D7	SJM
1910138-03	C	Dimethyl phthalate	10/18/19 600	EPA625	11/7/19 1802	ND	mg/kg dry	3.83	13.20	DI, D7	SJM
1910138-03	C	Di-n-butyl phthalate	10/18/19 600	EPA625	11/7/19 I8:02	ND	mg/kg dry	1649	39.59	D1,D7	SJM
1910138-03	C	Di-n-octy I phthalate	10/18/19 600	EPA625	lln/19 18:02	ND	mg/kg dry	16.82	39.59	DI, D7	SJM
1910138-03	C	Fluoranthene	I0/18/19 6:00	EPA625	lln/19 1802	ND	mg/kg dry	8.71	13.20	DI, D7	SJM
1910138-03	C	Fluorene	10/18/19 6:00	EPA625	11/7/19 1802	ND	mg/kg dry	10.16	13.20	01, 07, NI	SJM
1910138-03	C	Hexachlorobenzene	10/18/19 6:00	EPA625	11/7/19 I8:02	ND	mg/kg dry	4.09	13.20	D1,D7	SJM
1910138-03	C	Hexachlorobutadiene	10/18/19 600	EPA625	11/7/19 1802	ND	mg/kg dry	6.66	13.20	DI, D7	SJM
1910138-03	C	Hexachlorocyclopentadiene	10/18/19 600	EPA625	11/7/19 18:02	ND	mg/kg dry	27.91	39.59	D7, NI, DI	SJM
1910138-03	C	Hexachloroethane	10/18/19 6 00	EPA625	11/7/19 1802	ND	mg/kg dry	8.31	13.20	DI, D7, NI	SJM
1910138-03	C	Indeno(1,2,3-cd)pyrene	I0/18/19 6:00	EPA625	Iln/19 18:02	ND	mg/kg dry	18.67	39.59	DI, D7	SJM
1910138-03	C	lsophorone	10/18/19 6 00	EPA625	11/7/19 1802	ND	mg/kg dry	10.95	13.20	DI, D7	SJM
1910138-03	C	Naphthalene	10/18/19 6:00	EPA625	11/7/19 I8:02	ND	mg/kg dry	11.68	13.20	DI, D7	SJM
1910138-03	C	n-Decane	10/18/19 600	EPA 625	tln/19 1802	ND	mg/kg dry	12.87	13.20	D1, D7	SJM
1910138-03	C	Nitrobenzene	10/18/19 600	EPA 625	lln/19 1802	ND	mg/kg dry	13.86	39.59	D1, D7	SJM
1910138-03	C	N-Nitrosodimethylamine	10/18/19 6:00	EPA625	11/7/19 1802	ND	mg/kg dry	13.79	39.59	D1, D7, PC3	SJM
1910138-03	C	N-Nitrosodi-n-propylamine	10/18/19 6 00	EPA625	11/7/19 18:02	ND	mg/kg dry	16.03	39.59	D1, D7	SJM
1910138-03	C	N-Nitrosodiphenylamine	10/18/19 6:00	EPA625	11/7/19 1802	ND	mg/kg dry	40.11	65.98	DI, D7	SJM
1910138-03	C	n-Octadecane	I0/18/19 6 00	EPA625	11/7/19 18:02	ND	mg/kg dry	14.38	39.59	DI, D7, NI	SJM
1910138-03	C	Pentachlorophenol	10/18/19 6 00	EPA625	11/7/19 1802	ND	mg/kg dry	26.52	39.59	D1, D7	SJM
1910138-03	C	Phenanthrene	10/18/19 6 00	EPA 625	11/7/19 1802	ND	mg/kg dry	10.75	13.20	DI, D7	SJM
1910138-03	C	Phenol	10/18/19 600	EPA625	lln/19 1802	ND	mg/kg dry	17.09	39.59	DI, D7	SJM
1910138-03	C	Pyrene	10/18/19 6:00	EPA625	11/7/19 1802	ND	mg/kg dry	9.10	13.20	D1,D7	SJM
1910138-03	C	1,2-Diphenylhydrazine	10/18/19 6 00	EPA 8270C	11/7/19 1802	ND	mg/kg dry	7.65	13.20	DI, D7	SJM

Qualifier Definitions

A	Absence
DI	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.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL), but above the MDL.
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. The
L4	associated blank spike recovery was below method acceptance limits.
N1	See case narrative.
N7	Additional analysis was not perfonned based on the "Total" result which was below the requested analyte's MCUAction Level/frigger Level.
NA	Not Analyzed
NC	Not Calculable
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 ES 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 perfonned 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 perfonned.
FD	Field Duplicate
FB	Field Blank
UC	Under Construction
EB	Equipment Blank
NA	Not Analyzed

Case Narrative(s)

1910138-02
SM 4500-CN E: Contract lab results expressed in fewer than three significant figures due to the fact that the contract lab nonnally reports cyanide results in ppm, not ppb. JGD 11-07-19

1910138-01,-02
EPA Method 625 Pesticides: Target analytes flagged with NI failed the MS/MSD RPD from the same extraction batch but the spike was perfonned on a different sample. MCD 11/12/19

1910138-01,-02,-03
EPA Method 625 Semi-volatiles: Target analytes flagged with NI failed the Matrix Spike from the same extraction batch but the spike was perfonned on a different sample. SIM 12/17/19

Semi-Quantitation
Method: 625
1910138-0 I

Compound Name	Concentration-ug/L
2-Butoxyethanol	96
Benzoic Acid	194
Benzeneacetic Acid	98
Dodecanoic Acid	112
Tetradecanoic Acid	110
Palmitic Acid	12385
OleicAcid	17328
Stearic Acid	5888

SIM 12/17/19

Semi-Quantitation
Method: 625
1910138-03

Compound Name	Concentration-mg/Kg
N,N-Dimethyl-1-dodecanamine	712
Palmitic Acid	16328
OleicAcid	32047
Stearic Acid	4697

SIM 12/18/19

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
D 17631 N. 25th Avenue • Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-6101
04585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page 1 of 1

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Cyanide		Joe Doranski	20-011669	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Drinking Water; WW=Wastewater; SW=Surface Water; GW=Groundwater; O=Other; S=Soil/Solid; T=Travel Blank; F=Food; G=Sludge/Biosolids

TURN AROUND TIME: Laboratory Authorization Required for Rush; ♦Standard 10 - 15 Day; D Other _____

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Compliance	No. of Containers	Amenable cyanide	Total cyanide	Total cyanide mg/kg	T%S for mg/kg dry weight	
1910129-01	10/17/19	930	University of Arizona - PL#1A		X	WW		1		X			01
1910137-01	10/18/19	600	Tres Rios WRF - raw influent	X		WW	X	1		X			02
1910137-02	10/18/19	600	Tres Rios WRF - final effluent #3	X		WW	X	1		X			03
1910137-03	10/18/19	600	Tres Rios WRF - dewatered cake	X		G	X	2			X	X	04
1910138-01	10/18/19	600	Agua Nueva WRF - plant influent	X		WW	X	1		X			05
1910138-02	10/18/19	600	Agua Nueva WRF - plant effluent	X		WW	X	1		X			06
1910138-03	10/18/19	600	Agua Nueva WRF - thickened sludge	X		G	X	2			X	X	07

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments *IS*pecial Instructions:

SAMPLE CONDITION UPON RECEIPT (Lab Use)

Intact/Broken		
Temperature	°C	
Chain of Custody	y	N
Preservation	y	N
Temperature	y	N

	RELINQUISHED BY		SAMPLES RECEIVED BY	
①	Sampler Signature: JN	Date: 10/21/19	Signature:	Date: 10/21/19
	Sampler Printed Name: Greg Spence	Time: 4:11	Printed Name: Casey Sa	Time: 4:11
②	Signature:	Date:	Signature:	Date:
	Printed Name:	Time:	Printed Name:	Time:
③	Signature:	Date:	Signature:	Date:
	Printed Name:	Time:	Printed Name:	Time:

WHITE-LAB YELLOW-CLIENT

FORM CS-016.2 (07/18)

Pima County Regional Wastewater Reclamation Department
Com,liancc and Rtgulatory Alfairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1910138-03

PROJECT & LOCATION: Agua Nueva WRF - Thickened Sludge Pump (Quarterly)

PROJECT-LOCATION NUMBER: 26=1=0=7=0=6,00

SAMPLE START DATE: 10 - 11 - 0 L4 (MMIDOIYY 0II MMIDOIYYY)

SAMPLE START TIME: 00

CLIENT: IWC

SAMPLE END DATE: 10 - 1 d}-0'J (MMIDOIYY 0II MMIDOIYYY)

SAMPLE END TIME: 0 y;,QO

SAMPLER(S): Silva, Kaufman, Riccaboni, Martinez (Print Last Name(s) Only)

Pennlt Type: O APP ▮ AZPDES or; O Investigative; OReuse; OAJr; s03; O Process Control; □ Other

Matrix: Biosolids; O Groundwater; OIndustrial; □ Soil; □ Stormwater; □ Surface Water; OWastewatM; □ AJr; □ Other

INORGANIC CHEMISTRY

METALS	Tot	Diss	D	C
Aluminum	□	□	□	□
Antimony	□	□	□	□
Arsenic	□	□	□	□
Barium	□	□	□	□
Beryllium	□	□	□	□
Boron	□	□	□	□
Cadmium	□	□	O	D
Calcium	□	□	D	
Chromium	□	D	D	D
Cobalt	□	□	□	□
Copper	□	□	□	□
Hardness	□	□	□	□
Iron	□	□	□	□
Lead	□	□	□	□
Magnesium	□	□	□	□
Manganese	□	□	□	□
Mercury	X		□	
Mercury LL	□	D	D	D
Molybdenum	□	□	□	□
Nickel	D	D	D	O
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
AmmoniaasN	□	□
Chloride	□	□
Cyanide, Total"" ""}	□	
Cyanide, Amenable	□	□
Fluoride	□	□
Ignitabillty	□	□
Nitrate as N	□	□
Nitrite as N	□	□
Nitrate/Nitrite as N	□	□
Nitrogen, Total Kjeidahl	□	□
Nitrogen, Total as N	□	□
Orthophosphate as P	□	□
Phosphorus, Total as P	□	□
Sulfate	□	□
Sulfide	□	□
Other	□	□
Other	□	□

ORGANIC CHEMISTRY

	D	C
Acrolein and Acrylonltrile	□	
Dioxin GC/SIM/MS Scan	□	
Organochlorine Pesticides & PCBs	□	
Purgeable Organics (GCMS)	□	
Semivolatile Organics (GCMS)	□	
Bls(2-ethylhexyl) phthalate	□	□
Digester Gas	□	□
Oil and Grease	□	□
Organic Carbon, Total	□	□
Organic Carbon, Dissolved	□	□
TCLP Herbicides (Contract Lab)	□	□
TCLP Pesticides	□	□
TCLP Semivolatlle Organics	□	□
TCLP Volatile Organics	□	□
TTHM	□	□
Total Petroleum Hydrocarbons	□	□
Volatile Acids	D	O
Other 624+	□	□
Other	D	O

EFFLUENT TOXICITY TESTING

	D	C
Chronic P. promela$	□	□
Chronic C. dubia	□	□
Chronic Se/ena$trum *caprtcomutum*	O	D
Other	□	□

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	O	O
D	O	D
COD	O	O
Coliform, Fecal	O	O
Coliform, Total	O	O
Specific Conductance	O	O
E.coli	□	0
Oxygen, Dissolved	□	
pH	O	10
Solids, Total 1/400 .., -h,.J.,	0	10
Solids, Total DlssOM<1	O	O
Solids, Total Suspended	O	O
Solids, Total Volatile	□	□
Solids, Volatile Suspended	O	O
Other	O	O

OTHER	D	C
Paint Filter	O	O
- - - - - - -	□	D
- - - - - - -	□	□
- - - - - - -	□	□
	□	□

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
O Chlorine m u		µgn.
O Specific Conductance SM 2510 B	----	µmhos/an
O Oxygen, Dissolved SM 4500-0 G		mgA.
□ PH @ pH Temp SM 4500-H B	0	pH Unl• 0 °C
0 Temperature SM 2550 B		•C
□ Total Depth of Well		feet
□ Depth to Water		feet

O;:,0 ther U

Comment[lnlrldlon1: The lab shall composite the four dlacrete PurgMble OfVanicl and AcroleinlAcrytonitrle Nmplel.

Cr . J(. °"J , z 'T"1S s•.J. LA .., -rs,

ca.S .b•;H? 00#1,0.{Jli ,ct

Septum Blank Pnip Date & Initials: oq-)..--:f- .:io1q !srs /...lv

Chain of Custody Record (Signatures Only)

Relinquished by Sample:	Received by:	Date:	Time: (Military time)
Riccaloni		10-17-19	JS10
Riccaloni	Refrigerator	10-18-19	0130
Refrigerator		10-18-19	0600
		10-18-19	0813
Relinquished by:	Received by:	On:	Tine: (Mllary lme)

Sample Integrtty/PntHrvatton:

# of Bottles Delivered: 9 Gas

Transported on Ice: ☒ YES □ NO

Lab Receipt

Temperature: 5 °C

Initials: Gas

06 qualifier? DYES O ilo

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?	☒	D	D
Sufficient sample volume for analysis?	☒	□	□
Samples are in properly preserved containers?	☒	□	□
Sample containers damaged/leaking/frozen?	□	1230	
40 ml vials headspace, > pea-sized air bubble?	□		□
Received from a refrigerator?	□	□	

• Sb, As, S., Cd, Cr, Cu, Pb, N, Se, Ag, 11, Zn, MM:ury(Cold Vapo;1
- As, Cd, Cr, C1, Pb, Mercury, Mo, N, Se, Zn

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT
WATER QUALITY
SAMPLE COLLECTION REPORT

SAMPLE LOCATION: Agua Nueva WRF - Thickened Sludge Pump LIMS: Ir.,/0 i 3<50 '3
LOCATION ID: 26107 - 0600 SAMPLERS: kc.<-<±""8..,1 s. [i,1., ,B:c.H p'1,' I Ma,<.6'11 e-c.
Last names only, primary sampler first
SAMPLE DATE: JO-/g-,} 0 I G

Sample Dor 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 (for outside lab)		Man	1000 ml	General Purpose/None/Ice
To be Composited by the Laboratory					
D	Purgeable Organics	**Hand Composite**	Man	4X40	None/Ice
D	Acrolein/Acrylonitrile		Man	4X40	None/Ice
		4 Aliquots for the duration of the discharge			

Need 8L total

		Time	
Aliquot #1	10/17/19	Of.el 0	2L
Aliquot #2	10/17/19	12. Io	2L
Aliquot #3	10/17/19	1815	2L
Aliquot #4	10/18/19	0005	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

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
D 17631 N. 25th Avenue• Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-6101
D 4585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0516

Page 1 of 1

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Cyanide		Joe Doranski	20-011669	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Drinking Water; WW=WasteN1Bler; SW=Surfaca Water; GW=Grounctwater; O=Other; $=Soil/Solid; T=Travel Blank; F=FOOd; G=Sludge/Biosolids

TURN AROUND TIME: Laboratory Authorization Required for Rush; i29 Standard 10-15 Day; D Other

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Compliance	No. of Containers	Amenable cyanide	Total cyanide	Total cyanide mg/kg	T%S for mg/kg dry weig	
1910129-01	10/17/19	930	University of Arizona - PL#1A		X	WW		1		X			01
1910137-01	10/18/19	600	Tres Rios WRF - raw influent	X		WW	X	1		X			02
1910137-02	10/1B/19	600	Tres Rios WRF - final effluent #3	X		WW	X	1		X			03
1910137-03	10/18/19	600	Tres Rios WRF - dewatered cake	X		G	X	2			X	X	04
1910138-01	10/18/19	600	Agua Nueva WRF - plant influent	X		WW	X	1		X			OS
1910138-02	10/18/19	600	Agua Nueva WRF - plant effluent	X		WW	X	1		X			06
1910138-03	10/18/19	600	Agua Nueva WRF - thickened sludge	X		G	X	2			X	X	07

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments/ Special Instructions:

SAMPLE CONDITION UPON RECEIPT (LAB USE ONLY)

	°C	
	y	N
	y	N
	y	N

	RELINQUISHED BY		SAMPLES RECEIVED BY	
①	Sampler Signature: JN	Date: 10/21/19	Signature:	Date: 10/21/19
	Sampler Printed Name: Greg Spence	Time: 4:11	Printed Name: Casey Sa	Time: 4:11
@	Signawre	Date	Signature	Cde
	♦ntedName	Time	Printed Name	Time
③	Signature	Date	Signature	Cde
	Printed Name	Time	Printed Name	Time

WHITE-LAB YELLOW-CLIENT

FORM CS-016.2 (07/18)

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
0 17631 N. 25th Avenue • Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-6101
04585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page 1 of 1

Please Print Clearly

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Cyanide		Joe Doranski	20-011669	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Dnnlong Water; WW=Was1ll!water; SW=Surface Watar; OW Groundwatr; O=Other; S=SoiVSolid; T=Travel Blank; F=Food; G=Sluclge/8ioaolids

TURN AROUND TIME: Laboratory Authorization Required for Rush; §Standard 10-15 Day; ☐ Other _____

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Compo::2	Grab	Sample &	Compliance	No. of Containers	pH (Lab Use Only)	Amenable cyanide	Total cyanide	Total cyanide mg/kg	T%S for mg/kg dry weig.												
1910129-01	10/17/19	930	University of Arizona - PL#1 A		X	WW		1			X														01
1910137-01	10/18/19	600	Tres Rios WRF - raw influent	X		WW	X	1			X														02
1910137-02	10/18/19	600	Tres Rios WRF - final effluent #3	X		WW	X	1			X														03
1910137-03	10/18/19	600	Tres Rios WRF - dewatered cake	X		G	X	2				X	X												04
1910138-01	10/18/19	600	Agua Nueva WRF - plant influent	X		WW	X	1			X														CS
1910138-02	10/18/19	600	Agua Nueva WRF - plant effluent	X		WW	X	1			X														06
1910138-03	10/18/19	600	Agua Nueva WRF - thickened sludge	X		G	X	2				X	X												07

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 5 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments /Special Instructions:

SAMPLE CONDITION UPON RECEIPT (LES Use)

No. of Containers		
Temperature	°C	
Custody Seals	y	N
Cooler Intact	y	N
Preservation	y	N

RELINQUISHED BY / SAMPLES RECEIVED BY

①	Sampler Signature	Date 10/21/19	Signature	Date 10/21/19
	sampler Printed Name Greg Spence	Time 4:11	Printed Name Casey Sea	Time 4:11
@	Signalurl	Date	Signature	Date
	Prin111d Name	Time	Printed Name	Time
C)	S4gnatute	Dato	Signature	Dlie
	Pr1ntad Name	Time	Printed Name	nme

WHITE-LAS YELLOW-CLIENT

FORM CS-016.2 (07/18)

PIMA COUNTY

WASTEWATER RECLAMATION

COMPLIANCE A'ND REGi;LATORY AFFAIRS OFFICE LABORATORY
2955 W Agua Nueva, Tucson, AZ 85745
Telephone: (520) 724-6200

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMSID	1910129-01, 1910137-01,-02,-03, 1910138-01,-02,-03	DO	20-011669
CONTRACT LAB	Legend Technical Services, Inc. - Phoenix	SAMPLE GROUP	Cyanide
ANALYSES	Cyanide SM 4500 CN E	REPORT ID	19J2507

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Solimsann\elementshare\TransferIn ?	y
Was the above-mentioned file converted from a .xis 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> Reoorts)	y
Was the converted file attached to the sample in LIMS?	y
VALIDATING CONTRACT LAB REPORT, CHAIN OF CUSTODY(S), AND DO#:	
Is contract lab report signed and dated?	y
Is copy of contract lab COC included with contract lab report?	y
Do the contract lab COC and CRAO COC(s) list the same sample ID, sample date, and analysis requested?	y
Do the sample dates and received dates on the CL report match the CL COC?	y
Does the CL report include all requested analysis?	y
Is the CL licensed in AZ for reported methods?	y
Does the DO match COC in types and number of tests?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
Do CL report and CL spreadsheet report the same sample result(s), sample date(s), and analysis date(s)?	y
Was a case narrative included in contract lab report?	y
Does the data packet include a QC report from the primary lab and any secondary subcontract labs?	y
Did the CL report list aoolicable AZ data qualifiers?	y
Were any dilutions made?	N
Were any results from diluted samples reported as ND?	*NIA*
Were the results from any diluted samples qualified accordingly?	N/A
Was QC included for every analysis method (e.g. Blk, LCS, MS, MSD)?	y
Did QC pass stated acceptance limits? If not, was it qualified?	y
Were samples analyzed within required holding times?	y
SOCs: Are MDLs below water quality standards? (If not, notify Belinda Gamboa-Felix.)	N/A
Semivolatiles & Volatiles: Were all analytes delivered?	*NIA*
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	NIA
Was Belinda Gamboa-Felix notified of any exceedences?	NIA
WET TESTING SPECIFIC REQUIREMENTS	
Is statement of Pass/Fail reflected in endpoints?	N/A
Ceriodaphnia: Survival and reproduction data included?	N/A
P. Promelas: Survival and growth data included?	NIA
Selenastrom: Growth data included?	N/A

Was chemistry data included?	NIA
Are Reference Toxicant Test results and Control Charts within limits?	NIA
Was PMSD Determination included and within acceptable ranQe? (minimum acceptable= 13)	NIA
Do endpoints include TUc, NOEC, LOEC, and IC25?	NIA
Do statistics verify endpoints?	NIA
Were Control Charts updated to include month of analysis?	NIA
Reviewer Initials: JD	**Review Date:** 11-07-19

PEER/FINAL REVIEW:	PR	FR
LIMSIExcel 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. Legend Technical Services of Arizona, Phoenix)?	✓	✓
DO received in Pima Core?	✓	
Analysis set to Reported?		✓
Peer Reviewer Initials: JD	**Review Date:** 11-14-19	
Final Reviewer Initials: JEC	**Review Date:** 11/14/19	

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.

LEGEND
Technical Services, Inc.

4585 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (520) 327-0518
www.legend-group.com

06 November 2019

Joe Doranski
Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745
Fax: (520) 579-6002

RE:Cyanide

Laboratory Work Order No.: 19J2507

Legend Technical Services of. Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 10/21/19 14:30.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

P. Brian Merritt

P. Brian Merritt For Alyssa Mazza
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Pima County RWRD CRAO Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Cyanide Project Number: 10/21/19 Project Manager: Joe Doranski	Reported: 11/06/19 16:37

ANALYTICAL REPORT FOR SAMPLES

sample ID.	La◆nrtory ID	Matrix	Type	DatB Sampled	Date Recawed
1910129-01	19J2507-01	Wastewater	Grab	10/17/19 09:30	10/21/19 14:30
1910137-01	19J2507-02	Wastewater	Composite	10/18i19 06:00	10/21/19 14:30
1910137-02	19J2507-03	Wastewater	Composite	10/18/19 06:00	10/21/19 14:30
1910137-03	19J2507-04	Solid (Dry Weight)	Composite	10/18/19 06:00	10/21/19 14:30
1910138-01	19J2507-05	Wastewater	Composite	10/18/19 06:00	10/21/19 14:30
1910138-02	19J2507-06	Wastewater	Composite	10/18/19 06:00	10/21/19 14:30
1910138-03	19J2507-07	Solid (Dry Weight)	Composite	10/18/19 06:00	10/21/19 14:30

Sample Condition Upon Receipt:

Temperature: 3.40 C

All samples were received in.acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)0004, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test.methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed on a "wet" basis unless designate◆ as ".dry weight".

Pima County RWRD CRAO Lab 2955 W cane Agua Nueva Tucson, AZ 85745	Project: Cyanide Project Number: 10/21/19 Project Manager: Joe Doranski	Reported: 11/06/19 16:37

1910129-01 (19J2507-01) Wastewater (Grab) Sampled: 10/17/19 09:30 Received: 10/21/19 14:30

Legend Technical Services of ona, Inc.

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry										
Cyanide, Total	<	3	10	ugIL	1	B9J1827	1012519 08:13	10125/1914:25	SM 4500 CN E	ES

1910137-01 (19J2507-02) Wastewater (Composite) Sampled: 10/18/19 06:00 Received: 10/21/19 14:30

Legend Technical Services-of ona, Inc.

Analyte	Result	MDL	RL	Unlli	Dllullon	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry										
Cyanide, Total	<	3	10	ugL	1	B9J1827	1012519 08:13	10125/1914:25	SM 4500 CN E	ES

1910137-02 (19J2507-03) Wastewater (Composite) Sampled: 10/18/19 06:00 Received: 10/21/19 14:30

Legend Technical Services of Arizona, Inc.

Analyte	Result	MDL	RL	Units	m.llon	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry										
Cyanide, Total	4	3	10	ug/L	1	B9J1827	10125/19 08:13	1°2511914:25	SM4500CN E	E4

1910137-03 (19J2507-04) Solid (Dry Weight) (Composite) Sampled: 10/18/19 06:00 Received: 10/21/1914:30

Legend Technical Services of Arizona, Inc.

Analyte	Result	MDL	AL	Units_	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemisby										
Cyanide, Total	0.705	0.192	0.641	mgkg dy	1	B9J1826	10125/19 08:13	1°2511914:25	EPA9014	
% Solids	16		1	%	1	B9J1883	10123/1913:40	1°23119 13:40.	SM 2540 G	

1910138-01 (19J2507-05) Wastewater (Composite) Sampled: 10/18/19 06:00 Received: 10/21/19 14:30

Legend Technical Services of Arizona, Inc.

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry										
Cyanide, Total	<	3	10	ug/L	1	B9J1827	10125/19 08:13	10/25/1914:25	SM4500 CN E	EB

1910138-02 (19J2507-06) Wastewater (Composite) Sampled: 10/18/19 06:00 Received: 10/21/19 14:30

Legend Technical Services of Arizona, Inc.

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic; Chemistry										
Cyanide, Total	3	3	10	ugL	1	B9J1827	10125/1908:13	1°25/1914:25	SM 4500 CN E	E4

1910138-03 (19J2507-07) Solid (Dry Weight) (Composite) Sampled: 10/18/19 06:00 Received: 10/21/1914:30

Legend Technical Services of Arizona, Inc.

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemlsby										
Cyanide, Total	<	2.22	7.41	mgkg dy	1	B9J1826	10125/19 08:13	10125/1914:25	EPA 9014	EB
% Solids	1		1	%	1	B9J1883	10123/19 13:40	11/23/19 13:40	SM 2540 G	

Legend Technical Services of Arizona, Inc.

Laboratory Wor1< Order No.: 19J2507

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Pima County RWRD CRAO Lab	Project: Cyanide	
2955 W Calle Agua Nueva	Project Number: 10/21/19	**Reported:**
Tucson, AZ 85745	Project Manager: Joe Doranski	11/06/19 16:37

Notes and Definitions

EB	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 the MDL.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPO	Relative Percent Difference

1912507

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
017631 N. 25th Avenue• Phoenix, AZ 85023 • (802) 324-6100 • Fax (602) 324-6101
0 4585 S. Pelo Verde Rd, Ste 423 • Tucaon, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page J_ot 1

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2966 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Cyanide		Joe Doranski	20-011669	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Drtnkln WS/er, WW=wastewater, SW=Surface Water, GW=Groundweter, S=SolVSolid, T=Travel Blank, F=Food, G=Sludge/Bio10llcfs, O=Other

TURN AROUND TIME: Laboratory Authorization Required for Rush @Standard 10 -15 Day ☐ OU

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Compliance	No. of Containers	Lab Use Only	Amenable cyanide	Total cyanide	Total cyanide mg/kg	T%S for mg/kg dry weig	Lab No.
1910129-01	10/17/19	930	University of Arizona - PL#1A		X	WW		1			X			01
1910137-01	10/1 B/19	600	Tres Rios WRF - raw influent	X		WW	X	1			X			02
1910137-02	10/1 B/19	600	Tres Rios WRF - final effluent #3	X		WW	X	1			X			03
1910137-03	10/18/19	600	Tres Rios WRF - dewatered cake	X		G	X	2				X	X	04
1910138-01	10/18/19	600	Agua Nueva WRF - plant influent	X		WW	X	1			X			05
1910_138-02	10/18/19	800	Agua Nueva WRF - plant effluent	X		WW	X	1			X			06
1910138-03	10,,8110	800	Agua Nueva WRF - thickened sludge	X		G	X	2				X	X	07

TO ASSURE ACCEPTANCE OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments I Special Instructions:

SAMPLE CONDITION ON RECEIPT (LAB USE)		
No. of Containers	9	
Temperature	3-4 °C	
Custody Seals	Y	N
Sealed Intact	Y	N
Preserved	Y	N

	RELINQUISHED BY		SAMPLES RECEIVED BY	
①	Sampler Signature / Sampler Printed Name Greg Spence	Date 10/21/19 Time 411	Signature / Printed Name Casey Sos	Date 10/21/19 Time 411
②	Signature / Printed Name Casey Sos	Date 10/21/19 Time 1600	Signature / Printed Name Lovin	Date 10/21/19 Time 1600
	Signature / Printed Name	Date 10/22/19 Time 0700	Signature / Printed Name Katie Peters	Date 10/22/19 Time 0700

Plus 1430

WHITE-LAB YELLOW-CLIENT

Page 7 of 7

FORM CS-0162 (07/18)

PAGE LEFT BLANK INTENTIONALLY

ANNUAL BIOSOLIDS REPORT 2019

SECTION 6

AVRA VALLEY WRF
AZPDES NO. AZ0024121

2019 PREPARER FORM

AND

SAMPLING AND ANALYSES
PRIORITY POLLUTANTS
TCLP
HAZARDOUSNESS

ANNUAL BIOSOLIDS REPORT 2019

PAGE LEFT BLANK INTENTIONALLY

ANNUAL BIOSOLIDS REPORT 2019

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:1/1/2019	**Reporting End Date: 12/31/2019**
Date:2/18/2020	**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)?

524 (Five Hundred and Twenty Four) 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: Jeff P. Prevatt, Deputy Director - Treatment	February 18, 2020

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

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, mg/Kg			
Arsenic	EPA Method 6010 - Arsenic (ICP-OES)	< 9.26 / < 11.6 / < 5.8	Mean / Maximum / Minimum
Beryllium	EPA Method 6010D	< 1.74 / < 2.3 / < 1.2	Mean / Maximum / Minimum
Cadmium	EPA Method 6010 - Cadmium (ICP-OES)	< 3.48 / < 4.6 / < 2.3	Mean / Maximum / Minimum
Chromium	EPA Method 6010 - Chromium (ICP-OES)	10.6 / 12.7 / 7.8	Mean / Maximum / Minimum
Copper	EPA Method 6010 - Copper (ICP-OES)	127 / 150 / 90	Mean / Maximum / Minimum
Lead	EPA Method 6010 - Lead (ICP-OES)	< 8.69 / < 11.6 / < 5.8	Mean / Maximum / Minimum
Mercury	EPA Method 7471 - Mercury (CVAA)	0.77 / 1.88 / 0.36	Mean / Maximum / Minimum
Molybdenum	EPA Method 6010 - Molybdenum (ICP-OES)	8.9 / 13.2 / 5.5	Mean / Maximum / Minimum
Nickel	EPA Method 6010 - Nickel (ICP-OES)	< 9.1 / < 11.6 / 5.9	Mean / Maximum / Minimum
Selenium	EPA Method 6010 - Selenium (ICP-OES)	< 17.4 / < 23.2 / < 11.5	Mean / Maximum / Minimum
Zinc	EPA Method 6010 - Zinc (ICP-OES)	216 / 326 / 159	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

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, mg/L	EPA Method 1311 - Toxicity Characteristic Leaching Procedure	**Sample Analysis Results Included in Section 6 of this Report**	**All results are significantly lower than RCRA TCLP limits, mg/L**
	Arsenic (As)	< 0.03 / < 0.03 / < 0.03	Mean / Maximum / Minimum
	Barium (Ba)	0.298 / 0.298 / 0.298	Mean / Maximum / Minimum
	Cadmium (Cd)	< 0.01 / < 0.01 / < 0.01	Mean / Maximum / Minimum
	Chromium (Cr)	< 0.03 / < 0.03 / < 0.03	Mean / Maximum / Minimum
	Lead (Pb)	< 0.03 / < 0.03 / < 0.03	Mean / Maximum / Minimum
	Mercury (Hg)	NA / NA / NA	Mean / Maximum / Minimum
	Selenium (Se)	< 0.06 / < 0.06 / < 0.06	Mean / Maximum / Minimum
	Silver (Ag)	< 0.003 / < 0.003 / < 0.003	Mean / Maximum / Minimum
Temperature	Not applicable	Not applicable	Not applicable
Total Solids	Standard Method 2540 - Total Solids	Wet Hauled Sludge % Solids Content **1.94 / 3.23 / 0.62**	Mean / Maximum / Minimum
Volatile Solids	Standard Method 2540 - Total Solids	Wet Hauled Sludge % Total Volatile Solids Content **83 / 87 / 77**	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: 05/09/2019
Laboratory License: AZOI59

Sample Analysis Report

Avra Valley WRF

January 2019

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

5·20·19
Date

Laboratory License #

Lab ID:	Sample Type	Parameter	Sample Date/l'lme	Analysis Method	Analysis Date/l'lme	Analysis Value	Units	MDL	MRL	Sample/Data Quallfien	Analyst
1901164-01	D	1,2-Diphenylbydrazinc	01/23/19 10:20	EPA 8270C	2/19/19 18:08	ND	ug/L	0.98	2.13	D4	SJM
1901164-0IREI	D	Zinc	01/23/19 10:20	EPA200.8	3 n t19 17:59	67.5	ug/L	0.86	5.00	DI	JB
1901164-02	D	Chromium (Dissolved)	01/23/19 10:20	EPA200.8	4/1/19 18:45	0.36	ug/L	0.29	1.00	H6,J	JB
1901164-03	FB	MCI'CIIIY'	01/23/19 10:20	EPA 245.7	1/25/19 14:48	ND	ng/L	1.41	5.00		KMT
Final Effluent at the U.V. Channel (25003-1351}											
1901014-01	D	E.Coli	01/02/19 9:00	SM92238	1/3/19 12:14	12.1	MPN/IOOmL		1.0		DEB
1901034-01	D	E.Coli	01/04/19 7:35	SM92238	1/5/19 12:36	<1	MPN/IOOmL		1.0		JAH
1901039-01	D	E.Coli	01/05/19 7:19	SM92238	1/6/19 11:12	<I	MPN/IOOmL		1.0		JAH
1901044-01	D	E.Coli	01/06/19 7:43	SM92238	ln/19 II :13	1,0	MPN/IOOmL		1.0		DEB
1901051-01	D	E.Coli	01/07/19 8:03	SM92238	1/8/19 13:21	<I	MPN/IOOmL		1.0		SDR
1901062-01	D	E.Coli	01/08/19 7:14	SM 92238	1/9/19 12:45	1.0	MPN/100 mL		1.0		DEB
1901071-01	D	E.Coli	01/09/19 7:37	SM 92238	1/10/19 13:09	<I	MPN/IOOmL		1.0		SDR
1901117-01	D	E.Coli	01/16/19 8:20	SM 92238	1/17/19 11:58	NR	MPN/IOOmL		1.0	NI	DEB
1901134-01	D	E.Coli	01/18/19 7:47	SM 92238	1/19/19 13:05	<I	MPN/IOOmL		1.0		JAH
1901163-01	D	E.Coli	01/23/19 8:12	SM 92238	1/24/19 12:32	6.3	MPN/IOOmL		1.0		SDR
1901181-01	D	E.Coli	01/25/19 8:10	SM92238	1/26/19 12:27	1.0	MPN/IOOmL		1.0		JAH
1901186-01	D	E.Coli	01/26/19 7:33	SM92238	1/27/19 13:00	<I	MPN/IOOmL		1.0		JAH
1901191-01	D	E.Coli	01/27/19 7:22	SM 92238	1/28/19 14:12	6.3	MPN/IOOmL		1.0		JAH
1901197-01	D	E.Coli	01/28/19 7:41	SM 92238	1/29/19 13:02	4.1	MPN/IOOmL		1.0		SDR
1901205-01	D	E.Coli	01/29/19 7:40	SM 92238	I/30/19 12:43	2.0	MPN/IOOmL		1.0		DEB
1901212-01	D	E.Coli	01/30/19 7:55	SM 9223B	1/31/19 12:45	<I	MPN/IOOmL		1.0		AV
1901221-01	D	E.Coli	01/31/19 7:23	SM 92238	2/1/19 12:48	1.0	MPN/I00mL		1.0		AV
Wet Haul Sludlr;e (25003-1573}											
1901071-04	D	¾Solids	01/09/19 6:55	• SM2540G	1/10/19 13:13	2.47	%		0.01		ANM
1901071-04	D	ob Solids, Total Volatile	01/09/19 6:55	SM 25400	1/10/19 15:38	81.4	%		0.01		ANM
1901165-01	D	2,4,S-TP (Silve,c)	01/23/19 9:35	8151A	1/30/19 19:06	ND	ug/1		2.0		KLM •
1901165-01	D	2,4-D	01/23/19 9:35	8151A	1/30/19 19:06	ND	ug/1		2.0		KLM •
• Analysis Performed by:ESC Al.0612 • Sec attached contract lab report for official results.											
1901165-01	D	Antimony	01/23/19 9:35	EPA6010D	2/19/19 12:34	ND	mg/kg dry		5.15		MLB
1901165-01	D	Arsenic	01/23/19 9:35	EPA6010D	2/19/19 10:59	ND	mg/kg dry		5.15		MLB
1901165-01	D	Beryllium	01/23/19 9:35	EPA6010D	2/19/19 10:59	ND	mg/kg dry		I.IS		MLB
1901165-01	D	Cadmium	01/23/19 9:35	EPA6010D	2/19/19 10:59	ND	mg/kgdry		2.30		MLB
1901165-01	D	Chromium	01/23/19 9:35	EPA6010D	2/19/19 10:59	1.18	mg/kgdry		5.15		MLB
1901165-01	D	Copper	01/23/19 9:35	EPA6010D	2/19/19 10:59	90.4	mg/kgdry		5.15		MLB
1901165-01	D	Lead	01/23/19 9:35	EPA6010D	2/19/19 10:59	ND	mg/kgdry		5.15		MLB
1901165-01	D	Mercury	01/23/19 9:35	EPA 74718	2/5/19 14:46	0.36	mg/kg dry		0.23		MJC
1901165-01	D	Molybdenum	01/23/19 9:35	EPA6010D	2/19/19 10:59	S.SI	mg/kg dry		2.30		MLB
)901165-01	D	Nickel	01/23/19 9:35	EPA 60!0D	2/19/19 10:59	S.94	mg/kg dry		5.15		MLB

Laboratory License #

Lab ID:	Sample Type	Parameter	Sample Dateftlme	Analysis Method	Analysis Dateftlme	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1901165-01	D	Selenium	01/23/19 9:35	EPA60100	2/19/19 10:59	ND	mg/kgdry		II.SI		MLB
1901165-0I	D	Silver	01/23/19 9:35	EPA 60100	2/19/19 10:59	0.811	mg/kg dry		O.S8		MLB
190116S-01	D	Arsenic	01/23/19 9:35	TCLP/EPA 60100	3/1/19 14:59	ND	mg/L		0.03		MLB
190116S-Ol	D	Barium	01/23/19 9:35	TCLP/EPA 60100	3/1/19 14:59	0.298	mg/L		0.03		MLB
190116S-OI	D	Cadmium	01/23/19 9:35	TCLP/EPA 60100	3/1/19 14:59	ND	mg/L		0.01		MLB
190116S-01	D	Chromium	01/23/19 9:35	TCLP/EPA 60100	3/1/19 14:59	ND	mg/L		0.03		MLB
190116S-01	D	Lead	01 /23/19 9:35	TCLP/EPA 60100	3/1/19 16:36	ND	mg/L		0.03		MLB
190116S-01	D	Mercury	01123/19 9:35	TCLP/EPA 7470A	2/IS/19 13:18	NA	mg/L		0.00	N7	MJC
190116S-01	D	Selenium	01/23/19 9:35	TCLP/EPA 60100	3/1/19 16:36	ND	mg/L		0.06		MLB
1901165-01	D	Silver	01/23/19 9:35	TCLP/EPA 60100	3/1/19 14:59	ND	mg/L		0.0029		MLB
190116S-01	D	Thallium	01/23/19 9:35	EPA 60100	2/19/19 10:59	ND	mg/kg dry		S7S		MLB
190116S-01	D	Zinc	01/23/19 9:35	EPA 60100	2/19/19 10:59	364	mg/kg dry		5.15		MLB
190116S-01	D	Cyanide, Total	01/23/19 9:35	Cyanide, Tolal	1/2S/19 14:37	ND	mg/kg dry	1.44	4.78	E8	AM •
• Analysis Performed by:Lcgend Technical Services of Arizona, Inc. • See attached contract lab report for official results.											
190116S-Ol	D	%Solids	01/23/19 9:35	Solids, Tolal	1/29/19 16:35	2	%		1		SLL •
• Analysis Performed by:Lcgend Technical Services of Arizona, Inc. • See attached contract lab report for official results.											
190116S-OI	D	% Solids	01/23/19 9:35	SM 2540G	1/24/19 13:18	2.24	%		0.01		ANM
190116S-Ol	D	Acrolein	01/23/19 9:35	EPA624	2/S/19 12:40	ND	mg/kg dry	0.0202	0.10		JEL
190116S-01	D	Acrylonitrile	01/23/19 9:35	EPA624	2/S/19 12:40	ND	mg/kg dry	0.03S0	0.10		JEL
190116S-01	D	4,4-DDD	01/23/19 9:35	EPA 625	2/S/19 03:56	ND	mg/kg dry	0.00381	0.01		MCD
190116S-01	D	4,4-DDE	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.00200	0.01		MCD
190116S-01	D	4,4-DDT	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.00379	0.02		MCD
1901165-01	D	Aldrin	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.00433	0.01		MCD
190116S-OI	D	alpha-BBC	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kgdry	0.00238	0.01		MCD
190116S-01	D	beta-BBC	0 I/23/19 9:35	EPA 625	2/S/19 03:56	ND	mg/kg dry	0.00S7S	0.01		MCD
190116S-01	D	Chlordane	0 I/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.01692	0.07		MCD
190116S-Ol	D	delta-BBC	01/23/19 9:35	EPA 625	2/S/19 03:56	ND	mg/kg dry	0.0044S	0.01		MCD
190116S-01	D	Dieldrin	01/23/19 9:3S	EPA 625	2/S/19 03:56	ND	mg/kg dry	0.00997	0.02		MCD
190116S-01	D	Endosulfan I	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.00290	0.01		MCD
190116S-01	D	Endosulfan II	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.0020S	0.01		MCD
190116S-01	D	Endosulfan sulfate	01/23/19 9:35	EPA 625	2/S/19 03:56	ND	mg/kg dry	0.00283	0.01		MCD
190116S-01	D	Endrio	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.006S4	O.ot		MCD
190116S-01	D	Endrio aldehyde	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.00736	O.ot		MCD
1901165-01	D	gamma-BBC (Lindane)	01/23/19 9:35	EPA 625	2/S/19 03:S6	ND	mg/kg dry	0.00496	0.01		MCD
190116S-Ol	D	Bcptacblor	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kgdry	0.00318	0.01		MCD
190116S-01	D	Beptachlor Epoxide	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.00238	0.01		MCD
190116S-01	D	PCB 1016	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.0041S	0.02		MCD
190116S-01	D	PCB 1221	01/23/19 9:35	EPA625	2/S//9 03:56	ND	mg/kg dry	0.01137	0.0S		MCD
190116S-01	D	PCB 1232	01/23/19 9:35	EPA625	2/S/19 03:S6	ND	mg/kg dry	0.00468	0.0S		MCD
190116S-OI	D	PCB 1242	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.00870	0.0S		MCD
1901165-01	D	PCB 1248	0 I/23/19 9:35	EPA62'	2/S/19 03:56	ND	mg/kg dry	0.00702	0.0S		MCD
190116S-01	D	PCB 1254	01/23/19 9:35	EPA 625	2/S/19 03:56	ND	mg/kg dry	0.01271	0.0S		MCD
190116S-OI	D	PCB 1260	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.00482	0.02		MCD
1901165-01	D	Total PCBs	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.01070	0.0S		MCD
1901165-01	D	Toxapbene	01/23/19 9:35	EPA625	2/S/19 03:56	ND	mg/kg dry	0.06308	0.13		MCD
190116S-01	D	Mctboxychlor	01/23/19 9:35	EPA 8270C	2/S/19 03:56	ND	mg/kg dry	0.00004	0.0002S		MCD
190116S-OI	D	1, 1, 1-Trichloroethane	0 I/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.004	0.01		ADP
190116S-OI	D	I, 1,2,2-Tetrachlorocthane	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.001	0.01		ADP
190116S-OI	D	1, 1,2-Trichlorocthane	01/23/19 9:35	EPA 624	1/31/19 17:44	ND	mg/kg dry	0.002	O.ot		ADP
190116S-01	D	1, 1-Dichloroethane	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.003	0.01		ADP
190116S-01	D	1, 1-Dichlorocthene	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.002	0.01		ADP
190116S-01	D	1,2-Dicblorobcnzene	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.002	0.01		ADP
190116S-01	D	1,2-Dichlorocthane	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.002	O.ot		ADP
190116S-01	D	1,2-Dichloropropane	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.002	0.01		ADP
190116S-01	D	1,3-Dichlorobcnzene	01/23/19 9:35	EPA624	t/31/19 17:44	ND	mg/kg dry	0.002	0.01		ADP
190116S-Ol	D	1,4-Dichlorobcnzene	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.003	O.ot		ADP
190116S-OI	D	2-Chloroethyl vinyl ether	01 /23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	·0.00S	0.01		ADP
190116S-01	D	Benzene	01/23/19 9:35	EPA 624	1/31/19 17:44	ND	mg/kg dry	0.002	0.01		ADP
190116S-01	D	Bromodicbloromethanc	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.00S	0.01		ADP
190116S-01	D	Bromoform	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.006	0.01		ADP

Laboratory License #

Lab ID:	Sample Type	Parameter	Sample Daterrlme	Analysis Method	Analysis Datefl'lme	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1901165-01	D	Bromomethane	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.003	0.01		ADP
1901165-01	D	Carbon Tetrachloride	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.007	0.01		ADP
1901165-01	D	Chlorobcnzcne	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.001	0.01		ADP
1901165-01	D	Chloroethane	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.004	0.01		ADP
1901165-01	D	Chloroform	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.003	0.01		ADP
1901165-01	D	Chloromethane	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.004	0.01		ADP
1901165-01	D	cis-1,3-Dicbloropropene	01/23/19 9:35	EPA 624	1/31/19 17:44	ND	mg/kg dry	0.002	0.01		ADP
1901165-01	D	Dibromochloromethane	01/23/19 9:35	EPA 624	1_/31/19 17:44	ND	mg/kg dry	0.001	0.01		ADP
1901165-01	D	Ethyl Benzene	-01/23/19 9:35	EPA 624	1/31/19 17:44	ND	mg/kg dry	0.002	0.QJ		ADP
1901165-01	D	Methylene Chloride	01/23/19 9:35	EPA 624	1/31/19 17:44	ND	mg/kg dry	0.004	0.01		ADP
1901165-01	D	Tetrachloroethene	01/23/19 9:35	EPA 624	1/31/19 17:44	ND	mg/kg dry	0.004	0.01		ADP
I901165-01	D	Toluene	01/23/19 9:35	EPA624	1/31/19 17:44	23.69	mg/kg dry	0.003	O.oJ		ADP
1901165-01	D	Total Trihalomethanes	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.006	o.oi		ADP
1901165-01	D	trans-1,2-Dicbloroethene	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.003	OQI		ADP
1901165-01	D	trans-1,3-Dichloropropene	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.002	0.01		ADP
1901165-01	D	Trichloroethene	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.003	0.01		ADP
1901165-01	D	Trichlorofluoromethane	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kg dry	0.005	0.QJ		ADP
1901165-01	D	Vinyl chloride	01/23/19 9:35	EPA624	1/31/19 17:44	ND	mg/kgdry	0.004	0.QJ		ADP
1901165-01	D	1,2,4-Tricblorobenzcne	01/23/19 9:35	EPA 8260	1/31/19 17:44	ND	mg/kg dry	0.002	0.01		ADP
1901165-01	D	1,2-Dibromo-3-chloropropane	01/23/19 9:35	EPA 8260	1/31/19 17:44	ND	mg/kg dry	0.002	0.02		ADP
1901165-01	D	1,2-Dibromoethane	01/23/19 9:35	EPA 8260	1/31/19 17:44	ND	mg/kgdry	0.002	0.01		ADP
1901165-01	D	cis-1,2-Dicbloroethene	01/23/19 9:35	EPA 8260	1/31/19 17:44	ND	mg/kg dry	0.004	0.01		ADP
1901165-01	D	m,p-Xylenes	01/23/19 9:35	EPA8260	1/31/19 17:44	ND	mg/kg dry	0.003	0,02		ADP
1901165-01	D	o-Xylene	01/23/19 9:35	EPA8260	1/31/19 17:44	ND	mg/kg dry	0.002	0.01		ADP
1901165-01	D	Styrene	0I/23/19 9:35	EPA 8260	1/31/19 17:44	ND	mg/kg dry	0.002	0.QJ		ADP
1901165-01	D	Xylenes, total	0I/23/19 9:35	EPA 8260	1/31/19 17:44	ND	mg/kg dry	0.003	0.02		ADP
1901165-01	D	2,3,7,8-TCDD -Dioxin Scan	01/23/19 9:35	EPA 625	3/1/19 15:15	ND	ug/kgdry		1.12		SJM
1901165-01	D	1,2,4-Tricblorobenzene	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901165-01	D	2,3-Dicbloroaniline	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1901165-01	D	2,4,6-Tricblorophenol	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901165-01	D	2,4-Dichloropbenol	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kgdry	0.07	0.08	D1,D7	SJM
1901165-01	D	2,4-Dimethylphenol	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kgdry	0.14	0.24	D1,D7	SJM
1901165-01	D	2,4-Dinitropbenol	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.34	0.80	D1,D7, VI	SJM
1901165-01	D	2,4-Dinitrotoluene	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.09	0.24	D7,D1	SJM
1901165-01	D	2,6-Dinitrotoluene	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901165-01	D	2-Chloronapbthalene	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901165-01	D	2-Cbloropbenol	0I/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901165-01	D	2-Methyl-4,6-dinitropbenol	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.21	0.24	D1,D7, VI	SJM
1901165-01	D	2-Methylpbenol	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901165-01	D	2-Nitropbenol	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.11	0.24	D1,D7	SJM
1901165-01	D	3,3-Dicblorobenzidine	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.09	0.20	D1,D7	SJM
1901165-01	D	4-Bromopbenyl phenyl ether	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901165-01	D	4-Chloro-3-methylpbenol	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1901165-01	D	4-Chloropbenyl phenyl ether	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901165-01	D	4-Methylpbenol	01/23/19 9:35	EPA625	2/19/19 20:38	311.4	mg/kg dry	0,07	0.08	D1,D7	SJM
1901165-01	D	4-Nitropbenol	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.19	0.24	D1,D7	SJM
1901165-01	D	Acenapbthene	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901165-01	D	Acenapbthylcne	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901165-01	D	Anthracene	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1901165-01	D	Benzidine	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kgdry	0.26	0.40	D1,D7	SJM
1901165-01	D	Bcnzo[a]anthracene	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901165-01	D	Bcnzo[a]pyrene	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1901165-01	D	Bcnzo[b]fluoranthene	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901165-01	D	Benzo[ghi]perylene	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.12	0.24	D1,D7	SJM
1901165-01	D	Bcnzo[k]fluorantbene	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.09	0.24	01,D7	SJM
1901165-01	D	bis(2-chloroethoxy)methane	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.08	0.08	D7,DI	SJM
1901165-01	D	bis(2-chloroetbyl)cther	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kgdry	0.08	0.24	D1,D7	SJM
1901165-01	D	bis(2-chloroisopropyl)ether	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1901165-01	D	bis(2 thylhexyl)phthalate	01/23/19 9:35	EPA 625	2/19/19 20:38	5.40	mg/kg dry	0.11	0.24	D1,D7	SJM
1901165-01	D	Butylbenzylphthalate	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.08	0.08	D1,D7	SJM

Laboratory License #

Lab ID:	Sample Type	Parameter	Sample Date/fime	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1901165-01	D	Carl>azole	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.11	0.24	D1,D7	SJM
1901165-01	D	Chryscne	01 /23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901165-01	D	Dibenzo(a.h)anthraccne	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.12	0.24	D1,D7	SJM
1901165-01	D	Diethyl phthalate	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	0.09	0.24	DI, D7	SJM
1901165-01	D	Dimethyl phthalate	01/23/19 9:35	EPA625	2/19/19 20:38	ND	mg/kg dry	Oo2	0.08	D1, D7, VI	SJM
1901165-01	D	Di-n-butyl phtbalate	01/23/19 9:35	EPA 625	2/19/19 20:38	10.38	mg/kg dry	0.10	0.24	D1,D7	SJM
1901165-01	D	Di-n-octyl phthalate	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.10	0.24	D1, D7	SJM
1901165-01	D	Fluoranthene	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901165-01	D	Fluorene	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901165-01	D	Hexachlorobenzene	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.02	0.08	DI, D7	SJM
1901165-01	D	Hexachlorobutadiene	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.04	0.08	D1,D7	SJM
1901165-01	D	Hexachlorocyclopentadiene	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.17	0.24	D1,D7	SJM
1901165-01	D	Hexachloroetbane	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.05	0.08	DI, D7	SJM
1901165-01	D	lndeno(1,2,3-cd)pyrene	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.11	0.24	D1,D7	SJM
1901165-01	D	lsophorone	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1901165-01	D	Naphthalene	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1901165-01	D	n-Decane	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1901165-01	D	Nitrobenzene	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.08	0.24	D1,D7	SJM
1901165-01	D	N-Nitrosodimethylamine	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.08	0.24	D1,D7,PC3	SJM
1901165-01	D	N-Nitrosodi-n-prnpylamine	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.10	0.24	D1,D7	SJM
1901165-01	D	N-Nitrosodiphenylamine	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.24	0.40	DI, D7	SJM
1901165-01	D	n-Octadecane	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1901165-01	D	Pentachlorophenol	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.16	0.24	D1,D7	SJM
1901165-01	D	Phenanthrene	01 /23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1901165-01	D	Phenol	01 /23/19 9:35	EPA 625	2/19/19 20:38	11.04	mg/kg dry	0.10	0.24	D1,D7	SJM
1901165-01	D	Pyrene	01/23/19 9:35	EPA 625	2/19/19 20:38	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901165-01	D	1,2-Diphenylhydrazine	01 /23/19 9:35	EPA 8270C	2/19/19 20:38	ND	mg/kg dry	0.04	0.08	D1,D7	SJM
1901165-01	D	1,4-Dichlorobenzene	01/23/19 9:35	EPA 8270C	2/19/19 20:38	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901165-01	D	2,4,5-Trichlorophenol	01 /23/19 9:35	EPA 8270C	2/19/19 20:38	ND	mg/kg dry	0.10	0.24	D1,D7	SJM
1901165-01	D	3 & 4-Methylphenol	01/23/19 9:35	EPA 8270C	2/19/19 20:38	347	mg/kg dry	0.09	0.24	D1,D7	SJM
1901165-01	D	Pyridine	01/23/19 9:35	EPA 8270C	2/19/19 20:38	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901165-01	D	Chlordane	01/23/19 9:35	TCLP/EPA 8270C	2/5/19 03:56	NA	ug/L	1.38	3.00	N7	MCD
1901165-01	D	Endrin	01/23/19 9:35	TCLP/EPA 8270C	2/5/19 03:56	NA	ug/L	0.200	0.50	N7	MCD
1901165-01	D	gamma-BHC (Lindane)	01/23/19 9:35	TCLP/EPA 8270C	2/5/19 03:56	NA	ug/L	0.270	0.50	N7	MCD
1901165-01	D	Heptachlor	01/23/19 9:35	TCLP/EPA 8270C	2/5/19 03:56	NA	ug/L	0.270	0.50	N7	MCD
1901165-01	D	Heptachlor Epoxide	01/23/19 9:35	TCLP/EPA 8270C	2/5/19 03:56	NA	ug/L	0.290	0.50	N7	MCD
1901165-01	D	Methoxychlor	01/23/19 9:35	TCLP/EPA 8270C	2/5/19 03:56	NA	ug/L	0.270	0.50	N7	MCD
1901165-01	D	Toxaphene	01/23/19 9:35	TCLP/EPA 8270C	2/5/19 03:56	NA	ug/L	3.79	6.00	N7	MCD
1901165-01	D	l,1-Dichloroethene	01/23/19 9:35	TCLP/EPA 82608	1/3\l\9 17:44	NA	ug/L	0.110	0.50	N7	ADP
1901165-01	D	1,2-Dichloroethane	01/23/19 9:35	TCLP/EPA 82608	1/31/19 17:44	NA	ug/L	0.0900	0.50	N7	ADP
1901165-01	D	1,4-Dichlorobenzcne	01/23/19 9:35	TCLP/EPA 8260B	1/31/19 17:44	NA	ug/L	0.170	0.50	N7	ADP
1901165-01	D	Benzene	01/23/19 9:35	TCLP/EPA 8260B	1/31/19 17:44	NA	ug/L	0.110	0.50	N7	ADP
1901165-01	D	Camon Tetrachloride	01/23/19 9:35	TCLP/EPA 82608	1/31/19 17:44	NA	ug/L	0.340	0.50	N7	ADP
1901165-01	D	Chlorobenzene	01/23/19 9:35	TCLP/EPA 82608	1/31/19 17:44	NA	ug/L	0.0600	0.50	N7	ADP
1901165-01	D	Chloroform	01/23/19 9:35	TCLP/EPA82608	1/31/19 17:44	NA	ug/L	0.140	0.50	N7	ADP
1901165-01	D	Hexachlorobutadiene	01/23/19 9:35	TCLP/EPA 82608	1/31/19 17:44	NA	ug/L	0.230	0.50	N7	ADP
1901165-01	D	Methyl Ethyl Ketone	01/23/19 9:35	TCLP/EPA 82608	1/31/19 17:44	NA	ug/L	0.290	0.50	N7	ADP
1-901165-01	D	Tetrachloroethene	01/23/19 9:35	TCLP/EPA 82608	1/31/19 17:44	NA	ug/L	0.180	0.50	N7	ADP
1901165-01	D	Trichloroethene	01/23/19 9:35	TCLP/EPA 82608	1/31/19 17:44	NA	ug/L	0.130	0.50	N7	ADP
1901165-01	D	Vinyl chloride	01/23/19 9:35	TCLP/EPA 82608	1/31/19 17:44	NA	ug/L	0.210	0.50	N7	ADP
1901165-01	D	1,4-Dichlorobenzene	01/23/19 9:35	TCLP/EPA 8270C	2/19/19 20:38	NA	ug/L dry	1.37	2.00	N7	SJM
1901165-01	D	2,4,S-Trichlorophenol	01/23/19 9:35	TCLP/EPA 8270C	2/19/19 20:38	NA	ug/Ldry	2.46	10.00	N7	SJM
1901165-01	D	2,4,6-Trichlorophenol	01/23/19 9:35	TCLP/EPA 8270C	2/19/19 20:38	NA	ug/Ldry	1.14	5.00	N7	SJM
1901165-01	D	2,4-Dinitrotoluene	01/23/19 9:35	TCLP/EPA 8270C	2/19/19 20:38	NA	ug/Ldry	1.44	5.00	N7	SJM
1901165-01	D	2-Methylphenol	01/23/19 9:35	TCLP/EPA 8270C	2/19/19 20:38	NA	ug/Ldry	1.09	2.00	N7	SJM
1901165-01	D	3 & 4-Methylphenol	01/23/19 9:35	TCLP/EPA 8270C	2/19/19 20:38	NA	ug/Ldry	1.07	4.00	N7	SJM
1901165-01	D	Hexachlorobenzene	01/23/19 9:35	TCLP/EPA 8270C	2/19/19 20:38	NA	ug/Ldry	0.610	2.00	N7	SJM
1901165-01	D	Hexachlorobutadiene	01/23/19 9:35	TCLP/EPA 8270C	2/19/19 20:38	NA	ug/Ldry	0.880	2.00	N7	SJM
1901165-01	D	Hexachloroethane	01/23/19 9:35	TCLP/EPA 8270C	2/19/19 20:38	NA	ug/Ldry	1.09	2.00	N7	SJM
1901165-01	D	Nitrobenzene	01/23/19 9:35	TCLP/EPA 8270C	2/19/19 20:38	NA	ug/Ldry	1.84	5.00	N7	SJM

Lab ID:	Sample Type	Parameter	Sample Date/fime	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1901165-01	D	Pentachlorophenol	01/23/19 9:35	TCLP/EPA 8270C	2/19/19 20:38	NA.	ug/L dry	6.10	10.00	N7	SJM
1901165-01	D	Pyridine	01/23/19 9:35	TCLP/EPA 8270C	2/19/19 20:38	NA	ug/L dry	1.55	2.00	N7	SJM
WellAV-06 {25003-2500)											
1901173-01	D	Depth to Water	01/24/19 11:40	NA	1/24/19 Il :40	283.1	Feet				SMPLR
1901173-01	D	Specific Conductance	01/24/19 11:40	SM2510B	1/24/19 Il :40	669	uS/cm		1.00		SMPLR
1901173-01	D	pH	01/24/19 Il :40	SM4500 HB	1/24/19 Il :40	7.5	pH Units				SMPLR
1901173-01	D	Temp at time of pH, °C	01/24/19 Il :40	SM4500 HB	1/24/19 Il :40	29.0	• c				SMPLR
1901173-01	D	Antimony	01/24/19 Il :40	EPA 200.8	3/26/19 16:08	ND	ug/L	0.35	1.00		JB
1901173-01	D	Arsenic	01/24/19 11:40	EPA 200.8	3/26/19 16:08	1.25	ug/L	0.18	1.00		JB
1901173-01	D	Beryllium	01/24/19 11:40	EPA 200.8	3/26/19 16:08	ND	ug/L	0.31	1.00		JB
1901173-01	D	Cadmium	01/24/19 Il :40	EPA 200.8	3/26/19 16:08	ND	ug/L	0.16	1.00		JB
1901173-01	D	Calcium	01/24/19 11:40	EPA 200.7	2/1/19 15:01	53.8	mg/L	0.44	4.00		MLB
1901173-01	D	Chloride	01/24/19 Il :40	SM4500-Cl-E	2/10/19 14:20	97.0	mg/L	0.85	6.00		MGA
1901173-01	D	Chromium	01/24/19 11:40	EPA 200.8	3/26/19 I6:08	0.48	ug/L	0.29	1.00	J	JB
1901173-01	D	Copper	01/24/19 Il :40	EPA 200.8	3/26/19 16:08	ND	ug/L	0.53	1.00		JB
1901173-01	D	Cyanide	01/24/19 11:40	SM4500-CN-E	2/4/19 14:06	ND	ug/L	1.67	5.00		MGA
1901173-01	D	Cyanide Amenable	01/24/19 Il :40	SM4500-CN-G	2/4/19 14:06	NA	ug/L	1.67	5.00	N7	MGA
1901173-01	D	Fluoride	01/24/19 Il :40	SM4500-F-C	2/16/19 13:27	0.17	mg/L	0.02	0.10		MGA
1901173-01	D	Hardness	01/24/19 11:40	SM 2340B	2/1/19 15:01	154	mg/L	2.31	9.99		MLB
1901173-01	D	Iron	01/24/19 11:40	EPA200.7	2/5/19 11:16	555	ug/L	23.0	25.00		MLB
1901173-01	D	Lead	01/24/19 Il :40	EPA 200.8	3/26/19 16:08	ND	ug/L	0.10	1.00		JB
1901173-01	D	Magnesium	01/24/19 11:40	EPA 200.7	2/1/19 15:01	4.72	mg/L	0.56	2.00		MLB
1901173-01	D	Manganese	01/24/19 11:40	EPA 200.8	3/26/19 16:08	24.7	ug/L	0.38	1.00		JB
1901173-01	D	Mercury	01/24/19 11:40	EPA245.1	2/21/19 13:23	ND	ug/L	0.13	0.20		MJC
1901173-01	D	Nickel	01/24/19 11:40	EPA 200.8	3/26/19 16:08	ND	ug/L	0.32	1.00		JB
1901173-01	D	Nitrate	01/24/19 11:40	Calculated	1/25/19 12:43	2.07	mg/L	0.03	0.20		KMT
1901173-01	D	Nitrate/Nitrite	01/24/19 11:40	EPA 353.2	1/25/19 12:43	2.13	mg/L	0.03	0.20		AJH
1901173-01	D	Nitrite	01/24/19 11:40	SM4500-N02 B	1/25/19 09:38	0.06	mg/L	0.02	0.20	J	KMT
1901173-01	D	Total Kjeldahl Nitrogen	01/24/19 11:40	EPA 351.2	1/30/19 10:20	ND	mg/L	0.30	0.80		JGB
1901173-01	D	Nitrogen Total Water	01/24/19 11:40	Calculated	1/30/19 10:20	2.13	mg/L	0.30	0.80		JGB
1901173-01	D	Potassium	01/24/19 Il :40	EPA 200.7	2/1/19 15:01	3.80	mg/L	0.28	2.00		MLB
1901173-01	D	Selenium	01/24/19 11:40	EPA 200.8	3/26/19 16:08	1.04	ug/L	0.98	1.00		JB
1901173-01	D	Silver	01/24/19 Il :40	EPA 200.8	3/26/19 16:08	ND	ug/L	0.52	1.00		JB
1901173-01	D	Sodium	01/24/19 11:40	EPA 200.7	2/1/19 15:01	83.1	mg/L	1.37	4.00		MLB
1901173-01	D	Thallium	01/24/19 11:40	EPA 200.8	3/26/19 16:08	ND	ug/L	0.09	1.00		JB
1901173-01	D	Sulfate as S04	01/24/19 11:40	EPA300,0	2n/!9 18:01	47.4	mg/L	0.880	1.00	D2	ALK *
• Analysis Performed by:Legend Technical Services of Arizona, Inc. - See attached contract lab report for official results.											
1901173-01	D	TotalOrganicCarbon	01/24/19 11:40	!o1!10rganic	1/25/19 14:37	0.406	mg/L	0.190	1.00	E4	AM *
• Analysis Performed by:Legend Technical Services of Arizona, Inc. - See attached contract lab report for official results.											
1901173-01	D	Alkalinity Total	01/24/19 Il :40	SM 2320B	1/30/19 Il :39	140	mg/L		20.00		ANM
1901173-01	D	BicarbonateA!kalinity	01/24/19 11:40	SM2320B	1/30/19 11:39	140	mg/L		20.00		ANM
1901173-01	D	Coliform, Total	01/24/19 Il :40	SM 9223B	1/25/19 14:42	Absence	CFU/100 ml				JAH
1901173-01	D	E. Coli	01/24/19 Il :40	SM 9223B	1/25/19 14:42	Absence	CFU/100 ml				JAH
1901173-01	D	Total Dissolved Solids	01/24/19 Il :40	SM 2540C	1/28/19 15:49	400	mg/L		10.00		SOB,
1901173-01	D	J,1,1-Trichloroethane	01/24/19 Il :40	EPA 624	1/31/19 12:05	ND	ug/L	0.19	0.50		ADP
1901173-01	D	1,1,2,2-Tetrachloroethane	01/24/19 Il :40	EPA 624	1/31/19 12:05	ND	ug/L	0.06	0.50		ADP
1901173-01	D	I,I,2-Trichloroethane	01/24/19 Il :40	EPA 624	1/31/19 12:05	ND	ug/L	0.09	0.50		ADP
1901173-01	D	I,1-Dichloroethane	01/24/19 Il :40	EPA 624	1/31/19 12:05	ND	ug/L	0.17	0.50		ADP
1901173-01	D	I,1-Dichloroethene	01/24/19 Il :40	EPA 624	1/31/19 12:05	ND	ug/L	0.11	0.50		ADP
1901173-01	D	1,2-Dicblorobenzene	01/24/19 Il :40	EPA 624	1/31/19 12:05	ND	ug/L	0.08	0.50		ADP
1901173-01	D	1,2-Dicbloroethane	01/24/19 11:40	EPA624	1/31/19 12:05	ND	ug/L	0.09	0.50		ADP
1901173-01	D	1,2-Dichloropropane	01/24/19 Il :40	EPA 624	1/31/19 12:05	ND	ug/L	0.10	0.50		ADP
1901173-01	D	1,3-Dicblorobenzene	01/24/19 11:40	EPA624	1/31/19 12:05	ND	ug/L	0.08	0.50		ADP
1901173-01	D	1,4-Dichlorobenzene	01/24/19 11:40	EPA624	1/31/19 12:05	ND	ug/L	0.17	0.50		ADP
1901173-01	D	2-Chloroethyl vinyl ether	01/24/19 11:40	EPA624	1/31/19 12:05	ND	ug/L	0.26	0.50		ADP
1901173-01	D	Benzene	01/24/19 11:40	EPA624	1/31/19 12:05	ND	ug/L	0.11	0.50		ADP
1901173-01	D	Bromodichloromethane	01/24/19 Il :40	EPA 624	1/31/19 12:05	ND	ug/L	0.24	0.50		ADP
1901173-01	D	Bromoform	01/24/19 11:40	EPA624	1/31/19 12:05	ND	ug/L	0.30	0.50		ADP
1901173-01	D	Bromomethane	01/24/19 11:40	EPA624	1/31/19 12:05	ND	ug/L	0.13	1.00		ADP

Qualifier Definitions

<	<1
A	Absence
DI	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.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL), but above the MDL.
ES.	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.
NI	See case narrative.
N7	Additional analysis was not performed based on the "Total" result which was below the requested analyte's MCUAction level/frigger Level.
NA	Not Analyzed
NR	Not Reported
PC3	Semi-quantitation is included in the case narrative.
VI	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 ES 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
RPO	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
UC	Under Construction
EB	Equipment Blank

Case Narrative(s)

1901117-01

E. Coli, SM 92238: The UV channel sampled was out of service and should not have been used for sample collection. The UV channel in use should have been sampled. This sample is invalid and is not reported. ESW 1/18/19

Semi-Quantitation
Method: 625
1901164-01

Compound Name	Concentration-ug/L
Palmitic Acid	120

SJM 04/05/19

1901165-01

EPA 8151A See contract lab report for case narrative. ABR 3-4-19. Edited ABR 5-9-19.

Semi-Quantitation
Method: 625
1901165-01

Compound Name	Concentration-mg/Kg (dry)
Benzeneacetic Acid	242
Palmitic Acid	16476
Oleic Acid	12738
Stearic Acid	7829

SJM 04/05/19

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
17631 N. 25th Avenue • Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-8101
04585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page 1 of 1

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
~~Green Valley~~ Avra Valley eas 01-23-19		Joe Doranski	19-020455	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Drinking Water; WW=Wastewater; SW=Surface Water; GW=Groundwater; O=Other; S=Soil/Solid; T=Travel Blank; F=Food; G=Sludge/Biosolids

TURN AROUND TIME: Laboratory Authorization Required for Rush — Ji Standard 10 - 15 Day; O Other

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	No. of Containers	pH ✓ (Lab Use Only)	TCLP herbicides	Total cyanide mg/kg	Total % solids dry weight	Total organic carbon	Lab No.
1901165-01	01/23/19	935	Avra Valley WRF - wet haul sludge		X	G	X	3		X	X	X	
1901164-01	01/23/19	1020	Avra Valley - final effluent		X	WW	X	1					X

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments / Special Instructions: Please report results from the cyanide scimple in mg/kg dry weight.

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers		
Temperature		°C
Custody Seals	y	N
Seals Intact	y	N
Preserved	y	N

	RELINQUISHED BY		SAMPLES RECEIVED BY	
①	Sampler Signature: JN	Date: 1/23/19	Signature: Alyssa Mazza	Date: 1/23/19
	Sampler Printed Name: Greg Spence	Time: 1400	Printed Name: Alyssa Mazza	Time: 1400
	S 0 -	Date	Signature	Date
	Prlnlad-	Time	fl1nledName	Time
®	Slenaturw	Dato	Slenahn	Date
		nme		Time

WHITE LAB YEL.IOW-CUENT

PIMA COUNTY WASTEWATER RECLAMATION

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

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1901071-04

PROJECT & LOCATION: Avra Valley RWRF Wet Haul Sludge

PROJECT-LOCATION NUMBER: 25003-1573 (XXXXX_ooo)

SAMPLE START DATE: _____ (MM/DD/YY OR MMIDDIYYYY)

SAMPLE START TIME: _____ (Melory Ilmo)

CLIENT: Sub Regional Facilities

SAMPLE END DATE: 01/09/2019 (MM/DD/YY OR MMIDD/YYYY)

SAMPLE END TIME: o6SS (Military Hme)

sAMPLER(S): Col!AltLzvs (Print Last N me(t) Only)

Permit Type: 0 APP / OAZPDES / 01WC

D Investigative / ☐ Reuse / ☐ Air / 0503 / ■ Process Control / OOther _____

Matrix: ■ Biosolids / ☐ Soil / D Wastewater / DGroundwater / D Stormwater / OAir / DIndustrial / D 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	C	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 CHIWISI"R.Y

	00
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 -r&sTIliG	O	-11-
Chronic *P. prome/as*	☐	☐
Chronic C *dubia*	☐	☐
Chronic *Selenastrum capricomutum*	☐	☐
Other _____	☐	☐

µrci:mia1ot.n&Y • WET CHIIW

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

Iffl.IER	D	C
Paint Filter	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

n'1MPLIANCE FIE:LD I.11-1HolUREMENTS

☐ Chlorine *Hach 10014*	_____	µg/L
D Specific Conductance *SM2510B*	_____	µmhos/cm
D Oxygen, Dissolved *SM4500-OG*	_____	mg/L
O p H @ p H Temp *SM4500-HB*	_____ @	pH Units@• C
D Temperature *SM2550B*	_____	·C
0 Total Depth of	_____	feet
D Depth to Water	_____	feet
☐ Other _____	_____	

Comments/Instructions:

Se11tum Blank Pe11 Date & Initials:

Chain of Custody Record (SignaturuOn♦

Relinquished by Sampler	Received by	Date	Time (Military time)
g..d [signature]	Sample Refrigerator	1-9-/9	0702
Sample Refrigerator	\ Jc, lt'f.		104
Relinquished by	Received by	Date	Time (Military time)
[signature]	$;flI, [signature]	loc;-1n1q	II 5 z
Relinquished by	ReceVct by	Date	Time (Military time)
Relinquished by	Received by	Date	Time (Military time)

a...ple Integrity/PrtOtVatl'on:

#of B°7:fj♦red _____

Transported on Ice IB) YES ☐ NO

Lab R-=-ls»

Temperature: /.O °C

Initials: re

06 qualifier? ☐ YES ♦ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	ff	D	☐
Sample labels match Chain of Custody?	[0'0		☐
Correct number of sample bottles were delivered?	13'	☐	☐
Custody seals intact?	☐	☐	B
Within holding time?	8	☐	☐
Sufficient sample volume for analysis?	Gr'	☐	☐
Samples are h properly preserved containers?	13''''	☐	☐
Sample containers damagedneaking/frozen?	☐		1:1 ☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	B'
Received from a refrigerator?	☐	W	☐

• Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapoq
• As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

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

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department
eom,lianet and Regulatory Affairs Offta Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1901165-01

PROJECT & LOCATION: Avra Valley Wet Haul Sludge (Annual)

PROJECT-LOCATION NUMBER: 2_5_0=0=3_=1=5_7_3 (0C00W000Q)

SAMPLE START DATE: MM/DD/YY OR MM/DD/YYYY

SAMPLE START TIME:

CLIENT: IWC

SAMPLE END DATE: 01-23-2019 MM/DD/YY OR MM/DD/YYYY

SAMPLE END TIME: 0 93 !;)

SAMPLER(S): S. (Print I.al NIIffIO(•) Only)

Pennlt Type: 0 APP; AZPDES; ☐ ,we; 0 Investigative; ☐ Reuse; O Air; ■ 503; 0 Process Control; ☐ Other

Matrix: ■ Biosolids; 0 Groundwater; 0 Industrial; ☐ Soil; 0 Stormwater; 0 Surface Water; ☐ Wastewater; O Air; O 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				
nn				

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

TMETHODS	D	C
AmmonlaasN		
Chloride	0	0
Cyanide, Total {''' -0	■	
Cyanide, Amenable	D	D
Fluoride		
Ignitabllity		
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
Acroleln and Acrylonltrile	■	
Dioxin GC/SIM/MS Scan	■	
Organochlorine Pesticides & PCBs	■	
Purgeable Organics (GCMS)	■	
Semivolatlle Organics (GCMS)	■	
Bls(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.* prome/as		
Chronic *C. dub/a*		
Chronic Se/enastrum *caprlcomutum*	O	0
Other		

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity		
BOD		
COD		
Collfonn, Fecal		
Collfonn, Total		
Specific Conductance		
E. coll		
Oxygen, Dissolved		
pH	i	
Solids, Total(I-A , -f,.....i	1	0
SoDds, Total Dissolved		
SoHds, Total Suspended		
SoRds, Total Volatile		
Solids, Volatile Suspended		
Other n		

OTHER

	D	C
Paint Filter		

COMPLIANCE FIELD MEASUREMENTS

	R=11•	Ulll/lo
☐ Chlorine *Hee/l 10014*		µgn..
O Specific Conductance *SIf 2510B*		µmhos/an
O Oxygen, Dissolved *SM4500-0G*		mgn..
O PH@pHTemp *SM-4500-HB*	0	pH Untt10° C
O Temperature SM25508		•C
☐ Total Depth of Well		feet
O Depth to Water		feet
O other		

Comments/Instructions:
C.. !'J.... I °CL ', ...bi :J,, ,.-.j ,,.,, Z
, S ,...+ +, L—J -1S. 6'o7 01-"t'J.1g
OO-i/¼1-02MSS,
'tl-f COU 0/-1'3-/'.1

SeDturn Blank PwD Date & Initials: 11 a. 17f" lt-iiif

Cl)ahfl>f.Custody Record (S1gnatin1 Only)

Rell♦uy:s•♦	R--t,y:'	Date: Oi-23-/9	Time: (Mllary Ume) /115
Refinquilhed by:	R--by:	Date:	Tine: (Mllaly 11m)
Reffnquilhed by:	R--by:	Date:	Time: (Mllary lime)
Relinquilhed by:	R--by:	Date:	Tine: (Mllary 11m)

Sample Integrtty/Preurvatlon:
Delivered C<6
Transported on Ice ■ YES O N O

Lab Receipt
Temperature: i •C
Initials: GbJ
0 6 qualifier? ☐ YES 3 N 0

LAB USE ONLY

Sample Inapec:tlon:	Yes	No	NA
Chain of CualDdy Record completed appropriately?	18	☐	☐
Sample label• match Chain of Cuatody?		☐	☐
Correct number of Nmple bottles were delivered?	EJ	☐	☐
Custody Mais Intact?	☐	☐	☒
Within holding time?	ng	☐	☐
Sufficient sample volume for analysis?	!E	☐	☐
Samples are h property preserved containers?	E	☐	☐
Semple containers damaged/leaking/frozen?	☐		☐
40 ml vtal1 headapace, > eel air bubble?	pg	☐	☐
Received from a l9frigerator?	☐	19	☐

• Sb, Al, a.. Cd, Cr. Cu, Pb, Nl, Se, Aq, n Zn, MIrcury(Cold v.,,,,,,

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

PIMA COUNTY WASTEWATER MANAGEMENT
INDUSTRIAL WASTEWATER CONTROL SECTION
SAMPLE COLLECTION FIELD NOTES

SAMPLE LOCATION: AvaValeyWetHauSludge

LOCATION ID: 25003-1573 SAMPLERS: R..•cr 60,,,, S./ ♦ (Last names only, print name) SAMPLE DATE: OJ-)3 -/ j

SAMPLE	PARAMETER	START	END	FREQUENCY				TILE	PRESERVATION
Ik,:£D♦o♦r£CW!k=======JI1♦		♦♦♦	♦.♦ k JJI♦ =1k					TY=P E	= = = = =
1---0-----tl	Priority Pollutant Metals	/'-'/A:-	oq3 <	Gr-Leeb			1000ml	Om Plastic	Ice
D	503 Metals							Om Plastic	Ice
D	Cyanide, Total						1000 ml	Om Plastic	Ice
D	Organochlorine Pesticides						1000 ml	Amber	Ice
D	Semivolatile Organics						1000ml	Amber	Ice
D	Dioxin Scan						1000ml	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 Metals						1000ml	DM Plastic	rro
D	TCLP Volatile Organics			Gcu,J			40ml	Septum	Ice
D	TCLP Volatile Organics						40ml	Septum	Ice
D	TCLP Volatile Organics						40ml	Septum	Ice
D	TCLP Volatile Organics						40ml	Septum	Ice
D	Purgeable Organics						40ml	Septum	Ice
D	Purgeable Organics						40ml	Septum	Ice
D	Purgeable Organics						40ml	Septum	Ice
D	Purgeable Organics						40ml	Septum	Ice
D	Acrolein and Acrylonitrile						40ml	Septum	Ice
D	Acrolein and Acrylonitrile						40ml	Septum	Ice
D	Acrolein and Acrylonitrile						40ml	Septum	Ice
D	Acrolein and Acrylonitrile						40ml	Septum	Ice

Time	Model#	Serial#	Auto/Man.	Buffer	Reading	Buffer	Readino	Temp.	Slone	Initials
					Not Applicable					

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials
			Not Applicable						
			JK						

Notes:

EQUIPMENT USED: ☒ Grab Sampler ☐ Composite Sampler ☐ Flow Prop. ☐ Other

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
017631 N. 25th Avenue• Phoenix, AZ 65023 • (602) 324-6100 • Fax (602) 324-6101
04585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page 1 of 1

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
~~Green Valley~~ Avra Valley 01-23-19		Joe Doranski	19-020455	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Drinking Water, WW=Wastewate, SW=Surface Water, GW=Groundwater, G=Other, S=Soil/Solid, T=Trawl Blank, F=Food, G=Sludge/Biosolids

TURN AROUND TIME: Laboratory Authorization Required for Rush. Standard 10 - 15 Day. D Other _____

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Comp.	Type (I)	Sample Type (G)	Comp. (C)	No. of Containers	pH (Lab Use Only)	TCLP herbicides	Total cyanide mg/kg	Total % solids dry weight	Total organic carbon	Lab No.
1901165-01	01/23/19	935	Avra Valley WRF - wet haul sludge		X	G	X	3		X	X	X		
1901164-01	01/23/19	1020	Avra Valley - final effluent		X	WW	X	1					X	

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments / Special Instructions: Please report results from the cyanide sample in mg/kg dry weight.

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers		
Temperature	°C	
Custody Seals	y	N
Seals Intact	y	N
Preserved	y	N

	RELINQUISHED BY			SAMPLES RECEIVED BY		
①	Sampler Signature		Date 1/23/19	Signature		Date 1/23/19
	Sampler Printed Name	Greg Spence	Time 1400	Printed Name	Alyssa Mazza	Time 1400
②	Signature		Date	Signature		Date
	Printed Name		Time	Printed Name		Time
③	Signature		Date	Signature		Date
	Printed Name		Time	Printed Name		Time

WHITE-LAB YELLOW-CLIENT

FORM CS-016.2 (07/18)

LEGEND
Technical Services, Inc.

4585 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (520) 327-0518
www.legend-group.com

26 February 2019

Joe Doranski
Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745
Fax: (520) 579-6002

RE: Environmental Analysis & Testing
Laboratory Work Order No.: 19A2427

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 01/23/19 14:00.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

/: ,t.,,:_ /1
P. Brian Merritt
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Pima County RWRD GRAO Lab	Project: Environmental Analysis & Testing	
2955 W Calle Agua Nueva	Project Number: Avra Valley 1/23/19	Reported:
Tucson, AZ 85745	Project Manager: Joe Doranski	02/26/1911:59

ANALYTICAL REPORT FOR SAMPLES

Sample D	Laboratory D	Matrix	Type	Date Sampled	Date Received
1901165-01	19A2427-01	Solid	Grab	01/23/19 09:35	01/23/19 14:00
1901165-01	19A2427-02	Solid (Dry Vl/eight)	Grab	01/23/19 09:35	01/23/19 14:00
1901164-01	19A2427-03	\Nastewater	Grab	01/23/1910:20	01/23/19 14:00

Sample Condition **Upon Receipt:**

Temperature: **4.80 C**

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding **Times:** All holding times were met unless otherwise qualified.

QA/QC **Criteria:** All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed on a "wet" basis unless designated as "dry weight".

This report contains data that were produced by a subcontracted laboratory certified for the fields of testing performed.

Pace National (fka ESC) AZ0612
Daphne Richards
800.767.5859

Report revised 2/26/19 to report 8151 TCLP in ug/L per client request. PBM

Pima County RWRD CMAD Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Environmental Analysis & Testing Project Number: Avra Valley 1/23/19 Project Manager: Joe Doranski	Reported: 02/26/1911:59

1901165-01 (19A2427-01) Solid (Grab) Sampled: 01/23/19 09:35 Received: 01/23/19 14:00

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				ESCAZ0612						
8151A										
2,4,5-TP (Silvex)	<		2.0	ug/l	1	M:3123017(01/30/19	09:19	01/30/1919:06	8151A	
2,4-0	<		2.0	ug/l	1	M:3123017(01/30/19	09:19	01 /30/19 19:06	8151A	
Surrogate: 2, 4-Dichlorophenyl Acetic Acid			69.2%		*14.0-158*	*WG12301 70*	*01/30/19*	*01/30/19*	*8151A*	

1901165-01 (19A2427-02) Solid (Dry Weight) (Grab) Sampled: 01/23/19 09:35 Received: 01/23/19 14:00

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				Legend Technical Services of Arizona, Inc.						
Inorganic Chemistry										
Cyanide, Total	<	1.44	4.78	mg/kg dry	1	B9A1695	01125/19 10:26	01 /25/19 14:37	EPA9014	EB
%Solids	2		1	%	1	B9A1805	01/29/19 16:35	01 /29/19 16:35	SM 2540G	

1901164-01 (19A2427-03) Wastewater (Grab) Sampled: 01/23/1910:20 Received: 01/23/1914:00

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				Legend Technical Services of Arizona, Inc.						
Inorganic Chemistry										
Total Organic Carbon	7.22	0.190	1.00	mg/L	1	B9A1834	01/25/19 14:37	01/25/19 14:37	SM 5310 C	

Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Environmental Analysis & Testing
Project Number: Avra Valley 1/23/19
Project Manager: Joe Doranski

Reported:
02/26/19 11:59

Notes and Definitions

R9	Sample RPO exceeded the laboratory acceptance limit.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
EB	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
<	<
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Pima County RWRD CRAO Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Environmental Analysis & Testing Project Number: Avra Valley 1/23/19 Project Manager: Joe Doranski	Reported: 02/26/19 11:59

19A2427

CHAIN OF CUSTODY RECORD

LEGEND

Technical Services, Inc.

017831 N.251hAwnue•Phoenb<.AZ85023•(802)324-8100•Fax(802)32♦101
04583 S. Palo Von» Rd, SIO 423 • TUCIOI, AZ 85714 • (520) 327-1234, Fax (520) 327-0518

Page of

Pleen Pirl Clarl y

CLIENT INFORMATION

Client Name	Aditass	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-5040	

Avra Valley

Joe Doranski | 19-020455 | Email Results ☑ | Special Detection Limits ☐

SAMPLE TYPE CODES: ow-Dnmting W... \NW=WUIBW6Ler SW::.SL.nece WfLor GW=Grd_TCWater O=Other; S=Soll/Solld T•Travel81a1k F:Foacf Q:i:Sludge,'Bi010lidl

TURN AROUND TIME: Laboratory Authorization Required for Rush

Jiil-10-150.,

Client's Sample Identification	Date	Time	Sample Location	Container	Preservative	Matrix	Container Size	Number of Containers	TCLP herbicides	Total cyanide mg/kg	Total % solids dry weight	Total organic carbon	Lab No.
1901165-01	01/23/19	9	Avra Valley WRF - wet haul sludge	X	G	X	P/G		X	X	X		-01
J,_	1-	-	J -	X	G	X	2			X	X		-02
1901164-01	01/23/19	1020	Avra Valley - final effluent	X	WW	X	1				X		-03

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments / Special Instructions: Please report result! from the cyanide sarrple in mg/kg dry weight. Project Name changed Per Greg Spence. 1/23/19 AM

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers	4	
Temperature	4.8 °C	
Custody Seals	Y	N
Seals Intact	Y	N
Preserved	Y	N

WHITE-LAB YEUOW-CI.IENT

RELINQUISHED BY / SAMPLES RECEIVED BY

	Sampler Signature / Signature	Date	Time	Signature / Printed Name	Date	Time
①	Sampler Printed Name: Greg Spence	1/23/19	1400	Alyssa Mazza	1/23/19	1400
②	Printed Name: Jacelyn Martel	1/23/19	1600	Courier	1/23/19	1600
③	Printed Name: Courier	1/24/19	900	Michael	1/24/19	900

FORM CS-016.2 (07/18)

Pima County RWRD - CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Environmental Analysis & Testing
Project Number: Avra Valley 1/23/19
Project Manager: Joe Doranski

Reported:
02/26/19 11:59

Legend Technical Services of Arizona. Inc.

LEGEND
Technical Services. Inc.

SUBCONTRACT ORDER
19A2427

PO Number:

SENDING LABORATORY:
Legend Technical Services of Arizona. Inc.
17631 North 25th Avenue
Phoenix, AZ B5023
Phone:602-324-6100
Fax:602-324-6101
Project Manager: P. Brian Merritt

RECEIVING LABORATORY:
Pace National (fka ESC Lab Sciences)
12065 Lebanon Rd.
Mt. Juliet, TN 3 7 1 =
Phone :(800) 767-5859
Fax: (615) 758-5859

Cllent'Pi (b...,n CG2AO IA..\o

Analyala	Due	Expires	Sample Comments
Sample ID: 19A2427--01 Solid	Sampled:01/23119 09:35		
8151 T C L P Subcontract	02101/19 15:00	02108/19 09:3'5	Report to MDL
Container.s Supplfed.- 02_1000mLAmber G - • Cool to 4• C (A)			

Released By (Print & Sign)	Date	Time	Received By (Print & Sign)	Date	Time
x 1/24/19		0936	Emily Vanovacy x	1/24/19	0936
x					

Released By (Print & Sign)	Date	Time	Received By (Print & Sign)	Date	Time

Page 1 of 1

PaceAnalyticar
National Center for Testing & Innovation

ANALYTICAL REPORT

January 31, 2019

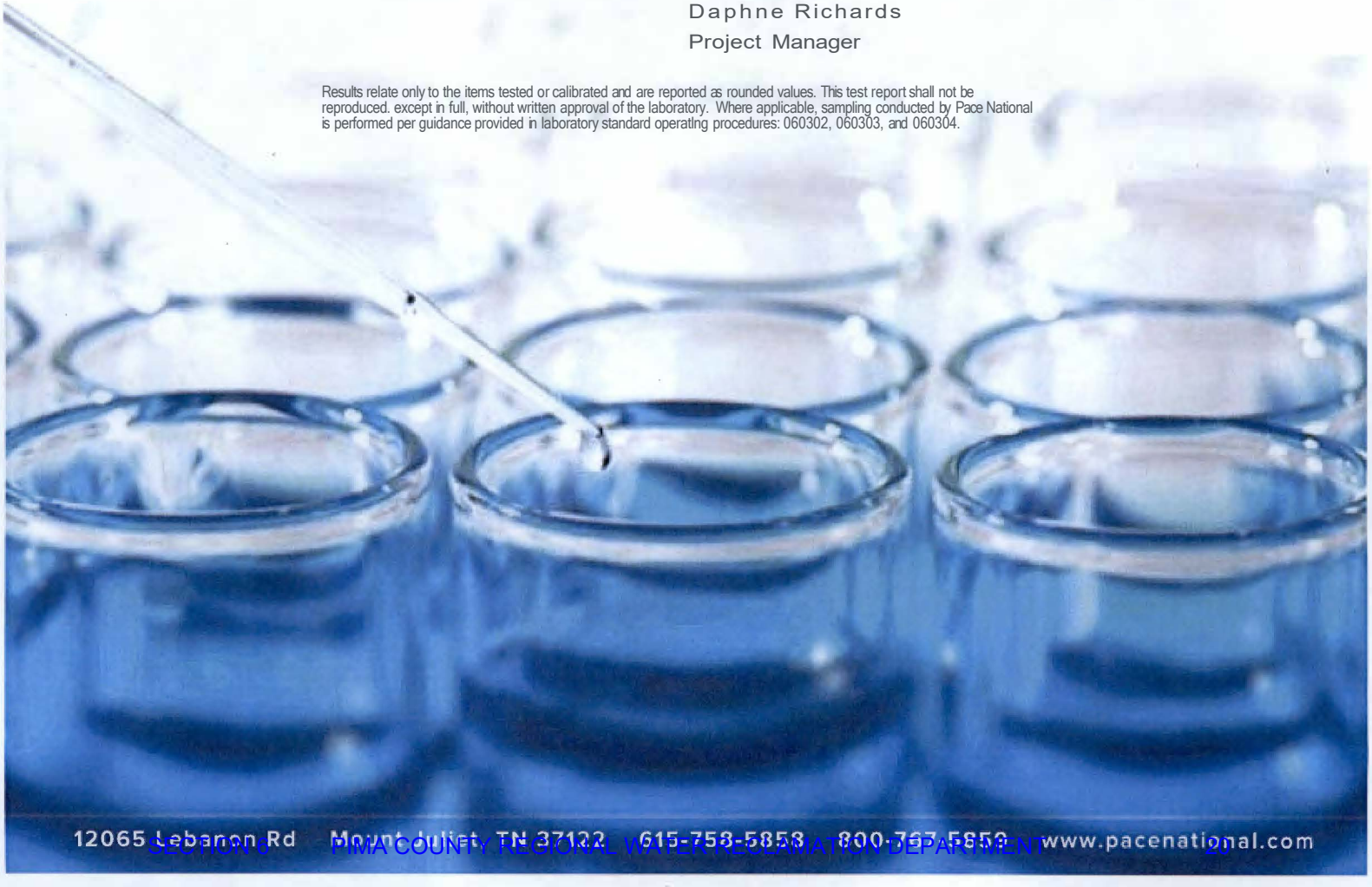
Legend Technical Services of Arizona.Inc

Sample Delivery Group:	L1064400
Samples Received:	01/25/2019
Project Number:	19A2427
Description:	
Report To:	Brian Merritt 17631 N. 25th Avenue Phoenix, AZ 85023

Entire Report Reviewed By: £ ielwdr

Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced. except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operatlng procedures: 060302, 060303, and 060304.



12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: case Narrative	4
Sr: Sample Results	5
19A2427-01 L1064400-01	5
Qc: Quality Control Summary	6
Chlorinated Acid Herbicides (GC) by Method 8151A	6
Gl: Glossary of Terms	7
Al: Accreditations & Locations	8
Sc: Sample Chain of Custody	9

SAMPLE SUMMARY

19A2427-01 L1064400-01 Waste

Collected by	Collected date/time	Received date/time
	01/23/19 09:35	01/25/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Preparation by Method 1311	WG1229595	1	01/29/1911:08	01/29/19 11:08	TM
Chlorinated Acid Herbicides (GC) by Method 8151A	WG1230170	1	01/30/19 09:19	01/30/19 19:06	KLM

CASE NARRATIVE

All sample aliquots were received at the correct temperature. in the proper containers, with the appropriate preservatives. and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL {LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory. and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne R Richards

Daphne Richards
Project Manager

Preparation by Method 1311

Analyte	Result	Prep date/time	
TCLP Extraction	-	1/29/2019 11:08:47 AM	WG1229595
Fluid	1	V29/201911:08:47 AM	WG1229595
Initial pH	7.36	1/29/201911:08:47 AM	WG1229595
Final pH	6.02	1/29/201911:08:47 AM	WG1229595

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date /time	Batch
2,4,5-TP (Silvex)	ND		0.00200	1	1	OV30/201919:06	WG1230170
2,4-0	ND		0.00200	10	1	OV30/201919:06	WG1230170
(S) 2.4--DichlorophenylAcetic Acid	69.2		14.0-158			01/30/2019 19:06	WG1230170

Chlorinated Acid Herbicides (GC) by Method 8151A

L1064400-01

Method Blank (MB)

(MB) R3380057-1 01/30/1916:32

Analyte	MB Result mg/I	MB Qualifier	MB MDL mg/I	MB RDL mg/I
2.4-D	ll		0.000667	0.00200
2,4,5-TP (Silvex)	ll		0.000667	0.00200
(S) 2.4-Dich/orophenyl Acetic Acid	69.8			14.0-158

Laboratory Control Sample (LCS)

(LCS) R3380057-2 01/30/19 16:45

Analyte	Spike Amount mg/I	LCS Result mg/I	LCS Rec. %	Rec. Limits %	LCS Qualifier
2.4-D	0.0500	0.0415	83.0	50.0-120	
2.4,5-TP {Sllvex)	0.0500	0.0430	86.0	50.0-125	
(S) 2,4-Dichlorophenyl Acetic Acid			78.0	14.0-158	

L1063431-01 Original Sample (OS)• Matrix Spike (MS)• Matrix Spike Duplicate (MSD)

(OS) L1063431-01 01/30/19 17:40 • (MS) R3380057-3 01/30/19 17:55 • (MSD) R3380057-4 01/30/19 18:08

Analyte	Spike Amount mg/I	Original Result mg/I	MS Result mg/I	MSD Result mg/I	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,4-D	0.0500	ND	0.0398	0.0393	79.6	78.6	1	50.0-120			1.26	20
2,4,5-TP (Silvex)	0.0500	ND	0.0419	0.0418	83.8	83.6	1	50.0-125			0.239	20
(S) 2,4-Dichlorophenyl Acetic Acid					72.4	74.8		14.0-158				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation. and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) -Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
u	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material. the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report. the sample may be diluted for analysis. If a value different than 1 is used in this field. the result reported has already been corrected for this factor.
Limits	These are the target% recovery ranges or% difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present. there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples. and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID. including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

Pace National is the only environmental laboratory accredrted/certified to support your work nationwide from one location. One phone call, one point of contact. one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory Is comparable to the collective totals of the network laboratories in our Industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing tum-around time. and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR IAB OF CHOICE.

- Not all certifications held by the laboratory are applicable to the results reported in the attached report.
- Accredrtation is only applicable to the test methods specified on each scope of accredrtation held by Pace National.

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

State Accreditations

Alabama	40660	Nebraska	NE-OS·15–05
◆	17-026	Nevada	TN-03·2002·34
Mzoaa	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NEIAP	TN002
California	2932	New Mexico'	n/a
Cok>rado	TN00003	New York	11742
Connecticut	PH-0197'	North Carolina	Env375
Florida	E87487	North Carolina'	DW21704
Geo!!!!	N&AP	North Carolina'	41
Georgia ?	923	North Dakota	R•140
Idaho	TN00003	Ohlo-VAP	CL0069
Ullnois	200008	Oldalloma	9915
Indlana	C•TN–01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E·10277	Rhode Island	IA000356
Ken ••	90010	South Carolina	84004
Kentucky'	16	South Dakota	n/a
Louisiana	AI30792	Tennessee••	2006
Louisiana'	LA180010	T8IIII$	T 10470424S.1H4
Maine-	TN0002	Texas•	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	VIrgInla	460132
MInneSota	047.ggg395	Washington	C847
◆issIppi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2IA

Third Party Federal Accreditations

A2IA- ISO 17025	1461.01	AIHA-LAP, L◆EMLAP	100789
A2IA- ISO 17025 •	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330·15-00234
EPA◆fYE◆-	TN00003		

[1]Drinking Water [2]Underground Storage Tanks [3]Aquatic Toxicity • ChemieaVMicrobiological [5]Mold • Wastewater n/a Accredrtation not applicable

Our Locations

Pace National has sixty.four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.

Legend Technical Services of Arizona, Inc.

PO Number:

LEGEND Technical Services, Inc.

SUBCONTRACT ORDER

19A2427

L064100

SENDING LABORATORY:

Legend Technical Services of Arizona, Inc.
17631 North 25th Avenue
Phoenix, AZ 85023
Phone: 602-324-6100
Fax: 602-324-6101
Project Manager: P. Brian Merritt

RECEIVING LABORATORY:

Pace National (fka ESC Lab Sciences)
12065 Lebanon Rd.
M I Juliet, TN 37122
Phone :(800) 767-5859
Fax: (615) 758•5859

CleanV&WtA Ccont

Analysis	Due	Expires	Sample Comments
Sample ID: 19 -41	$QMd	Bampled:011 9 09!3&	-01
"s1s1 TCIP Subcontmct	02J01tl915.-00	02106119 09-.$	Report to MDL
Containers Supp8e			
02_1000mLAmbel' Glaas. Cool 1D 4 C "')			

~~50 4.8~~
50.0.2=9.8 than 1

TRK # 4510 1667 6675

1249

RAD SCREEN: <0.5 mR/hr

Released By (Print & Sign)	Date	Time	Received By (Print & Sign)	Date	Time
	1/24/19	0936	Emily Vanaskeux	1/24/19	0936
Emily Vanaskeux	1/24/19	1800		01/25/19	09:00

OK

ESCAZ

LEGEND
Technical Services, Inc.

4565 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (520) 327-0518
www.legend-group.com

26 February 2019

Greg Spence
Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745
Fax: (520} 579-6002

RE: Environmental Analysis & Testing
Laboratory Work Order No.: 19A2621

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results. relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 01/24/19 14:20.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

;... .-:---/1

P. Brian Merritt
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Pima County RWRD CRAO Lab	Project: Environmental Analysis & Testing	
2955 W Calle Agua Nueva	Project Number: Green Valley	Reported:
Tucson, AZ 85745	Project Manager: Greg Spence	02/26/19 12:17

ANALYTICAL REPORT FOR SAMPLES

SampleID	Laboratory ID	Matrix	Type	Dale Sampled	Date Received
1901174-01	19A2621-01	Solid	Grab	01/24/19 09:15	01/24/19 14:20
1901174-01	19A2621-02	Solid (Dry \Neight)	Grab	01/24/19 09:15	01/24/19 14:20
1901173-01	19A2621-03	Groundwater	Grab	01/24/1911 :40	01/24/19 14:20

Sample Condition Upon Receipt:

Temperature: 3.20 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed on a "wet" basis unless designated as "dry weight".

This report contains data that were produced by a subcontracted laboratory certified for the fields of testing performed.

Pace National (fka ESC} **AZ0612**
Daphne Richards
800.767.5859

Report revised 2/26/19 to report 8151 TCLP in ug/L per client request. PBM

Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Environmental Analysis & Testing
Project Number: Green Valley
Project Manager: Greg Spence

Reported:
02/26/19 12:17

1901174-01 (19A2621-01) Solid (Grab) Sampled: 01/24/19 09:15 Received: 01/24/1914:20

Arlatyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Arlalyzed	Method	Notes
				ESCAZ0612						
8151A										
2,4,5-TP (Silvex)	<		2.0	ug/l	1	NG123117€0210111911:01		02/02/19 05:29	8151A	
2,4-D	<		2.0	ug/l	1	NG123117€02/01/1911:01		02♦2/19 05:29	8151A	
Surrogate: 2,4-Dichlorophenyl Acetic Acid			72.8%		*14.0-158*	*WG123117 6*	*02/01/19*	*02/02119*	815/A	

1901174-01 (19A2621-02) Solid (Dry Weight) (Grab) Sampled: 01/24/19 09:15 Received: 01/24/19 14:20

,♦atyte	Result	MDL	RL	Uni1s	Dilution	Batch	Prepared	Arlalyzed	Method	Notes
				Legend Technical Services of Arizona., Inc.						
Inorganic Chemistry										
Cyanide, Total	<	0.595	1.98	mg/kg dry	1	8980849	02/01/19 10:26	02/01/19 13:52	EPA9014	E8
%Solids	5		1	%	1	89A1805	0I /29/19 16:35	0I /29/19 16:35	SM2540G	

1901173-01 (19A2621-03) Groundwater (Grab) Sampled: 01/24/1911:40 Received: 01/24/1914:20

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	N('les
				Legend Technical Services of Arizona, Inc.						
Inorganic Chemistry										
Total Organic Carbon	0.406	0.190	1.00	mg/L	1	89A1834	01/25/1914:37	01/25/1914:37	SM 5310C	E4

Pima County RWRD CRAO Lab	Project: Environmental Analysis & Testing	
2955 w Calle Agua Nueva	Project Number: Green valley	Reported:
Tucson, AZ 85745	Project Manager: Greg Spence	02/26/19 12:17

Notes and Definitions

R9	Sample RPO exceeded the laboratory acceptance limit
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
EB	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 the MDL.
<	<
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPO	Relative Percent Difference

19A2621

CHAIN OF CUSTODY RECORD

LEGEND
Technical Services, Inc.

☐1, u 1N.: M ,._ , . • Phoo nar, AZ II5023 • (802) 3 ™ 1 100 , f. . 1eG2J♦101
045115S. , . . . V _ Rd, 819423 •Tucacn,AZ I6714 •(*20)327-1234 •Fax(520) 1127-0518

Page_Lat_L

Please Print Clearly

ClienIN_,.	Address	City	State	Zip	Phone	Fax Number or Email Address
[redacted] County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Green Valley	Praj.ctNumblf	Contact: Joe Doranski	P.O. No.: 19-020520	Fax Results ☐ Email Results ☒	QC Report ☐ EDD ☒ Special Detection Limits ☐

Laboratory Authorization Required for Ru1h
III-•••150.,
☐ -

Client's Sample Idonlificatlon	Date	Time	Sample Location	Log 1	Compliance	No. of Containers	TCLP herbicides	Total cyanide mg/kg	Total % solids dry weight	Total organic carbon	
1901174–01	01/24.119	815	Green Valley WRF -wet haul sludge	X	G X	1	X	X	X		-01
1	L	1-.	.L	X	G X	2		X	X		-02
1901173-01	01/2"19	1H-o	Avra Valley - well AV-00	X	GW X	1			X		~~-02~~ -03

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 24 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments / Special Instructions: Please report results from the cyanide sample in mg/kg dry weight.

SAMPLE CONDITION UPON RECEIPT & ALIQUOT		
No. of Containers	4	
Temperature	3.2 °C	
Custody Seals	Y	(N)
Bottle Intact	Y	N
Preservatives	(Y)	N

RELINQUISHED BY	Date	Time	RECEIVED BY	Date	Time
Greg Spence	1/24/19	1402	Alyssa Matta	1/24/19	1402
(2) Signature / Printed Name: Kaitlyn Martel	1/24/19	1600	Signature / Printed Name: Courier	1/24/19	1600
(3) Signature / Printed Name: Courier	1/25/19	0805	Signature / Printed Name: Williamson	1/25/19	0805

@lab 1/24/19 1420

WHITE-LAB YELLOW-CLIENT

FORM CS-016.2 (07/18)

Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Environmental Analysis & Testing
Project Number: Green Valley
Project Manager: Greg Spence

Reported:
02/26/1912:17

Legend Technical Servic- of Arizona, Inc.

LEGEND
Technical Services. Inc.

PO Number:

SUBCONTRACT ORDER
19A2621

BENQINQ LABORATORY-
Legend Technical Services of Arizona, Inc.
17631 North 25th Avenue
Phoenix, AZ. 85023
Phone: 602-324-6100
Fax:602-324-6101
Project Manager. P Brian Merritt

RECEIYJNG-LABORATQBY-
Pace National (fka ESC Lab Sciences)
12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone :(800) 767-5859
Fax: (615) 758-5859

Cllent:'f\\'Y"\CJ CO lob

Analyal■	Dua	■xpl . . .	Sample Comments
- m p l eiD: 19"2921-01 Solkl		....pkd:0112,41"10 00:19	
8151 TCLP Subcontract	02J04/19 115:00	02J07/19 OG:1!5	Report to MCL

COntaln•rs Supp/led:
1000ml. Amber Glaaa Cool to 4• C (,ll)

Released By (Print & Sign)	Date	Time	Received By (Print & Sign)	Date	Time
x	1/25/19	0938	x Emily Vanuskey	1/25/19	0938
x					

Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

February 04, 2019

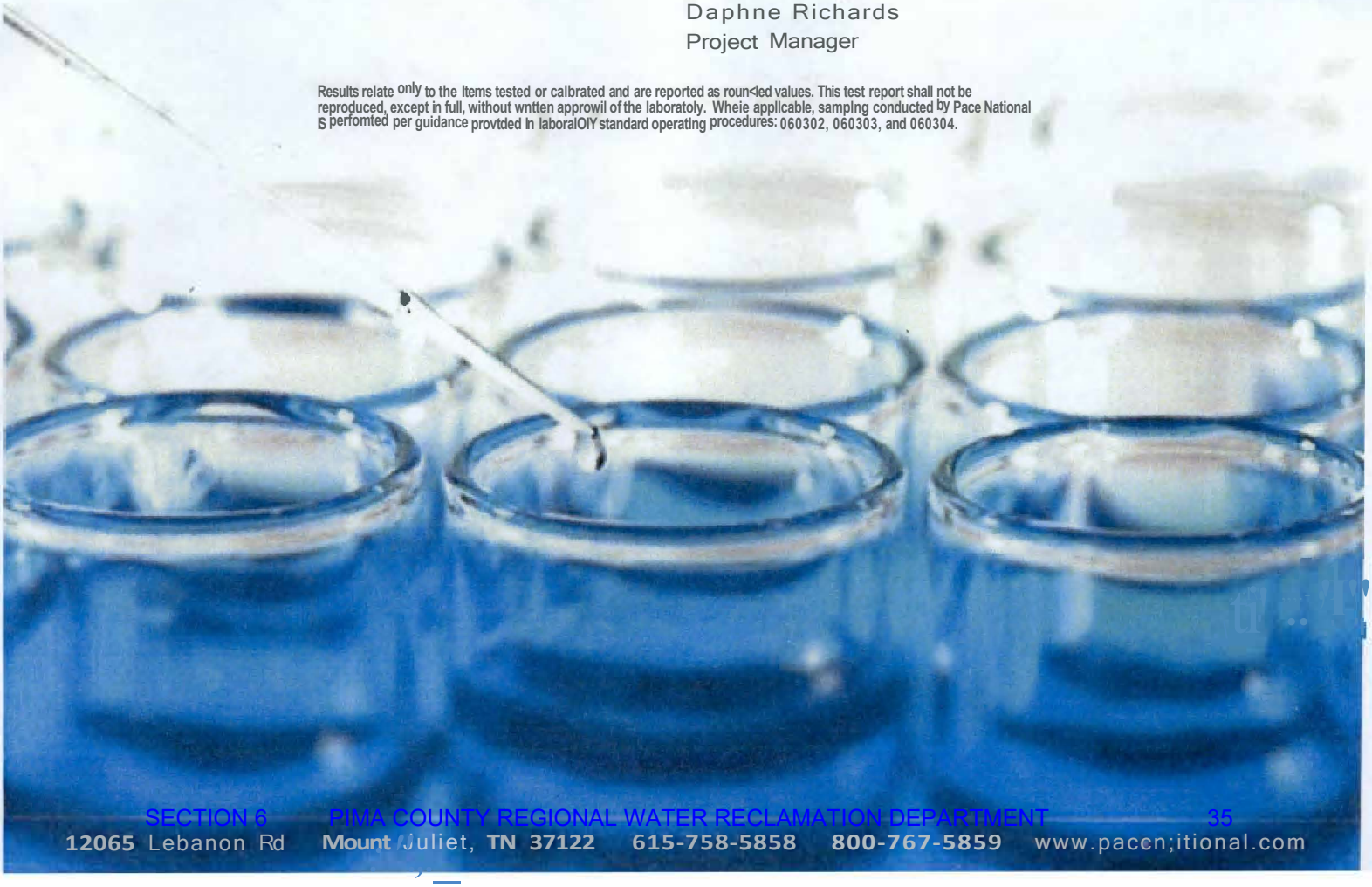
Legend Technical Services of Arizona,Inc

Sample Delivery Group:	L1064643
Samples Received:	01/26/2019
Project Number:	19A2621
Description:	Pima County CRAO Lab
Report To:	Brian Merritt 17631 N. 25th Avenue Phoenix, AZ 85023

Entire Report Reviewed By: Jr t 1fjfko'.J-

Daphne Richards
Project Manager

Results relate only to the Items tested or calbrated and are reported as roun<led values. This test report shall not be reproduced, except in full, without wntten approwil of the laboratoly. Wheie applicable, sampling conducted by Pace National is perfomted per guidance provtded In laboralOIY standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacen;itional.com

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
19A2621-01 L1064643-01	5
Qc: Quality Control Summary	6
Chlorinated Acid Herbicides (GC) by Method 8151A	6
Gl: Glossary of Terms	7
Al: Accreditations & Locations	8
Sc: Sample Chain of Custody	9

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.

	Collected by	Collected date/lime	Received date/lime
19A2621-01 L1064643-01 Waste		0V24/19 09:15	01/26/19 08:00

Method	Batch	Dilution	Preparation date/lime	Analysis date/time	Analyst
Preparation by Method 1311	WG1230219	1	01/30/19 10:31	01/30/1910:31	RT
Chlorinated Acid Herbicides (GC) by Method 8151A	WG1231176	1	02/01/19 11:01	02/02/19 05:29	RP

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Legend Technical Services of Arizona.Inc	19A2621	L1064643	02/04/19 12:40	3 of10

CASE NARRATIVE

ONE LAB. NATIONWIDE.

All sample aliquots were receiVed at the correct temperature, in the proper containers. with the appropriate preservatives. and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL {LOD) and RDL {LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form **or** properly qualified within the sample results. By my digital signature below. I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne R Richards

Daphne Richards
Project Manager

ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Legend Technical Services of Arizona.Inc	19A2621	L1064643	02/04/19 12:40	4 of10

19A2621-01

SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.

Collected date/time: 01/24/19 09:15

L1064643

Preparation by Method 1311

Analyte	Result	Prep date /time	
TCLP Extraction	-	1/30/201910:31:53AM	WG1230219
Fluid	1	1/30/201910:31:53AM	WG1230219
Initial pH	7.07	1/30/2019 10:31:53AM	WG1230219
Final pH	5.32	1/30/201910:31:53AM	WG1230219

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/l	RDL mg/l	Limit mg/l	Dilution	Analysis date/time	Batch
2,4,5-TP (Silvex)	ND	0.00200	,	1	02/02/2019 05:29	
2,4-D	ND	0.00200	10	1	02/02/2019 05:29	
(SJ 2,4-Dich/orophenyl Acetic Acid	72.8	14.0-158			02/02/2019 05:29	

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Legend Technical Services of Arizona.Inc	19A2621	L1064643	02/04/19 12:40	5 of10

Chlorinated Acid Herbicides (GC) by Method 8151A

L1064643-01

Method Blank (MB)

(MB) R3380836-1 02/02/19 02:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MBRDL mg/l
2,4-D	U		0.000667	0.00200
2,4,5-TP (Silvex)	U		0.000667	0.00200
(S) 2,4-Dlch/orophenyl Acetic Acid	64.4			14.0-158

Laboratory Control Sample (LCS)

(LCS) R3380836-2 02/02/19 02:55

Analyte	Spike Amount mg/l	LCS Result mgn	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4-D	0.0500	0.0259	51.8	50.0-120	
2,4,5-TP (Silvex)	0.0500	0.0281	56.2	50.0-125	
(S) 2,4-Dichlorophenyl Acetic Acid			48.0	14.0-158	

L1064651-01 Original Sample (OS)• Matrix Spike (MS)• Matrix Spike Duplicate {MSD)

(OS) L1064651-01 02/02/19 05:44 • (MS) R3380836-3 02/02/19 05:57 • (MSD) R3380836-4 02/02/19 06:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSDRec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,4-D	0.0500	ND	0.0432	0.0393	86.4	78.6	1	50.0-120			9.45	20
2,4,5-TP (Silvex)	0.0500	ND	0.0466	0.0429	93.2	85.8	1	50.0-125			8.27	20
(S) 2.4-Dichlorophenyl Acetic Acid					78.2	71.8		14.0-158				

GLOSSARY OF TERMS

ONE LAB. NATIONWIDE.

Gulde to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation. and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) -Analytes added to every blank, sample. Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
u	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target% recovery ranges or% difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included Within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier Is present. a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state ·ND. (Not Detected) or ·sDL· (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results. including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present. there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection. the person collecting the samples. and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analySIs reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analySes performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank. there are no qualifiers applied to this SDG.

ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Legend Technical Services of Arizona.Inc	19A2621	L1064643	02/04/19 12:40	7of10

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

Pace National is the only environmental laboratory accredtted/certifted to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the coUective totals of the network laboratories In our Industry. The most significant benefit to our one locaUon design is the design of our laboratory campus. The model is conducive to accelerated productivity. decreasing turn-;iround time, and preventing cross contamination, thus protecting sample Integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

- Not all certifications held by the laboratory are applicable to the results reported in the attached report.
- Accreditation Is only applicable to the test methods specified on each scope of accreditation held by Pace National

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	'I4IW Hampshire	2975
Ar1<ansas	88-0469	Il_ew }I_TSI)'.-NE½J'	TN002
California	2932	New Mexico [1]	nla
Colorado	TN00003	NewYOI1<	11742
Connectlcut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina •	41
Georg♦'	923	North Dakota	R•MO
Idaho	TN00003	Ohio-VAP	CL0069
MIOI_S	200008	Oklahoma	♦91_5
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	•LA000356
Kentucky,,	90010	South Carolina	84004
Kentucky'	16	South Dakota	n/a
Louisiana	AI30792	Tennessee••	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002.	Texas [8]	LA80152
MUIYland		Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
I"ic_♦iga♦-	9958	V I r v ♦.	460132
Minnesota	047-999-395	Washinll_on	C847
♦iSsis5IPP(	TN00003	W♦VIIginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	♦yoming	A2LA

Third Party Federal Accreditations

A2LA- ISO 17025	1461.01	AIHA-IAP,IIC EMLAP	100789
A2LA- ISO 17025 [1]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EP♦rypto	TN00003		

'Drinking Water 'Underground Storage Tanks 'Aquatic Toxicity • Chemical/Microbiological [1] Mold 'Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delhiery of sampling supplies. If you would IIIe assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboralOry.

ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Legend Technical Services of Arizona.Inc	19A2621	L1064643	02/04/19 12·40	8 of10

Legend Technical Services of Arizona, Inc.

PO Number:

LEGEND
Technical Services, Inc.

SUBCONTRACT ORDER
19A2621

E087

SENDING, LABORATORY:

Legend Technical Services of Arizona. Inc.
17631 North 25th Avenue
Phoenix, A;Z85023
Phone: 602-324-61 OD
Fax:602-324-6101
Project Manager: P Brian Merritt

RECEIVING LABORATORY:

Pace National (flea ESC Lab Sciences)
12065 Lebanon Rd.
Mt Juliet. TN 37122
Phone :(800) 767-5859
Fax: (615) 758-5859

C.lientl'iWIIA *CO lob*

Analysis	Due	Expires	Sample Commenta 164643
Sample ID: 19.A2121:.01 solid	8ampltd:01n4119 09:15		
8151 TCLP Subcontrecl	02/tW1915:00	02/07i19 09:15	Report to MDL

Containers Supplied:
D2_1000mLAmberGlass Cool to 4• C (A)

Df

RAD SCREEN: <0.5 mR/hr

0.1+1-0.2
0059

Released By (Print & Sign)	Date	Time	Received By (Print & Sign)	Date	Time
[signature]	1/25/19	0938	[signature] xEmily Vanaskey	1/25/19	0938
Emily Vanaskey xEm [signature]	1/25/19	1400	[signature]	1/26/19	0800

ESCAZ

Page1'of 1

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: Leg W Pa2	SDG#	1646'3:	
Cooler Received/Opened On: 1/ /19	Temperature:	0.2	
Received. By: .Eric Strock			
Sjgnatur: Eric			

Receipt Check Ust	NP	Yes	No
COC Seal Present / Intact?	✓		
CCC Signed/ Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Ap.pfl a ble			
VOA Zero headspace?			
Preservation Correct / Checked?.			

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: 08/13/2019
Laboratory License: AZO159

Sample Analysis Report

Avra Valley WRF

May 2019

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

0·30·/Cj
Date

Laboratory License# AZ0159

Lab ID:	Sample Type	Parameter	Sample Daterfime	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1905120-02	C	bis(2-ethylhexyl)phthalate	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	2.82	6.45	D4	SJM
1905120-02	C	Buty lbcnzylphthalate	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	1.90	2.15	D4,Nl	SJM
1905120-02	C	Carbazole	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	2.67	6.45	D4	SJM
1905120-02	C	Chrysene	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	1.14	2.15	D4	SJM
1905120-02	C	Dibenzo(a,h)anthracene	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	3.07	6.45	D4	SJM
1905120-02	C	Diethyl phthalate	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	2.24	6.45	D4	SJM
1905120-02	C	Dimethyl phthalate	05/17/19 6:00	EPA625	5/28/19 15:45	0.89	ug/L	0.58	2.15	D4,J	SJM
!905120-02	C	Di-n-butyl phthalate	05/17/19 6:00	EPA625	5/28/19 15:45	10.2	ug/L	2.50	6.45	D4	SJM
1905120-02	C	Di-n-octyl phthalate	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	2.55	6.45	D4	SJM
!905120-02	C	Auoranthene	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	1.32	2.15	D4	SJM
1905120-02	C	Fluorene	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	1.54	2.15	D4	SJM
1905120-02	C	Hexachlorobenzcne	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	0.62	2.15	D4	SJM
I905120-02	C	Hexachlorobutadiene	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	1.01	2.15	D4	SJM
1905120-02	C	Hexachlorocyclopentadiene	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	4.23	6.45	N1,D4	SJM
!905120-02	C	Hexachloroethane	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	1.26	2.15	D4	SJM
1905 120-02	C	Indeno(1 ,2,3-cd)pyrene	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	2.83	6.45	D4	SJM
1905120-02	C	Isophorone	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	1.66	2.15	D4	SJM
!905120-02	C	Naphthalene	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	1.77	2.15	D4	SJM
1905120-02	C	n-Dccane.	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	1.95	2.15	D4	SJM
!905120-02	C	Nitrobenzcne	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	2.10	6.45	D4	SJM
1905120-02	C	N-Nitrosodimethylamine	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	2.09	6.45	D4,PC3	SJM
1905120-02	C	N-Nitrosodi-n-propylamine	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	2.43	6.45	D4	SJM
1905120-02	C	N-Nitrosodiphenylamine	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	6.08	10.75	D4	SJM
1905120-02	C	n-Octadecane	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	2.18	6.45	D4,Nl	SJM
1905120-02	C	Pentachlorophenol	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	4.02	6.45	D4	SJM
1905120-02	C	Phenanthrene	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	1.63	2.15	D4	SJM
1905120-02	C	Phenol	05/17/19 6:00	EPA625	5/28/19 15:45	2.99	ug/L	2.59	6.45	D4,J	SJM
1905120-02	C	Pyrcne	05/17/19 6:00	EPA625	5/28/19 15:45	ND	ug/L	1.38	2.15	D4	SJM
1905120-02	C	1,2-Diphenylhydrazine	05/17/19 6:00	EPA8270C	5/28/19 15:45	ND	ug/L	0.98	2.15	D4	SJM
1905120-02REI	C	Zinc	05/17/19 6:00	EPA200.8	6/6/19 15:45	55.4	ug/L	0.86	5.00	DI	JB
1905151-01	D	pH	05/22/19 9:47	SM4500HB	5/22/19 09:47	7.4	pH Units				SMPLR
1905151-01	D	Temp at time of pH, °C	05/22/19 9:47	SM4500 HB	5/22/19 09:47	24.7	oc				SMPLR
!905151-01	D	Nitrate	05/22/19 9:47	Calculated	5/24/19 12:07	0.885	mg/L	0.0406	0.20		AJH
!905151-01	D	Nitrate/Nitrite	05/22/19 9:47	EPA 353.2	5/24/19 12:07	0.95	mg/L	0.04	0.20		AJH
1905151-01	D	Nitrite	05/22/19 9:47	SM4500-NO2 B	5/22/19 15:03	0.06	mg/L	0.02	0.20	J	AJH
!905151-01	D	Total Kjeldahl Nitrogen	05/22/19 9:47	EPA 351.2	6/4/19 15:53	1.15	mg/L	0.29	0.80		AJH
1905151-01	D	Nitrogen Total Water	05/22/19 9:47	Calculated	6/4/19 15:53	2.10	mg/L	0.289	0.80		AJH
Final Effluent at the U.V. Channel (25003-1351)											
1905010-01	D	E. Coli	05/01/19 7:23	SM9223B	5/2/19 14:19	<1	MPN/I00mL		1.0		SDR
1905060-01	D	E. Coli	05/08/19 7:10	SM9223B	5/9/19 13:25	2.0	MPN/I00mL		1.0		AV
1905108-01	D	E.Coli	05/15/19 7:04	SM9223B	5/16/19 12:15	<1	MPN/100 mL		1.0		AV
1905165-01	D	E.Coli	05/24/19 6:44	SM9223B	5/25/19 12:46	<1	MPN/100 mL		1.0		LAH
1905194-01	D	E. Coli	05/29/19 7:30	SM9223B	5/30/19 12:32	<1	MPN/100 mL		1.0		JAH
Wet Haul Sludge (25003-1573)											
1905152-01	D	Antimony	05/22/19 9:15	EPA6010D	5/24/19 14:05	ND	mg/kgdry		8.92		MLB
1905152-01	D	Arsenic	05/22/19 9:15	EPA6010D	5/24/19 14:05	11.2	mg/kgdry		8.92		MLB
1905152-01	D	Beryllium	05/22/19 9:15	EPA6010D	5/24/19 14:05	ND	mg/kg dry		1.78		MLB
1905152-01	D	Cadmium	05122119 9:15	EPA60'0D	5/24/19 14:05	ND	mg/kg dry		3.57		MLB
1905152-01	D	Chromium	05/22/19 9:15	EPA6010D	5/24/19 14:05	11.3	mg/kg dry		8.92		MLB
!905152-01	D	Copper	05/22/19 9:15	EPA6010D	5/24/19 14:05.	139	mg/kg dry		8.92		MLB
1 5152-01	D	Lead	05/22/19 9:15	EPA6010D	5/24/19 14:05	ND	mg/kg dry		8.92		MLB
1905152-01	D	Mercury	05/22/19 9:15	EPA 7471B	6nt19 15:09	1.88	mg/kg dry		0.31		MJC

Laboratory License # AZ O 159

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1905152-01	D	Molybdenum	05/22/19 9: I5	EPA6010D	5/24/19 14:05	8.85	mg/kg dry		3.57		MLB
1905152-01	D	Nickel	05/22/19 9: 15	EPA6010D	5/24/19 14:05	9.32	mg/kg dry		8.92		MLB
1905152-01	D	Selenium	05/22/19 9:15	EPA6010D	5/24/19 14:05	ND	mg/kg dry		17.84		MLB
1905152-01	D	Silver	05/22/19 9: 15	EPA6010D	5/24/19 16:37	0.957	mg/kg dry		0.89		MLB
1905152-01	D	Thallium	05/22/19 9:15	EPA6010D	5/24/19 14:05	ND	mg/kg dry		8.92		MLB
1905152-01	D	Zinc	05/22/19 9:15	EPA6010D	5/24/19 14:05	425	mg/kg dry		8.92		MLB
1905152-01	D	Cyanide, Total	05/22/19 9:15	EPA 9014	6/3/19 17:19	ND	mg/kg	0.030	0.100	DI, E8	KB
• Analysis Performed by:Legend Technical Services of Arizona. Inc. - See attached contract lab report for official results.											
1905152-01	D	% Solids	05/22/19 9:15	SM 2540 G	5/24/19 12:30	2	%		1		CGP
• Analysis Performed by:Legend Technical Services of Arizona. Inc. - See attached contract lab report for official results.											
1905152-01	D	%Solids	05/22/19 9:15	SM2540G	5/23/19 13:07	1.61	%		0.01		TLG
1905152-01	D	Acrolein	05/22/19 9:15	EPA624	6/5/19 11:55	ND	mg/kg dry	0.00360	0.01		JEL
1905152-01	D	Acrylonitrile	05/22/19 9:15	EPA624	6/5/19 11:55	ND	mg/kg dry	0.00280	0.01		JEL
1905152-01	D	4,4-DDD	05/22/19 9:15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00246	0.01	D1,D7	HAY
1905152-01	D	4,4-DDE	05/22/19 9:15	EPA625	6/13/19 13: 16	ND	mg/kg dry	0.00389	0.01	D1,D7	HAY
1905152-01	D	4,4-DDT	05/22/19 9:15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00340	0.01	D1,D7	HAY
1905152-01	D	Aldrin	05/22/19 9:15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00399	0.QJ	D1,D7	HAY
1905152-01	D	alpha-BHC	05/22/19 9:15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00419	0.QJ	L4,D1,D7	HAY
1905152-01	D	beta-BHC	05/22/19 9:15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00887	0.QJ	D1,D7	HAY
1905152-01	D	Chlordane	05/22/19 9:15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00936	0.05	D1,D7	HAY
1905152-01	D	delta-BHC	05/22/19 9: I5	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00177	0.01	D1,D7	HAY
1905152-01	D	Dieldrin	05/22/19 9: I5	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00409	0.QJ	D1,D7,M2	HAY
1905152-01	D	Endosulfan I	05/22/19 9:15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00266	0.01	D1,D7,M2	HAY
1905152-01	D	Endosulfan II	05/22/19 9: I5	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00360	0.0i	D1,D7,M2	HAY
1905152-01	D	Endosulfan sulfate	05/22/19 9:15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00281	0.01	D1,D7	HAY
1905152-01	D	Endrin	05/22/19 9:15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00655	0.01	D1,D7,M2	HAY
1905152-01	D	Endrin aldehyde	05/22/19 9: 15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00591	0.QJ	D1,D7,M2	HAY
1905152-01	D	gamma-BHC (Lindane)	05/22/19 9: I5	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00680	0.01	DI, D7, RS	HAY
1905152-01	D	Heptachlor	05/22/19 9:15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00246	0.01	D1,D7	HAY
1905152-01	D	Heptachlor Epoxide	05/22/19 9: I5	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00419	0.QJ	DJ,D7	HAY
1905152-01	D	PCB 1016	05/22/19 9: I5	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00542	0.01	D1,D7	HAY
1905152-01	D ,	PCB 1221	05/22/19 9: 15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00837	0.0i	D1,D7	HAY
1905152-01	D	PCB 1232	05/22/19 9:15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00345	0.01	D7,DI	HAY
1905152-01	D	PCB 1242	05/22/19 9: I5	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00640	0.01	DJ,D7	HAY
1905152-01	D	PCB 1248	05/22/19 9:15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00517	0.01	D1,D7	HAY
1905152-01	D	PCB 1254	05/22/19 9: 15	EPA625	6/13/19 13: 16	ND	mg/kg dry	0.00936	0.QJ	D1,D7	HAY
1905152-01	D	PCB 1260	05/22/19 9:15	EPA625	6/13/19 13: 16	ND	mg/kg dry	0.00394	0.01	DJ,D7	HAY
1905152-01	D	Total PCBs	05/22/19 9: I5	EPA625	6/13/19 13:16	ND	mg/kg dry	0.00936	0.01	DI, D7	HAY
1905152-01	D	Toxaphene	05/22/19 9:15	EPA625	6/13/19 13:16	ND	mg/kg dry	0.08717	0,10	D1,D7	HAY
1905152-01	D	Methoxychlor	05/22/19 9: I5	EPA8270C	6/13/19 13:16	ND	mg/kg dry	0.00246	0.QJ	D1,D7,M2	HAY
1905152-01	D	I, 1,1-Trichloroethane	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.004	0.01		ADP
1905152-01	D	1, 1,2,2-Tetrachloroethane	05/22/19 9: 15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.001	0.01		ADP
1905152-01	D	1, 1,2-Trichloroethane	05/22/19 9: 15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.002	0.01		ADP
1905152-01	D	1, 1-Dichloroethane	05/22/19 9; 15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.003	0.01		ADP
1905152-01	D	1, 1-Dichloroethene	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.002	0.01		ADP
1905152-01	D	1,2-Dichlorobenzene	05/22/19 9: I5	EPA624	5/29/19 14:01	ND	mg/kg dry	0.002	0.01		ADP
1905152-01	D	1,2-Dichloroethane	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.002	0.01		ADP
1905152-01	D	1,2-Dichloropropane	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.002	0.01		ADP
1905152-01	D	1,3-Dichlorobenzene	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.00i	0.0i		ADP
1905152-01	D	1,4-Dichlorobenzene	05/22/19 9: I5	EPA624	5/29/19 14:01	ND	mg/kg dry	0.003	0.01		ADP
1905152-01	D	2-Chloroethyl vinyl ether	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.005	0.QJ		ADP
1905152-01	D	Benzene	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.002	0.01		ADP
1905152-01	D	Bromodichloromethane	05/22/19 9: I5	EPA624	5/29/19 14:01	ND	mg/kg dry	0.005	0.QJ		ADP
1905152-01	D	Bromoform	05/22/19 9: 15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.006	0.01		ADP
1905152-01	D	Bromomethane	05/22/19 9:15	EPA624	5/29/19 14:01	0.17	mg/kg dry	0.003	0.01		ADP
1905152-01	D	Carbon Tetrachloride	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.007	0.QJ		ADP
1905152-01	D	Chlorobenzene	05/22/19 9: I5	EPA624	5/29/19 14:01	ND	mg/kg dry	0.001	0.QJ		ADP
1905152-01	D	Chloroethane	05/22/19 9: I5	EPA624	5/29/19 14:01	ND	mg/kg dry	0.004	0.QJ		ADP
1905152-01	D	Chloroform	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.003	0.QJ		ADP
1905152-01	D	Chloromethane	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.004	O.ol		ADP

Laboratory License# AZO159

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1905152-01	D	cis-1,3-Dichloropropene	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.002	0.01		ADP
1905152-01	D	Dibromochloromethane	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.001	0.01		ADP
1905152-01	D	Ethyl Benzenc	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.002	0.01		ADP
1905152-01	D	Methylene Chloride	05/22/19 9:15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.004	0.01		ADP
1905152-01	D	Tetrachloroethene	05/22/19 9: 15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.004	0.01		ADP
1905152-01	D	Toluene	05/22/19 9: 15	EPA624	5/29/19 14:01	19.59	mg/kg dry	0.003	0.01		ADP
1905152-01	D	Total Trihalomethanes	05/22/19 9: 15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.006	0.01		ADP
1905152-01	D	trans-1,2-Dichloroethene	05/22/19 9: 15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.003	0.01		ADP
1905152-01	D	trans-1,3-Dichloropropene	05/22/19 9: 15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.002	0.01		ADP
1905152-01	D	Trichloroethene	05/22/19 9: 15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.003	0.01		ADP
1905152-01	D	Trichlorofluoromethane	05/22/19 9: 15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.005	0.01		ADP
1905152-01	D	Vinyl chloride	05/22/19 9: 15	EPA624	5/29/19 14:01	ND	mg/kg dry	0.004	0.01		ADP
1905152-01	D	1,2,4-Trichlorobenzene	05/22/19 9: 15	EPA8260	5/29/19 14:01	ND	mg/kg dry	0.002	0.01		ADP
1905152-01	D	1,2-DibrOl)lo-3-chloropropane	05/22/19 9: 15	EPA8260	5/29/19-14:01	ND	mg/kg dry	0.002	0.02		ADP
1905152-01	D	1,2-Dibromoethane	05/22/19 9: 15	EPA8260	5/29/19 14:01	ND	mg/kg dry	0.002	0.01		ADP
1905152-01	D	cis-1,2-Dichloroethcne	05/22/19 9: 15	EPA8260	5/29/19 14:01	ND	mg/kg dry	0.004	0.01		ADP
1905152-01	D	m,p Xylenes	05/22/19 9: 15	EPA8260	5/29/19 14:01	ND	mg/kg dry	0.003	0.02		ADP
1905152-01	D	o-Xylene	05/22/19 9: 15	EPA8260	5/29/19 14:01	ND	mg/kg dry	0.002	0.01		ADP
1905152-01	D	Styrene	05/22/19 9: 15	EPA8260	5/29/19 14:01	ND	mg/kg dry	0.002	0.01		ADP
1905152-01	D	Xylenes, total	05/22/19 9:15	EPA8260	5/29/19 14:01	ND	mg/kg dry	0.003	0.02		ADP
1905152-01	D	2,3,7,8-TCDD - Dioxin Scan	05/22/19 9: 15	EPA625	6/17/19 13:5 I	ND	ug/kg dry		1.55		SJM
1905152-01	D	1,2,4-Trichlorobenzene	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.06	0.08	Dl,D7	SJM
1905152-01	D	2,3-Dichloroaniline	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.09	0.24	Dl,D7	SJM
1905152-01	D	2,4,6-Trichlorophenol	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kgdry	0,05	0.08	Dl,D7	SJM
1905152-01	D	2,4-Dichlorophenol	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kgdry	0.07	0.08	Dl,D7	SJM
1905152-01	D	2,4-Dimcthylphenol	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kgdry	0.14	0,24	Dl,D7	SJM
1905152-01	D	2,4-Dinitrophenol	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kgdry	0.34	0.40	Dl,D7	SJM
1905152-01	D	2,4-Dinitrotoluene	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kgdry	0.09	0.24	Dl,D7	SJM
1905152-01	D	2,6-Dinitrotoluene	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.06	0.0	Dl,D7	SJM
1905152-01	D	2-Chloronaphthalene	05/22/19 9:15	EPA625	6/14119 17:06	ND	mg/kg dry	0.06	0.08	Dl,D7	SJM
1905152-01	D	2-Chlorophenol	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.05	0.08	Dl,D7	SJM
1905152-01	D	2-Methyl-4,6-dinitrophenol	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kgdry	0.21	0.24	Dl,D7	SJM
1905152-01	D	2-Methylphenol	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.05	0.08	Dl,D7	SJM
1905152-01	D	2-Nitrophenol	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.11	0.24	Dl,D7	SJM
1905152-01	D	3,3-Dichlorobenzidine	05/22/19 9:15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.09	0.20	Dl,D7	SJM
1905152-01	D	4-Bromophenyl phenyl ether	05/22/19 9:15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.05	0.08	Dl,D7	SJM
1905152-01	D	4-Chloro-3-mcthylphenol	05/22/19 9:15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.09	0.24	Dl,D7	SJM
1905152-01	D	4-Chlorophenyl phenyl ether	05/22/19 9:15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.05	0.08	Dl,D7	SJM
1905152-01	D	4-Methylphenol	05/22/19 9:15	EPA625	6/14/19 16:28	597.0	mg/kg dry	0.07	0.40	Dl,D2,D7	SJM
1905152-01	D	4-Nitrophenol	05/22119 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.19	0.24	Dl,D7	SJM
1905152-01	D	Acenaphthcne	05/22/19 9:15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.06	0.08	D7,DI	SJM
1905152-01	D	Acenaphthylene	05/22/19 9:15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.06	0.08	Dl,D7	SJM
1905152-01	D	Anthracene	05/22/19 9:15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.08	0.08	Dl,D7	SJM
1905152-01	D	Benzidine	05/22/19 9:15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.26	0.40	Dl,D7	SJM
1905152-01	D	Benzo[a]anthracene	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.05	0.08	Dl,D7	SJM
1905152-01	D	Benzo[a]pyrene	05/22/19 9:15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.08	0.08	Dl,D7	SJM
1905152-01	D	Benzo[b]fluoranthene	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0,06	0.08	Dl,D7	SJM
1905152-01	D	Benzo[ghi]perylene	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.12	0.24	Dl,D7	SJM
1905152-01	D	Benzo[k]fluoranthene	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.09	0.24	Dl,D7	SJM
1905152-01	D	bis(2-chloroethoxy)methane	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.08	0.08	Dl,D7	SJM
1905152-01	D	bis(2-chloroethyl)ether	05/22/19 9:15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.08	0.24	Dl,D7	SJM
1905152-01	D	bis(2-chloroisopropyl)ether	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0,07	0.08	D7,Dl	SJM
1905152-01	D	bis(2-„thylhexyl)phthalate	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.11	0.24	Dl,D7	SJM
1905152-01	D	Butylbenzylphthalate	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.08	0.08	Dl,D7	SJM
1905152-01	D	Carbazolc	05/22/19 9:15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.11	0.24	Dl,D7	SJM
1905152-01	D	Chrysene	05/22/19 9:15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.05	0.08	Dl,D7	SJM
1905152-01	D	Dibenzo(a,h)anthracene	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.12	0.24	Dl,D7	SJM
1905152-01	D	Diethyl phthalatc	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.09	0.24	Dl,D7	SJM
1905152-01	D	Dimethyl phthalate	05/22/19 9: 15	EPA625	6/14/19 17:06	ND	mg/kg dry	0.02	0.24	Dl,D7	SJM
1905152-01	D	Di-n-butyl phthalate	05/22/19 9:15	EPA625	6/14/19 17:06	13.48	mg/kg dry	0.10	0.24	Dl,D7	SJM

Laboratory License # AZ0159

Lab ID:	Sample Type	Parameter	Sample Daterfime	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1905152-0 I	D	Di-n-octyl phthalate	05/22/19 9: 15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.10	0.24	DI, D7	SJM
I905152-0 I	D	Fluoranthene	05/22/19 9: 15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.05	0.08	DI, D7	SJM
1905152-01	D	Fluorene	05/22/19 9:15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.06	0.08	DI, D7	SJM
!905152-01	D	Hexachlorobenzene	05/22/19 9: 15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.02	0.08	DI, D7	SJM
1905152-01	D	Hexachlorobutadiene	05/22/19 9: 15	EPA625	6/14/19 17:06	**ND**	mg/kg dry	0.04	0.08	DI, D7	SJM
1905152-01	D	Hexachlorocyclopentadiene	05/22/19 9:15	EPA625	6/14/19 17:06	**ND**	mg/kg dry	0.17	0.24	DI, D7	SJM
1905152-01	D	Hexachloroethane	05/22/19 9: 15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.05	0.08	DI, D7	SJM
1905152-01	D	lndeno(1,2,3-cd)pyrene	05/22/19 9:15	EPA 625	6/14/19 17 :06	**ND**	mg/kg dry	0.11	0.24	DI, D7	SJM
1905152-01	D	lsophorone	05/22/19 9: 15	EPA625	6/14/19 17:06	**ND**	mg/kg dry	0.07	0.08	DI, D7	SJM
!905152-01	D	Naphthalene	05/22/19 9:15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.G7	0.08	DI, D7	SJM
1905152-01	D	n-Decane	05/22/19 9: I5	EPA 625	6/14/\9 17:06	**ND**	mg/kg dry	0.08	0.08	DI, D7	SJM
1905152-01	D	Nitrobenzene	05/22/19 9: 15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.08	0.24	DI, D7	SJM
1905152-0\	D	N-Nitrosod1methylamine	05/22/19 9:15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.08	0.24	DI, D7, PC3	SJM
1905152-01	D	N-Nitrosodi-n-propylamine	05/22/19 9:15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.10	0.24	DI, D7	SJM
1905152-01	D	N-Nitrosodiphenylarnine	05/22/19 9: 15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.24	0.40	DI, D7	SJM
1905152-01	D	n-Octadecane	05/22/19 9:15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.09	0.24	DI, D7	SJM
1905152-01	D	Pentachlorophenol	05/22/19 9:15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.16	0.24	DI, D7	SJM
1905152-01	D	Phenanthrene	05/22/19 9: 15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.07	0.08	DI, D7	SJM
!905152-01	D	Phenol	05/22/19 9: 15	EPA 625	6/14/19 17:06	**22,51**	mg/kg dry	0.10	0.24	D7, DI	SJM
1905152-01	D	Pyrene	05/22/19 9:15	EPA 625	6/14/19 17:06	**ND**	mg/kg dry	0.06	0.08	DI, D7	SJM
1905152-01	D	1,2-Diphenylhydrazme	05/22/19 9: 15	EPA 8270C	6/14/19 17:06	**ND**	mg/kg dry	0.05	0.08	DI, D7	SJM
!905152-01	D	1,4-Dichlorobenzene	05/22/19 9: 15	EPA 8270C	6/14/19 17:06	**ND**	mg/kg dry	0.22	0.24		SJM
!905152-01	D	2,4,5-Trichlorophenol	05/22/19 9: 15	EPA 8270C	6/14/19 17:06	**ND**	mg/kg dry	0. ID	0.24		SJM
1905152-01	D	3 & 4-Methylphenol	05/22/19 9: 15	EPA 8270C	6/14/19 17:06	**ND**	mg/kg dry	0.05	0.24		SJM
1905152-01	D	Pyridine	05/22/19 9: 15	EPA 8270C	6/14/19 17:06	**ND**	mg/kg dry	0.06	0.08		SJM
WellAV-06 (25003-2500}											
1905159-01	D	Depth to Water	05/23/19 11:20	NA	5/23/19 II :20	**281**	Feet				SMPLR
1905159-01	D	Nitrate	05/23/19 11:20	Calculated	5/24/19 12:11	**1,96**	mg/L	0.0406	0.20		AJH
1905159-0 I	D	Nitrate/Nitrite	05/23/19 II :20	EPA 353.2	5/24/19 12:11	**2.01**	mg/L	0.04	0.20		AJH
1905159-01	D	Nitrite	05/23/19 11:20	SM4500-NO2 B	5/24/19 10:01	**0.05**	mg/L	0.02	0.20	J	AJH
1905159-01	D	Total Kjeldahl Nitrogen	05/23/19 II :20	EPA351.2	6/4/19 15:54	**ND**	mg/L	0.29	0.80		AJH
1905159-01	D	Nitrogen Total Water	05/23/19 11:20	Calculated	6/4/19 15:54	**2,01**	mg/L	0.289	0.80		AJH
1905159-01	D	Coliform, Total	05/23/19 11:20	SM 9223B	5/24/19 14:01	**Absence**	CFU/100 ml				AV
1905159-0!	D	E. Coli	05/23/19 11:20	SM 9223B	5/24/19 14:01	**Absence**	CFU/100 ml				AV
!905159-01	D	Total Dissolved Solids	05/23/19 II :20	SM 2540C	5/27/19 15:43	**396**	mg/L		10.00		SDR
Breakroom Faucet (25003-9230}											
I905060-02	D	E. Coli	05/08/19 7:28	SM9223B	5/9/19 13:23	**Absence**	CFU/100 ml				AV

Qualifier Definitions

ES	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
<	<I
A	Absence
DI	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.
J	Concentration estimated. Analyte was detected below laboratmy minimum reporting limit (MRL) but above MDL.
L2	The associated blank spike recovery was below laboratory acceptance limits.
L4	The associated blank spike recovery was below method acceptance limits.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
NI	See case narrative.
PC3	Semi-quantitation is included in the case narrative.
RS	MS/MSD RPO exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
SIO	Surrogate recovery was above laboratory and method acceptance limits. See 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 ES 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
RPO	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
UC	Under Construction
EB	Equipment Blank
NA	Not Analyzed

Case Narrative(s)

1905120-01. -02
EPA Method 624 Acrolein/Acrylonitrile: Target analytes flagged with NI failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. JEL 05/30/2019

Semi-Quantitation
Method: 625
1905120-02

Compound Name	Concentration-ug/L
N,N-Dimethyl-1-dodecanamine	154
Palmitic Acid	6332
OleicAcid	4237
Stearic Acid	3012

SIM 05/31/19

Semi-Quan tita tion
Method: 625
1905120-01

Compound Name	Concentration-ug/L
N,N-Dimethyl-1-dodecanamine	147
Palmitic Acid	4707
OleicAcid	7529
Stearic Acid	2055

SIM 05/31/19

1905120-01. -02
EPA Method 625 Semi-volatiles: Target analytes flagged with NI failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. SIM 06/03/19

Semi-Quantitation
Method: 625
1905152-01

Compound Name	Concentration-mg/Kg
Benzeneacetic Acid	225
Palmitic Acid	11047
OleicAcid	7455
Stearic Acid	2802

SIM 06/20/19

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department
Conq,liancc and Regulatory Affairs Offia Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1905152-01

PROJECT & LOCATION: Avra vaney Wet Haul Sludge (Quartel1y)

PROJECT-LOCATION NUMBER: 2 5 0 3 1 5 7 3

SAMPLE START DATE: -«dil'YOIIMM'DOIYYYY

SAMPLE START TIME: (Military time)

CLIENT: IWC

SAMPLE END DATE: 0 S MM/DD/YY OR MM/DD/YYYY

SAMPLE END TIME: 0915 (Military time)

SAMPLER(S): R : f < s' 2e

Pennit Type: O APP, AZPDES, ☐ ,we, D Investigative, ☐ Reuse, ☐ Air, ■ soJ, D Process Control, ☐ Other

Matrix: ■ Biosolids, O Groundwater, 0 Industrial, ☐ Soil, D Stonnwater, D Surface water, ☐ w astewater, ☐ 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	☐	☐	☐	☐
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	0	0
Cyanide, Total (u. >r.,+]	D	
Cyanide, Amenable	☐	☐
Fluoride	☐	☐
Ignitabllity	☐	☐
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 Acrylonltrile	☐	
Dioxin GC/SIM/MS Scan	☐	
0rganochlorine Pesticides & PCBs	☐	
Purgeable Organics (GCMS)	☐	
Semivolatlle Organics (GCMS)	☐	
Bls(2-ethylhexyl) phthalate	☐	☐
Digester Gas	☐	☐
CD and Grease	☐	☐
Organic carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	☐	☐
TCLP Pesticides	☐	☐
TCLP Semivolatlle Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	☐	☐
Volatile Acids	☐	☐
Other	☐	☐
Other	☐	☐

EFFLUENT TOXICITY TESTING	D	C
Chronic *P. promelas*	☐	☐
Chronic *C. dubia*	☐	☐
Clv'onlc Se/enastrum *capricomutum*	D	D
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E.coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	0	0
Solids, Total (I oF2 r. J.,J,)	D	
Solids, Total Dlssolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	D	D
Other	☐	☐

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

COMPLIANCE FIELD MEASUREMENTS

☐ Chlorine *Hach 10014*		119/1.
D Specific Conductance *SM2510B*		µmhos/cm
D Oxygen, Dissolved *SM4500-0G*		mg/l..
O P H @ p H T e m p *SM450<>-HB*	CD	pHUnllsQ"C
D Temperature *Sflit2550B*		·C
☐ Total Depth of Well		feet
D Depth to Water		feet
☐ Other		

C.i-
C.a.J<-.... p 2 T%5 5.J h
1... i 5 (;CJ -Z1-I'i
Do#I')- o".W 11

SeRlYm Blank Pre!! Date & Initl1l1:

Sample Intaartty/PrnIll'V■Uon:
o (.(97 < h
Tra onloe
IE) YES O N O

Lib Receipt
T - - , • c
Initials:
Q6 quallfter?
☐ YES NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of C Record completed ■ppropriltely? iZ)		☐	☐
Sample tlbe11 match Chain or Custody?	6'l	☐	☐
Correct number of Nmple bottles _ , . delivered?	m	☐	☐
Custody se1l1 intact?	☐	D	&
Ill,1thin holding time?	@	☐	☐
Sufficient Nmple volume for anafylil?	I&	☐	☐
Samples ■re h prope,ty prnerved containers?		☐	☐
Sample containers dam■ged/leaklnglfrozen?	☐	m	☐
40 ml vials head1pace, > .,..aized air bubble?	☐	$	
Received from a refrigerator?	☐	☐	☐

5/22/19

• Sb, Al, Se, Cd, Cr, Cu, Pf,, Ni, Se, Ag, Tl, Zn, Meral,y(Cold Vapo,1

9hafl\ of Custody Record (Slgnnna °"Yl

t)? - d-ni • xl}CL'' (I.'~ /:2:2./A ,,

Relinqul shij by Sampler. /7	Rtl:elvedby:	Dale:	TIM:(...,,_)
Relinquillhed	R-by:	Data:	Time: (Matary time)
Relinquished by:	R-by:	Dale:	Time: (Mllt ry time)
Relinquished by:	R-by:	Date:	Time: (Mlt ry time)

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

PIMA COUNTY WASTEWATER MANAGEMENT
INDUSTRIAL WASTEWATER CONTROL SECTION
SAMPLE COLLECTION FIELD NOTES

1905152-01

SAMPLE LOCATION: Avra Valley Wet Haul Sludge

LOCATION ID: 25003-1573 SAMPLERS: [illegible] Last names only, (mmary s mpler first. SAMPLE DATE: [illegible]

SAMPLE Dore	PARAMETER	START TIME				FREQUENCY♦			Volume Submitted	BOTTLE TYPE	PRESERVATION
D	Priority Pollutant Metals	[illegible]		[illegible]		[illegible]			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								40ml	Septum	Ice
D	Purgeable Organics								40ml	Septum	Ice
D	Purgeable Organics								40ml	Septum	Ice
D	Puri;ieable Ori;ianics								40ml	Septum	Ice
D	Acrolein and Acrylonitrile								40ml	Septum	Ice
D	Acrolein and Acrylonitrile								40ml	Septum	Ice
D	Acrolein and Acrylonitrile								40ml	Septum	Ice
D	Acrolein and Acrvlonitrile								40ml	Septum	Ice

pH METER CALIBRATION LOG

Time	Model#	Serial #	Auto/Man.	Buffer	Reading	Buffer	Reading	Temp.	Slope	Initials
			Not Applicable							

t'It:LU Ml::A:SU'o:::!VIt:N I::,

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials
		Not Applicable							

Notes: All Samples are unpreserved

EQUIPMENT USED: D Grab Sampler ☐ Automatic Sampler ☐ Electric Pump ☐ Other

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
17631 N. 25th Avenue • Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-6101
04585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page L of /

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Avra Valley		Joe Ooranski	19-031811	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Drinking Water; WW=Wastewater; SW=Surface Water; GW=Groundwater; O=Other; $=Soil/Solid; T=Travel Blank; F=Food; G=Sludge/Biosolids

TURN AROUND TIME: Laboratory Authorization Required for Rush; Standard 10 - 15 Day; ☐ Other

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Composite	No. of Containers	pH (Lab Use Only)	Total cyanide mg/kg	Total % solids dry weight																	Lab No.
1905152-01	05/22/19	915	Avra Valley WRF - wet haul sludge		X	G	X	2		X	X																	01

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments / Special Instructions:

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers		
Temperature	°C	
Custody Seals	Y	N
Seals Intact	Y	N
Preserved	Y	N

	RELINQUISHED BY			SAMPLES RECEIVED BY		
①	Sampler Signature		Date 5/22/19	Signature		Date 5/22/19
	Sampler Printed Name	Greg Spence	Time 1247	Printed Name	Casy SCS	Time 1247
②	Signature		Date	Signature		Date
	Printed Name		Time	Printed Name		Time
③	Signature		Date	Signature		Date
	Printed Name		Time	Printed Name		Time

WHITE-LAB YELLOW-CLIENT

19

PIMA COUNTY

WASTEWATER RECLAMATION

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

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMSID	**1905152-01**	**DO**	**19-031811**
CONTRACT LAB	**Legend Technical Services, Inc. - Phoenix**	**SAMPLE GROUP**	**Avra Valley**
ANALYSES	**Total Cyanide, Total Solids**	**REPORT ID**	**19E2441**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Solimsann\elementshare\TransferIn?	y
Was the above-mentioned file converted from a .xis 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>Proiect Management> Reports)	y
Was the converted file attached to the sample in LIMS?	y
VALIDATING CONTRACT LAB REPORT, CHAIN OF CUSTODY(S), AND DO#:	
Is contract lab report signed and dated?	y
Is coov of contract lab COC included with contract lab report?	y
Do the contract lab COC and CRAO COC(s) list the same sample ID, sample date, and analysis requested?	y
Do the sample dates and received dates on the CL report match the CL COC?	y
Does the CL report include all requested analysis?	y
Is the CL licensed in AZ for reported methods?	y
Does the DO match COC in types and number of tests?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
Do CL report and CL spreadsheet report the same sample result(s), sample date(s), and analysis date(s)?	y
Was a case narrative included in contract lab report?	y
Does the data packet include a QC report from the primary lab and any secondary subcontract labs?	y
Did the CL report list applicable AZ data qualifiers?	y
Were any dilutions made?	y
Were any results from diluted samples reported as ND?	y
Were the results from any diluted samples qualified accordinqly?	y
Was QC included for every analysis method (e.Q. Blk, LCS, MS, MSD)?	y
Did QC pass stated acceptance limits? If not, was it qualified?	y
Were samples analyzed within required holdinq times?	y
SOCs: Are MDLs below water quality standards? (If not, notify Belinda Gamboa-Felix.)	N/A
Semivolatiles & Volatiles: Were all analytes 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	
Is statement of Pass/Fail reflected in endpoints?	N/A
Ceriodaphnia: Survival and reproduction data included?	N/A
P. Promelas: Survival and Qrowth data included?	N/A
Selenastrum: Growth data included?	N/A
Was chemistry data included?	N/A

Are Reference Toxicant Test results and Control Charts within limits?	N/A
Was PMSD Determination included and within acceptable ranQe? (minimum acceptable= 13)	N/A
Do endpoints include TUc, NOEC, LOEC, and IC25?	N/A
Do statistics verify endpoints?	N/A
Were Control Charts updated to include month of analysis?	N/A
Reviewer Initials: ABR	**Review Date:** 6-25-19

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. Legend Technical Services of Arizona, Phoenix)?	✓	
DO received in Pima Core?	✓	
Analysis set to Reported?		✓

Peer Reviewer Initials:	JLQ	**Review Date:**	6-27-19
Final Reviewer Initials:	JEC	**Review Date:**	6·28·19

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.

LEGEND
Technical Services, Inc.

4585 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (520) 327-0518
www.legend-group.com

11 June2019

Greg Spence
Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745
Fax: (520) 579-6002

RE: Environmental Analysis & Testing
Laboratory Work Order No.: 19E2441

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 05/22/19 13:15.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

/: ,t.,..:,..-I

P. Brian Merritt For Alyssa Mazza
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Pima County RWRD CPAD Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Environmental Analysis & Testing Project Number: Environmental Analysis & Testing Project Manager: Greg Spence	Reported: 06/11/19 17:42

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
1905152-01	19E2441-01	Solid (Dry Weight)	Grab	05/22/19 09:15	05/22/19 13:15

Sample Condition Upon Receipt:

Temperature: 5.00 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: _AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed on a "wet" basis unless designated as "dry weight".

Pima County RWRD - CBOD Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Environmental Analysis & Testing
Project Number: Environmental Analysis & Testing
Project Manager: Greg Spence

Reported:
06/11/19 17:42

Notes and Definitions

EB	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
D1	Sample required dilution due to matrix.
BLK	**Method Blank**
LCS/Dup	**Laboratory Control Sample/Laboratory Fortified Blank/Duplicate**
MS/Dup	**Matrix Spike/Duplicate**
Dry	**Sample results reported on a dry weight basis**
RPD	**Relative Percent Difference**

Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Environmental Analysis & Testing
Project Number: Environmental Analysis & Testing
Project Manager: Greg Spence

Reported:
06/11/19 17:42

19E2441

(?HIN OF CUSTODY RECORD

LEGEND
Technical Services, Inc.

017831 N 25111Avenue•Phoolllx,AZ85023•(S02)324-6100• Fu(602)324-6101
04585 S. Palo Verde Rd, Sta 423 • TUCOO, AZ 85714 • (520) 327-1234. Fax (520) 327-0519

Page J of L

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
AvraValley		Joe Doranski	19-031811	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Drinking Water; W - WW=Wastewater; S - Soil/Solid; GW=Groundwater; O=Other; S=Soil/solid; T=Tissue; F=Food; G=Sludge/solids

TURN AROUND TIME: Laboratory Authorization Required for Rush; ♦d10-15Doy; D Other

REQUESTED ANALYSES: Total cyanide mg/kg; Total % solids dry weight

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Water	Soil	No. of Containers	Total cyanide mg/kg	Total % solids dry weight	
1905152-01	05/22/19	915	Avra Valley WRF. wet haufsludge		X	G	X	2	X	X	01

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION.

Comments / Special Instructions:

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers	2	
Temperature	5.0 °C	
Custody Seals	Y	N
Bottles Intact	Y	N
Preserved	Y	N

	RELINQUISHED BY	Date	Time	SAMPLES RECEIVED BY	Date	Time
1	Sampler Signature / Sampler Printed Name: Greg Spence	5/22/19	247	Signature / Printed Name: Casy Scs	5/22/19	247
2	Signature / Printed Name: Alyssa Mazza	5/22/19	1600	Signature / Printed Name: Courier	5/22/19	1600
3	Signature / Printed Name: Courier	5/23/19	730	Signature / Printed Name: Mutaley	5/23/19	730

@Lab 1515

WHITE-IAB VEL1OW-CLIENT

FORM CS-016.2 (07/16)

Pima County Regional Wastewater Reclamation Department
Compliance and Regulatory Affairs Office (CRAO) Laboratory
12955 W. Calle Agua Nueva, Tucson Arizona 85745-9750, Phone (520) 724-6200

Report Date: 11/05/2019
Laboratory License: AZO159

Sample Analysis Report

Avra Valley WRF

July 2019

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

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

12-10-19
Date

Laboratory License: AZO159

Sample Qualifiers

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Sample Qualifiers
Wet Haul Sludge	1907123-01	Biosolids	7/17/2019 9:00:00	7/17/2019 11:45:00	Q6

Laboratory License# AZ0159

Lab ID:	Sample Type	Parameter	Sample Date/fime	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1907166-01	D	E.Coli	07/24/19 7:03	SM 9223B	7/25/19 13:14	<1	MPN/IOOmL		1.0		SDR
1907212-01	D	E.Coli	07/31/19 8:14	SM 9223B	8/1/19 13:00	<1	MPN/IOOmL		1.0		MSM
Wet Haul Sludge (25003-1573)											
1907120--06	D	% Solids	07/17/19 9:16	SM2540G	7/18/19 13:08	1.53	%		0.01		TLG
1907120-06	D	% Solids, Total Volatile	07/17/19 9:16	SM2540G	7/18/19 16:12	86.7	%		o.oi		TLG
1907123-01	D	Antimony	07/17/19 9:00	EPA 6010D	7/30/19 12:29	ND	mg/kg dry		11.59		MLB
1907123-01	D	Arsenic	07/17/19. 9:00	EPA 60l0D	7/26/19 16:32	ND	mg/kg dry		11.59		MLB
1907123-01	D	Beryllium	07/17/19 9:00	EPA6010D	7/26/19 16:32	ND	mg/kg dry		2.32		MLB
1907123-01	D	Cadmium	07/17/19 9:00	EPA6010D	7/26/19 16:32	ND	mg/kg dry		4.64		MLB
1907123-01	D	Chromium	07/17/19 9:00	EPA6010D	7/26/19 16:32	12.7	mg/kg dry.		11.59		MLB
1907123-01	D	Copper	07117/19 9:00	EPA6010D	7/26/19 16:32	150	mg/kg dry		11.59		MLB
1907123-01	D	Lead	07/17/19 9:00	EPA6010D	7/30/19 13:58	ND	mg/kg dry		11.59		MLB
1907123-01	D	Mercury	07/17/19 9:00	EPA 7471B	8ntl9 15:56	0.43	mg/kg dry		0.34		MJC
1907123-01	D	Molybdenum	07/17/19 9:00	EPA6010D	7/26/19 16:32	13.2	mg/kg dry		4.64		MLB
1907123-01	D	Nickel	07/17/19 9:00	EPA 6010D	7/26/19 16:32	ND	mg/kg dry		11.59		MLB
1907123-01	D	Selenium	07/17/19 9:00	EPA 6010D	7/26/19 16:32	ND	mg/kg dry		23.18		MLB
1907123-01	D	Silver	07/17/19 9:00	EPA 6010D	7/26/19 16:32	1.18	mg/kg dry		1.16		MLB
1907123-01	D	Thallium	07/17/19 9:00	EPA 6010D	7/30/19 10:44	ND	mg/kg dry		11.59		MLB
1907123-01	D	Zinc	07/17/19 9:00	EPA6010D	7/26/19 16:32	523	mg/kg dry		11.59		MLB
1907123-01	D	Cyanide, Total	07/17/19 9:00	EPA9014	7/26/19 14:11	ND	mg/kg dry	1.97	6.58	ES	SK *
• Analysis Performed by:Lcgend Technical Services of Arimna, Inc. - See attached contract lab report for official results.											
1907123-01	D	%Solids	07/17/19 9:00	SM2540G	7/18/19 15:50	2	%		1		SLL *
• Analysis Performed by:Lcgend Technical Services of Arimna, Inc. - See attached contract lab report for official results.											
1907123-01	D	%Solids	07/17/19 9:00	SM2540G	7/18/19 13:08	1.49	%		0.01		TLG
1907123-01	D	Acrolein	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.00360	0.01		JEL
1907123-01	D	Acrylonitrile	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.00280	0.01	NI	JEL
1907123-01	D	4,4-DDD	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00247	0.oJ	Dl,D7,R5	HAV
1907123-01	D	4,4-DDE	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00390	0.01	D1,07	HAV
1907123-01	D	4,4-DDT	07/17/19 9:00	EPA 625	7/24/19 23:16	ND	mg/kg dry	0.00341	0.QJ	D7,R5,Dl	HAV
1907123-0)	D	Aldrin	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00400	0.01	Dl,D7,R5	HAV
1907123-01	D	alpha-BBC	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00420	0.QJ	D1,D7,L2	HAV
1907123-01	D	beta-BBC	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00890	0.oJ	D1,07	HAV
1907123-01	D	Chlordane	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00939	0.05	D1,07	HAV
1907123-01	D	delta-BBC	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00178	0.01	D1,07	HAV
1907123-01	D	Dieldrin	07/17/19 9:00	EPA 625	7/24/19 23:16	ND	mg/kg dry	0.00410	0.QJ	D1,D7	HAY
1907123-01	D	Endosulfan 1	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00267	0.01	DI, D7, L2, NI	HAV
1907123-01	D	Endosulfan II	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00361	0.01	D1,D7,M2	HAV
1907123-01	D	Endosulfan sulfate	07117/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00282	0.01	D7,R2,Dl	HAV
1907123-01	D	Endrin	07/17/19 9:00	EPA 625	7/24/19 23:16	ND	mg/kg dry	0.00657	0.QJ	D1,D7	HAV
1907123-01	D	Endrin aldehyde	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00593	0.QJ	Dl,D7,R5	HAV
1907123-01	D	gamma-BBC (Lindane)	07/17/19 9:00	EPA 625	7/24/19 23:16	ND	mg/kg dry	0.00682	0.01	Dl,D7	HAV
1907123-01	D	Beptachlor	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00247	0.QJ	D1,D7	HAV
1907123-01	D	Beptachlor Epoxide	07/17/19 9:00	EPA 625	7/24/19 23:16	ND	mg/kg dry	0.00420	0.oJ	Dl,D7	HAV
1907123-01	D	PCB 1016	07/17/19 9:00	EPA 625	7/24/19 23:16	ND	mg/kg dry	0.00544	0.01	Dl,D7	HAV
1907123-01	D	PCB 1221	07/17/19 9:00	EPA 625	7/24/19 23:16	ND	mg/kg dry	0.00840	0.01	Dl,D7	HAY
1907123-01	D	PCB 1232	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00346	0.QJ	Dl,D7	HAV
1907123-01	D	PCB 1242	07/17/19 9:00.	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00643	0.QJ	D1,D7	HAV
1907123-01	D	PCB 1248	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00519	0.QJ	D1,07	HAV
1907123-01	D	PCB 1254	07117/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00939	o.oi	DlD_7	HAV
1907123-01	D	PCB 1260	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00395	0.01	Dl,D7	HAV
1907123-01	D	TotalPCBs	07/17/19 9:00	EPA625	7/24/19 23:16	ND	mg/kg dry	0.00939	0.01	D1,D7	HAV
1907123-01	D	Toxaphene	07/17/19 9:00	EPA 625	7/24/19 23:16	ND	mg/kg dry	0.08749	0.10	Dl,D7	HAV
1907123-01	D	Methoxychlor	07/17/19 9:00	EPA8270C	7/24/19 23:16	ND	mg/kg dry	0.00247	0.QJ	D1,D7,M2	HAV
1907123-01	D	1,1,1-Trichloroethane	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.004	0.QJ		ADP
1907123-01	D	1,1,2,2-Tetrachloroethane	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.001	0.QJ		ADP
1907123-01	D	1,1,2-Trichloroethane	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.002	0.QJ		ADP

Lab ID:.	Sample Type	Parameter	Sample Date/fime	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1907123-01	D	l, 1-Dichloroethane	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.003	0.01		ADP
1907123-01	D	1,1-Dichloroethene	07/17/19 9:00	EPA 624	7/24/19 18:42	ND	mg/kg dry	0.002	0.oI		ADP
1907123-01	D	1,2-Dichlorobenzene	07/17/19 9:00	EPA 624	7/24/19 18:42	ND	mg/kg dry	0.002	0.oI		ADP
1907123-01	D	1,2-Dichloroethane	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.002	0.01		ADP
1907123-01	D	1,2-Dichloropropane	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.002	0.oI		ADP
1907123-01	D	1,3-Dichlorobenzene	07/17/19 9:00	EPA 624	7/24/19 18:42	ND	mg/kg dry	0.002	0.oI		ADP
1907123-01	D	1,4-Dichlorobenzene	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.003	0.oI		ADP
1907123-01	D	2-Chloroethyl vinyl ether	07/17/19 9:00	EPA 624	7/24/19 18:42	ND	mg/kg dry	0.005	0.oI		ADP
1907123-01	D	Benzene	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.002	0.oI		ADP
1907123-01	D	Bromodichloromethane	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.005	0.oI		ADP
1907123-01	D	Bromoform	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.006	0.oI		ADP
1907123-01	D	Bromomethane	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.003	0.oI		ADP
1907123-01	D	Carbon Tetrachloride	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.007	0.oI		ADP
1907123-01	D	Chlorobenzene	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.001	0.oI		ADP
1907123-01	D	Chloroethane	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.004	0.oI		ADP
1907123-01	D	Chloroform	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.003	0.01		ADP
1907123-01	D	Chloromethane	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.004	0.oI		ADP
1907123-01	D	cis-1,3-Dichloropropene	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.002	0.oI		ADP
1907123-01	D	Dibromochloromethane	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.001	0.oI		ADP
1907123-01	D	Ethyl Benzene	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.002	0.01		ADP
1907123-01	D	Methylene Chloride	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.004	0.oI		ADP
1907123-01	D	Tetrachloroethene	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.004	0.oI		ADP
1907123-01	D	Toluene	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.003	0.oI		ADP
1907123-01	D	Total Trihalomethanes	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.006	0.01		ADP
1907123-01	D	trans-1,2-Dichloroethene	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.003	0.01		ADP
1907123-01	D	trans-1,3-Dichloropropene	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.002	0.oI		ADP
1907123-01	D	Trichloroethene	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.003	0.oI		ADP
1907123-01	D	Trichlorofluoromethane	07/17/19 9:00	EPA624	7/24/19 18:42	ND	mg/kg dry	0.005	0.01		ADP
1907123-01	D	Vinyl chloride	07/17/19 9:00	EPA 624	7/24/19 18:42	ND	mg/kg dry	0.004	0.01		ADP
1907123-01	D	1,2,4-Trichlorobenzene	07/17/19 9:00	EPA 8260	7/24/19 18:42	ND	mg/kg dry	0.002	0.oI		ADP
1907123-01	D	1,2-Dibromo-3-chloropropane	07/17/19 9:00	EPA 8260	7/24/19 18:42	ND	mg/kg dry	0.002	0.02		ADP
1907123-01	D	1,2-Dibromoethan	07/17/19 9:00	EPA 8260	7/24/19 18:42	ND	mg/kg dry	0.002	0.oI		ADP
1907123-01	D	cis-1,2-Dichloroethene	07/17/19 9:00	EPA 8260	7/24/19 18:42	ND	mg/kg dry	0.004	0.01		ADP
1907123-01	D	m,p-Xylenes	07/17/19 9:00	EPA 8260	7/24/19 18:42	ND	mg/kg dry	0.003	0.02		ADP
1907123-01	D	o-Xylene	07/17/19 9:00	EPA 8260	7/24/19 18:42	ND	mg/kg dry	0.002	0.oI		ADP
1907123-01	D	S ene	07/17/19 9:00	EPA 8260	7/24/19 18:42	ND	mg/kg dry	0.002	0.oI		ADP
1907123-01	D	Xylenes, total	07/17/19 9:00	EPA 8260	7/24/19 18:42	ND	mg/kg dry	0.003	0.02		ADP
1907123-01	D	2,3,7,8-TCDD -Dioxin Scan	07/17/19 9:00	EPA625	8/9/19 17:09	ND	ug/kg dry		1.68		SJM
1907123-01	D	1,2,4-Trichlorobenzene	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1907123-01	D	2,3-Dichloroaniline	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1907123-01	D	2,4,6-Trichlorophenol	07/17/19 9:00	EPA62S	7/25/19 18:59	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1907123-01	D	2,4-Dichlorophenol	07/17/19 9:00	EPA62S	7/25/19 18:59	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1907123-01	D	2,4-Dimetbylphenol	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.14	0.24	D1,D7	SJM
1907123-01	D	2,4-Dinitrophenol	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.34	0.80	D1,D7	SJM
1907123-01	D	2,4-Dinitrotoluene	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1907123-01	D	2,6-Dinitrotoluene	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.06	0.08	DI, D7	SJM
1907123-01	D	2-Chloronaphthalene	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1907123-01	D	2-Chlorophenol	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.05	0.08	DI, D7, S10	SJM
1907123-01	D	2-Metbyl-4,6-dinitrophenol	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.21	0.24	D1,D7	SJM
1907123-01	D	2-Methylphenol	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.05	0.08	D7, S10, DI	SJM
1907123-01	D	2-Nitropheriol	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.11	0.24	D1,D7	SJM
1907123-01	D	3,3-Dichlorobenzidine	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.09	0.20	D1,D7	SJM
1907123-01	D	4-Bromophenyl phenyl ether	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1907123-01	D	4-Chloro-3-methylphenol	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.09	0.24	01,D7	SJM
1907123-01	D	4-Chlorophenyl phenyl ether	07/17/19 9:00	EPA 625	7/25/19 18:59	ND	mg/kg dry	0.05	0.08	DI, D7	SJM
1907123-01	D	4-Methylphenol	07/17/19 9:00	EPA 625	7/25/19 17:45	752.1	mg/kg dry	0.07	0.40	DI, D2, D7, S10	SJM
1907123-01	D	4-Nitrophenol	07/17/19 9:00	EPA 625	7/25/19 18:59	ND.	mg/kg dry	0.19	0.24	D1,D7	SJM
1907123-01	D	Accnaphthene	07/17/19 9:00	EPA 625	7/25/19 18:59	ND	mg/kg dry	0.06	0.08	DI, D7	SJM
1907123-01	D	Acenaphthylene	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1907123-01	D	Anthracene	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.08	0.08	D1,D7	SJM

Laboratory License # AZO 159

Lab JD:	Sample Type	Parameter	Sample Date/fime	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1907123-01	D	Benzidine	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.26	0.40	DI,D7	SJM
I 907123-01	D	Benzo[a]anthracene	07/17/19 9:00	EPA 625	7/25/19 18:59	ND	mg/kg dry	0.05	0.08	DI,D7	SJM
1907123-01	D	Benzo(a]pyrene	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kg dry	0.08	0.08	DI,D7	SJM
1907123-01	D	Benzo[b]fluoranthene	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kgdry	0.06	0.08	DI,D7	SJM
I 907123-0 I	D	Benzo(ghi]perylene	07/17/19 9:00	EPA625	7125/19 18:59	ND	mg/kgdry	0.12	0.24	DI,D7	SJM
1907123-01	D	Benzo[k]fluoranthene	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kgdry	0.09	0.24	D1,D7	SJM
1907123-01	D	bis(2-chloroethoxy)methane	07/17/19 9:00	EPA625	7125/19 18 :59	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1907123-01	D	bis(2-chloroethyl)ether	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kgdry	0.08	0.24	D1,D7, SIO	SJM
1907123-01	D	bis(2-chloroisopropyl)ether	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kg dry	0.07	0.08	D1,D7,SIO	SJM
1907123-01	D	bis(2-ethylhexyl)phthalate	07/17/19 9:00	EPA 625	7125/19 18:59	9.09	mg/kg dry	0.11	0.24	DI,D7	SJM
1907123-01	D	Butylbenzylphthalate	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kg dry	0.08	0.08	DI,D7	SJM
1907123-0 I	D	Carbazole	07/17/19 9:00	EPA 625	7/25/19 18:59	ND	mg/kg dry	0.11	0.24	DI,D7	SJM
1907123-01	D	Chrysene	07/17/19 9:00	EPA 625	7/25/19 18:59	ND	mg/kg dry	0.05	0.08	DI,D7	SJM
1907123-01	D	Dibenzo(a,h)anthracene	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.12	0.24	D1,D7	SJM
1907123-01	D	Diethyl phthalate	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1907123-01	D	Dimethyl phthalate	07/17/19 9:00	EPA 625	7125/19 I 8:59	ND	mg/kg dry	0.02	0.08	D1,D7	SJM
1907123-01	D	Di-n-butyl phthalate	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kg dry	0.10	0.24	DI,D7	SJM
1907123-01	D	Di-n-octyl phtbalate	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.10	0.24	D1,D7	SJM
1907123-01	D	Fluoranthene	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1907123-01	D	Fluorene	07/17/19 9:00	EPA625	7125/19 18 :59	ND	mg/kgdry	0.06	0.08	DI,D7	SJM
1907123-01	D	Hexachlorobenzene	07/17/19 9:00	EPA625	7125/19 18:59	ND	mg/kgdry	0.02	0.08	D1,D7	SJM
1907123-01	D	Hexachlorobutadiene	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kg dry	0.04	0.08	D1,D7	SJM
1907123-01	D	Hexnchlorocyclopentadiene	07/17/19 9:00	EPA 625	7/25/19 18:59	ND	mg/kgdry	0.17	0.24	D1,D7	SJM
1907123-01	D	Hexachloroethane	07/17119 9:00	EPA625	7/25/19 18:59	ND	mg/kg dry	0.05	0.08	DI,D7,S10	SJM
1907123-01	D	Indeno(1,2,3-cd)pyrene	07/17/19 9:00	EPA625	7125/19 18:59	ND	mg/kg dry	0.11	0.24	D7,D1	SJM
1907123-01	D	Isophorone	07/17/19 9:00	EPA625	7125/19 18:59	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1907123-01	D	Naphthalene	07/17/19 9:00	EPA625	7125/19 18:59	ND	mg/kg dry	0.07	0.08	DI,D7	SJM
1907123-01	D	n-Decane	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kg dry	0.08	0.08	D1,D7,SIO	SJM
1907123-01	D	Nitrobenzene	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kg dry	0.08	0.24	D1,D7	SJM
1907123-01	D	N-Nitrosodimethylamine	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kg dry	0.08	0.24	D1,D7,S10	SJM
1907123-01	D	N-Nitrosodi-n-propylamine	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kg dry	0.10	0.24	D1,D7,S10	SJM
1907123-01	D	N-Nitrosodiphenylamine	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kg dry	0.24	0.40	D1,D7,PC3	SJM
1907123-01	D	n-Octadecane	07/17/19 9:00	EPA 625	7125/19 18:59	7.40	mg/kg dry	0.09	0.24	DI,D7	SJM
1907123-01	D	Pentachlorophenol	07/17/19 9:00	EPA 625	7/25/19 18:59	ND	mg/kg dry	0.16	0.24	DI,D7	SJM
1907123-01	D	Phenanthrene	07/17/19 9:00	EPA625	7/25/19 18:59	ND	mg/kgdry	0.07	0.08	DI,D7	SJM
1907123-01	D	Phenol	07/17/19 9:00	EPA 625	7125/19 18:59	16.75	mg/kg dry	0.10	0.24	DI, D7, SIO	SJM
1907123-01	D	Pyrene	07/17/19 9:00	EPA 625	7125/19 18:59	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1907123-01	D	1,2-Diphenylhydrazine	07/17/19 9:00	EPA 8270C	7/25/19 18:59	ND	mg/kg dry	0.05	0.08	DI,D7	SJM
1907123-01	D	1,4-Dichlorobenzene	07/17/19 9:00	EPA 8270C	7125/19 18:59	ND	mg/kg dry	0.22	0.24		SJM
1907123-01	D	2,4,5-Trichlorophenol	07/17/19 9:00	EPA 8270C	7125/19 18:59	ND	mg/kg dry	0.10	0.24		SJM
1907123-01	D	3 & 4-Methylphenol	07/17/19 9:00	EPA 8270C	7/25/19 18:59	ND	mg/kg dry	0.05	0.24		SJM
1907123-01	D	Pyridine	07/17/19 9:00	EPA 8270C	7/25/19 18:59	ND	mg/kg dry	0.06	0.08		SJM

Well AV-06 (25003-2500)

1907150-01	D	Depth to Water	07/22/19 11:50	NA	7/2'}/19 11:50	279.6	Feet				SMPLR
1907150-01	D	Antimony	07/22/19 11 :50	EPA 200.8	8/13/19 12:17	ND	ug/L	0.35	1.00		JB
1907150-01	D	Arsenic	07/22/19 11:50	EPA 200.8	8/13/19 12:17	1.17	ug/L	0.18	1.00		JB
1907150-01	D	Beryllium	07/22/19 I I :50	EPA 200.8	8/13/19 12:17	ND	ug/L	0.31	1.00		JB
1907150-01	D	Cadmium	07122/19 I I :50	EPA200.8	8/13/19 12:17	ND	ug/L	0.16	1.00		JB
1907150-01	D	Chloride	07/22/19 I I :50	SM4500-Cl-E	7/30/19 14:38	83.2	mg/L	1.88	6.00		JVR
1907150-01	D	Chromium	07122/19 I I :50	EPA200.8	8/13/19 12:17	1.05	ug/L	0.29	1.00		JB
1907150-01	D	Copper	07122/19 11 :50	EPA 200.8	8/13/19 12:17	ND	ug/L	0.53	1.00		JB
1907150-01	D	Fluoride	07122/19 I I :50	SM4500-F-C	7/30/19 14:35	0.16	mg/L	0.02	0.10		JVR
1907150-01	D	Lead	07122/19 1I :50	EPA 200.8	8/13/19 12: 17	0.23	ug/L	0.10	1.00	J	JB
1907150-01	D	Mercury	07/22/19 11 :50	EPA 245.1	8,9/19 16:21	ND	ug/L	0.10	0.20		MJC
1907150-01	D	Nickel	07122/19 11 :50	EPA200.8	8/13/19 12:17	1.81	ug/L	0.32	1.00		JB
1907150-01	D	Nitrate	07/22/19 11 :50	Calculated	7/25/19 11 :47	1.90	mg/L	0.0406	0.20		KMT
1907150-01	D	Nitrate/Nitrite	07122/19 11 :50	EPA353.2	7/25/19 11:47	1.96	mg/L	0.04	0.20		JVR
1907150-01	D	Nitrite	07/22/19 11 :50	SM4500-NO2 B	7/23/19 12:34	0.06	mg/L	0.02	0.20	J	KMT
1907150-01	D	Total Kjeldahl Nitrogen	07/22/19 11 :50	EPA 351.2	7/26/19 11 :38	ND	mg/L	0.29	0.80		AJH

Qualifier Definitions

<	<I
A	Absence
DI	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.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL), but above the MDL.
ES	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.
L2	The associated blank spike recovery was below laboratory acceptance limits.
L4	The associated blank spike recovery was below method acceptance limits.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
NI	See case narrative.
N7	Additional analysis was not performed based on the "Total" result which was below the requested analyte's MCUAction Levelffrigger Level.
NA	Not Analyzed
PC3	Semi-quantitation is included in the case narrative.
Q6	Sample was received above recommended temperature.
R2	RPD/RSD exceeded the laboratory acceptance limit. See case narrative.
R5	MS/MSD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
SIO	Surrogate recovery was above laboratory and method acceptance limits. See 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 ES 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
UC	Under Construction
EB	Equipment Blank
NA	Not Analyzed

Case Narrative(s)

1907122-01
Total Cyanide SM 4500 CN E: Contract lab results are expressed in fewer than three significant figures due to the fact that the contract lab normally reports in milligrams per liter, not micrograms per liter. See contract lab report for additional case narrative. MLP 8-06-2019.

Semi-Quantitation
Method: 625
1907122-01

Compound Name	Concentration-ug/L
Palmitic Acid	278
Stearic Acid	166

SJM 08/21/19

1907123-01
EPA Method 625 Semi-Volatiles: S10: Surrogate recovery was above laboratory acceptance limits. Results are biased high. Target analytes associated with high surrogate recovery were either non-detect or below the analyte's MCL/Action Levelsffrigger level. SJM 08/08/19. Edited by MCD 08/15/19.

Semi-Quantitation
Method: 625
1907123-01

Compound Name	Concentration-mg/Kg
Benzeneacetic Acid	331
Palmitic Acid	17709
Oleic Acid	10191
Stearic Acid	4135

SJM 08/08/19

1907123-01
EPA Method 625 Pesticides: Target analytes flagged with NI failed the MS Recovery and/or MS/MSD RPD. Blank Spike Recovery was also low. CCV recovery was acceptable. HAV 08/14/2019

1907123-01
EPA Method 625 Pesticides: Target analytes flagged with R2 failed both MSD Recovery and MS/MSD RPD, however, MS and BS Recoveries were both acceptable. HAV 08/14/2019

1907123-01
EPA Method 624 Acrylonitrile: Target analytes flagged with NI failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. JEL 08/26/2019

1907182-01,-02
Total Cyanide SM 4500 CN E: Contract lab results are expressed in fewer than three significant figures due to the fact that the contract lab normally reports in milligrams per liter, not micorgrams per liter. MLP 8-23-2019, edited JEC 10-1-19.

1907182-01,-02
EPA Method 625 Semi-volatiles: Target analytes flagged with NI failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. SJM09/06/19

Semi-Quantitation
Method: 625
1907182-02

Compound Name	Concentration-ug/L
Palmitic Acid	255
Stearic Acid	133

SJM 09/06/19

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
17631 N. 25th Avenue • Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-6101
04585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page 1 of 1

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Cyanides		Joe Doranski	20-01901	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: OW=Drinking, W&Bt, WW=Wut_.IM, SW=Surface, WalBr, GW=GroondwalM, O=Other; S=SoilUSolid, T=Travel Blank, F=Food, G=Sludge/Biosolids

TURN AROUND TIME: Laboratory Authorization Required for Rush; yl Standard 10-15 Day; D 01har

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Compliance	No. of Containers	pH (Lab Use Only)	Total cyanide	Amenable cyanide	Tota cyanide mg/kg dry	Total % solids for mg/kg													
1907119-05	07/17/19	900	Green Valley WRF - effluent APP		X	WW	X	1		X	X															01
1907122-01	07/17/19	955	Avra Valley WRF - final effluent		X	WW	X	1		X	X															02
1907123-01	07/17/19	900	Avra Valley WRF - wet haul sludge	*	X	G	X	2				X	X													03
			C<; 111-ZZ:1																							

TO ENSURE ACCEPTANCE OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 1 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments /Special Instructions: Please report the cyanide results from the sludge sample as mg/kg dry weight.

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers		
Temperature	°C	
Custody Seals	y	N
Sample Intact	y	N
Preserved	y	N

RELINQUISHED BY / SAMPLES RECEIVED BY

①	Sampler Signature	Date 7/17/19	Signature	Date 7/17/19
	Sampler Printed Name Greg Spence	Time 1410	Printed Name	Time 1410
②	Signature	Date	Signature	Date
	Printed Name	Time	Printed Name	Time
a)	Signature	Date	Signature	Date
	Printed Name	Time	Printed Name	Time

WHITE-LAB YELLOW-CLIENT

PIMA CXIUIffY
WAI'HIA'I'Uu AHIATIOI

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

CHAIN OF CUSTODY

ORDER • SI\MPLE(S)
Iq 01 IZ0-0 G

PROJECT & LOCATION: Avra Valley RWRF Wet Haul Sludge

PROJECT-LOCATION NUMBER: 25003-1573 (XXXXX-XXXX)

SAMPLE START DATE: _____ (MMIDDIYY OR MM/00/YYYY)

SAMPLE START TIME: _____ (Military time)

CLIENT: Sub Regional Facilities

SAMPLE END DATE: 07/17/2019 (MM/00/YY OR MM/0O/YYYY)

SAMPLE END TIME: 0916 (Military time)

SAMPLER(S): CORNELIUS (Pnnt Last Name(s) Only)

Permit Type: 0 APP D Investigative 0503
OAZPDES ☐Reuse Process Control
☐,we OAir O0ther _____

Matrix: Biosolids ☐Soil D Wastewater
D Groundwater D Stormwater ☐Air
D Industrial D Surface Water O0ther _____

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	☐	☐
0rganochlorine 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 capricomutum*	☐	☐
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	J	D
Other _____	☐	☐

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

COMPLIANCE FIELD MEASUREMENTS

		Initial
☐Chlorine *Hach 10014*	_____	µg/L
D Specific Conductance *SM2510B*	_____	µmhos/cm
D Oxygen, Dissolved *SM4500-OG*	_____	mg/L
OpH@pHTemp *SM4500-HB*	_____ @	pH Units@ °C
D Temperature *SM2550B*	_____	·C
☐Total Depth of Well	_____	feet
D Depth to Water	_____	feet
☐Other _____	_____	_____

Comments/Instructions:

Se11tum Blank Pie11 Date & Initials:

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
Sample Refrigerator	Sample Refrigerator	?-17-rr	09ZO
Relinquished by:	Received by:	Date:	Time: (Military time)
Sample Refrigerator	1Vt1	,/111l'<	lOl..10
Relinquished by:	Received by:	Date:	Time: (Military time)
1\/w\	iZ?f	01	II O
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Intaarlty/Preservation:
#of Bottles♦♦♦
_____ _____
Transpo♦on Ice
IE) YES ☐ NO

Lab Receipt
Temperature: 2 ·C
Initials: CA.
06 qualifier?
0 YES fj 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?	1B	☐	☐
Sufficient sample volume for analysis?		☐	☐
Samples are h property preserved containers?		☐	☐
Sample containers damaged/leaking/frozen?	☐		☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	☒
Received from a refrigerator?	☐	ti	☐

· *Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, 11, Zn, Mercury(Cold Vapor)*
·· *As, Ba, Be, Cd, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Se, Zn*

CCC-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) lctc17r:2.';~of

PROJECT & LOCATION: Avra Valley Wet Haul Sludge (Quarterly)

PROJECT-LOCATION NUMBER: 25003-1573 (XXXXX-XXXX)

SAMPLE START DATE: MM/00/YY Oil MMIDD/YYYY

SAMPLE START TIME: <Mlm>

CLIENT: IWC

SAMPLE END DATE: O:l-- 1'1--cJ Ol', MMIDDIYY Oil MMIOOIYYYY

SAMPLE END TIME: O eO (My Ime)

SAMPLER (S): ,Si Iv5., &:u... brh1,c· (Plfnt Lnt N1mo(a) Or"1)

Permit Type: ☐ APP ■ AZPDES ☐ 1wc D Investigative ☐ Reuse O Air 503 D Process Control ☐ Other

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

INORGANIC CHEMISTRY

METALS	Tot	Dla	DC
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	☐	☐	☐	☐
PPM1 •	X		■	☐
TCLP Metals			☐	☐
803 Metals ..			■	☐
Dissolved Cr+6			☐	☐

WET METHODS	D	C
Ammonia as N	D	D
Chloride	☐	☐
Cyanide, Tot•ll·..,"'"_ 1·7	■	D
Cyanide, Amenable	D	D
Fluoride	D	D
Ignitability	☐	☐
Nitrate as N	D	D
Nitrite as N	☐	☐
Nitrate/Nitrite as N	☐	☐
Nitrogen, Total Kjeldahl	☐	☐
Nitrogen, Total as N	☐	☐
Orthophosphate as P	☐	☐
Phosphorus, Total as P	☐	☐
Sulfate	☐	☐
Sulfide	D	D
Other _____	D	D
Other _____	☐	☐

ORGANIC CHEMISTRY

	D	C
Acroleln and Acr,lonltrlle		D
Dioxin GC/SIM/MS Scan		☐
Organochlorlne Pe1tlolde1 & PCB•		D
Purge ble Organlce (GCMS)	■	☐
Semivol1tll1 Org1nl01 (GCM8)		☐
Bis(2-ethylhexyl) phthalate	O	O
Digester Gas	D	D
Oil and Grease	D	D
Organic Carbon, Total	D	D
Organic Carbon, Dissolved	D	D
TCLP He,bicides (Contract Lab)	O	O
TCLP Pesticides	O	O
TCLP Semivolatile Organics	D	D
TCLP Volatile Organics	O	O
TTHM	☐	☐
Total Petroleum Hydroca,bons	D	D
Volatile Acids	D	D
Othe, _____	D	D
Other _____	D	D

EFFLUENT TOXICITY TESTING

	D	C
Chronic *P. promelas*	☐	D
ChroRic *C. dubia*	O	O
Ch,onic *Selenastrum capricomutum*	☐	☐
Othe, _____	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	D	D
BOD	O	O
COD	D	D
Collfonn, Fecal	O	O
Collfonn, Total	☐	D
Specific Conductance	O	O
E.coli·	☐	☐
Oxygen, Dissolved	O	O
pH	☐	☐
Solldl, Total (1..f.'t e....+....t7		☐
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	D	D
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	D	☐
Other	☐	D

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

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
D Chlo,ine *Hach 10014*		µg/L
D Specific Conductance *SM 2510 B*		µmhos/cm
D Oxygen, Dissolved *SM 4500-0 G*		mg/L
☐ pH @ pH Temp *SM 4500-H B*	@	pH Unls@ °C
D Tempe,ature *SM 2550 B*		°C
D Total Depth of Well		feet
☐ Depth to Water		feet
D other		

Comments/Instructions: Cyanide and laFZ T%S sent to L◆1<...I TS. CIJSG7 t7-I? po-tt,ZO-Ol"IO/

Se◆um Blank Prep Data & Initials: 04120 1r; I I 5((5-

of Bottles Delivered (9) KLW

Transported on Ice ☒ YES ☐ NO

Temperature: ◆.\.9 • C

Initials: KL:

06 qualifier? ☒ YES O NO

Sample Inspection:

	Yes	No	NA
Chain of custody Record completed appropriately?	◆	☐	☐
Sample labels match Chain of custody?	ig	☐	☐
Correct number of sample bottles were delivered?	Ga	☐	☐
Custody seals intact?	IJ	☐	☐
Within holding time?	1B	☐	☐
Sufficient sample volume for analysis?	111	☐	☐
Samples are in properly preserved containers?	f2g	☐	☐
Sample containers damaged/leaking/frozen?	☐		
40 ml vials headspace, > pea-sized air bubble?	21-		
Received from a refrigerator?	D	☒	☐

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date◆◆	Time: (Military time)
[signature]	[signature]	07/17/19	1' LI S
Relinquished by:	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)

• Sb, Ag, Ba, 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

*KLW 7/19/19

Revised: 03/12/2015

PIMA COUNTY WASTEWATER MANAGEMENT
INDUSTRIAL WASTEWATER CONTROL SECTION
SAMPLE COLLECTION FIELD NOTES

SAMPLE LOCATION: Avra Valley Wet Haul Sludge

LOCATION ID: 25003-1573 SAMPLERS: Last Names only, primary sampler first. SAMPLE DATE:

SAMPLE Dore	PARAMETER	START TIME	END TIME	FREQUENCY	Time Flow	Auto Man.	Volume Submitted	E	PRESERVATION
D	Priority Pollutant Metals		0100				1000ml		
D	503 Metals							OM Plastic	Ice
D	Cyanide, Total						1000 ml	OM 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						40ml	Septum	Ice
D	Purgeable Organics						40ml	Septum	Ice
D	Purgeable Organics						40ml	Septum	Ice
D	Purgeable Organics						40ml	Septum	Ice
D	Acrolein and Acrylonitrile						40ml	Septum	Ice
D	Acrolein and Acrylonitrile						40ml	Septum	Ice
D	Acrolein and Acrylonitrile						40ml	Septum	Ice
D	Acrolein and Acrylonitrile						40ml	Septum	Ice

nme	Model#	Serial#	Auto/Man.	Buffer	Reading	Buffer	Reading	Temp.	Slope	Initials
Not Applicable										

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials
Not Applicable									

Notes: All Samples are unpreserved

EQUIPMENT USED: ☐ Grab Sampler ☐ Automatic Sampler ☐ Electric Pump ☐ Other

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
17631 N. 25th Avenue • Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-6101
04585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page 1 of 1

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Cyanides		Joe Doranski	20-01901	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: OW=Orinking Water, WW=Waslf1Water, SW=Surface Water, GW=Grcunctwater, S=Soil/Solid, T=Travel Blank, F=Food, G=Sludge/Biosolids

TURN AROUND TIME: Laboratory Authorization Required for Rush — Standard 10- 15 Day — D Other _____

REQUEST ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Comp	Grab	Sample Type	Compliance	No. of Containers	pH (Lab Use Only)	Total cyanide	Amenable cyanide	Tota cyanide mg/kg dry	Total % solids for mg/kg	Lab ID
1907119-05	07/17/19	900	Green Valley WRF - effluent APP		X	WW	X	1		X	X			01
1907122-01	07/17/19	955	Avra Valley WRF - final effluent		X	WW	X	1		X	X			02
1907123-01	01111110	000	Avra Valley WRF - wet haul sludge	~~X~~	X	G	X	2				X	X	03
			GCS 07-22-19											

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED BY LEGEND 48 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments /Special Instructions: Please report the cyanide resullts from the sludge sample as mg/kg dry weight.

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers		
Temperature		°C
Custody Seals	y	N
Seals Intact	y	N
Preserved	y	N

RELINQUISHED BY

	Signature	Date	Time	Printed Name
①		7/17/19	1410	Greg Spence
②				
③				

SAMPLES RECEIVED BY

Signature	Date	Time	Printed Name
	7/17/19	1410	Cory Sos

WHITE-LAB YELLOW-CLIENT

FORM CS-016.2 (07/18)

LEGEND
Technical Services, In·c.·

4585 S. Palo Verde Rd., Ste. 423 •Tucson, AZ 85714
P (520) 327-1234 •F (520) 327-0518
www.legend-group.com

05 August 2019

Joe Doranski
Pima County RWRD c♦o Lab
2955 WCalle Agua Nueva
Tucson, AZ 85745
Fax: (520) 579-6002

RE: Cyanide
Laboratory Work Order No.: 19G2147

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project These results relate_ only to the items tested. This cover letter and the accomp·anying· pages represent th♦ full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 07/17/19 14:35.

The samples were processed in accordance with the Chain of Custody document and the results presented r♦late only to the s♦mples tested. The Chain of Custody is conside.red part of this report.

All samples will be retained by LEGEND for 30 days from· the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This en♦ire report was reviewed ctrd. approved .for rele♦se by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

/. 'i,? /1-'• ,;;#

P. Brian Merritt For Alyssa Mazza
Client Services Representative
((>02) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Pima County RWRD CRAO Lab 2955 W Calle Agua Nueva Tucson, Al. 85745	Project: Cyanide Project Number: 7/17/19_ Project Manager. Joe Doranski	Reported: 08/05/19 14:49

ANALYTICAL REPORT FOR SAMPLES

I SampleID	Laboratory ID	Matrix	Type	Date S.mpled	Datil Rec Iffd
1907119-05	19G2147-01	Wastewater	Grab	01111119 o9:oo·	07/17/19 14:35·
1907122-01	19G2147-02	Wastewater	Grab	07/17/19 09:55 -	07/17/19 14:35
1907123-01	19G2147-03	Solid {Dry Weight)	Grab	07/17/19 09:00	07/17119 14:35

Sample Condition Upon Receipt:

Temperature: 6.50 C

All samples were received in acceptable condition unless notl3d otherwise in the case narrative,

Case Narrative:

Holding Tlm_es: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ{PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELiTE Member.

Accreditation is applicable only to the test methods specified on the scope of accrediti;ition held by LEGEND.

Comments: . All reporting limits utilized in this report are from the approved method with the lowest pos♦ible levels of detection. All samples were anafyze\:i 6n a "wet" basis unless designated as "dry weight".

Per client, sample -03 is a Grab rather than a Composite as indicted by the COC.

N1 - The result after removal-of amenable cyanide was significantly higher than the result for total cyanide. Accordihg to the method, for samples containing significant quantities of iron cyanides, it is possible that the second distillation (after removal of amenable cyanide) will give a higher value than the test for total cyanide, leading to a negative result for amenable cyanide.

Pima County R\NRD CRAO Lab 2955 W Call4: Agua Nueva Tucson, AZ 85745	Project: Cyanide Project Number: 7/17/19 Project Manager. Joe Doranski	Reported: 08/05/19 14:49

1907119-05 (19G2147-01) Wastewater (Grab) Sampled: 07/17/19 09:00 Received: 07/17/19 14:35

Analyte	Result	MDL	RL	Units	Dlution	Batch	Prepared	Analyzed	Method	Notes
			l*nd Technical ♦ervices:of Arizona, Inc.							
Inorganic Chemistry										
Cyanide, amenable	<	3	10	ug/L	1	1;1eG1&23	0112511s 14:20	01125119111:211	SM4500 ct-i G	-Eli, f'i1
Cyanide, Total	3	3	10	ug/l	1	B9G1TT1	07/24/1911:25	07124119 11:25	SM 4500 CN E	E◄

1907122-01 (19G2147-02) Wastewater (Grab) Sampled: 07/17/19 09:55 Received: 07/17/1914:35

Analyte	Result.	MDL	RL	Units	DIiution	Batcdi	Prepared	Analyzed	MetlOd	Notes
			Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry										
Cyanide, amenable	<	3	10	ug/l	1	B9G1823	07/25119 14:20	07/25/19 18:28	SM4500CNG	ES;N1
Cyanide. Total	3	3	10	ugiL	1	B9G1TT1	07/24/1911:25	07124119 14:06	SM4500CNE	E◄

1907123-01 (19G2147-03) Solid (Dry Weight) (Grab) Sampled: 07/17/19 09:00 Received: 07/17/19 14:35

IAna¥e	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			Legend Technical Services of Arizona, Inc.							
Ino2n1c Chemia!!:,I.										
Cyanide, Total	<	1.97	6.58	mg/kg dry	1	B9G1843	07126/1910:35	07/26/19 14:11	EPA9014	EB
% Solids	2		1	%	1	B9G1548	07/18/1915:50	07/18/1915:50	SM.2540G	

Pima County RWRD CRAO Lab	Project: Cyanide	
2955 W Calle Agua Nueva	Project Number: 7/17/19	Reported:
Tucson, AZ 85745	Project Manager: Joe Doranski	08/05/19 14:49

Notes and Definitions

N7	Additional analysis was not performed based on the "Totar' result which was below the requested analyte's MCUAction LeveVTrigger Level.
N1	ee case narrative.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
ES	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
E4	oncentration estimated. Analyte was detected below laboratory minimum reporting level (MRL), but above the MDL.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Oup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Cyanide
Project Number: 7/17/19
Project Manager: Joe Doranski

Reported:
08/05/19 14:49

19G2147

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.

☐ 17631 N. 25th Avenue • Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-6101
☐ 4565 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page 1 of 1

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project: Cyanides
Contact: Joe Doranski
P.O. No.: 20-01901
Fax Results ☐ Email Results ☑ QC Report ☐ EDD ☑ Special Detection Limits ☐

DW=Drinking Water, WW=Wastewater, SW=Surface Water, GW=Groundwater, O=Other

Laboratory Authorization Required for R. . h

Client Sample Identification	Date	Time	Sample Location	Comp	Grab	Sample Type	Compliance	No. of Containers	Total cyanide	Amenable cyanide	Total cyanide mg/kg dry	Total % solids for mg/kg	
190711 05	07/17/18	100	Green Volley WRF - effluent APP		X	WW	X	1	X	X			01
1907122-01	07/17/19	•••	Avra Valley WRF • final affluent		X	WW	X	1	X	X			02
1907123-01	07/17/19	100	Avra Valley WRF ''''' haul sludge	X		G	X	2			X	X	03

Comments / Special Instructions: Please report the cyanide results from the sludge sample as mg/kg dry weight.

Relinquished by	Date	Time	Received by	Date	Time
(1) Sampler Signature / Sampler Printed Name: Greg Spence	7/17/19	1410	Signature / Printed Name: Cuesas	7/17/19	1410
(2) Signature / Printed Name: Cuesas	7/17/19	1800	Signature / Printed Name: Courier	7/18/19	1800
(3) Courier	7/18/19	1330	Signature / Printed Name: J. Isaum	7/18/19	1330

Temp: 4 °C; Y (N); Y N; (Y) N

@Lab 1435

WHITE-LAB YELLOW-CLIENT

FORM CS.0162 (07/18)

PIMA COUNTY
w srrwrurncuMmoN
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: 01/28/2020
Labor;itory License: AZ0159

Sample Analysis Report

Avra Valley WRF

October 2019

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,-1311020
Date

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

Laboratory License # AZ0159

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Dateffime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
• Analysis Performed by:Lcgcnd Technical Services ofArizona, Inc. • See attached contract lab report for official results.											
1910074-01	D	Total Diuolved Solids	I0/09/19 9:20	SM2540C	10/15/19 14:18	578	mg/L		10.00		SDR
1910074-01	D	Total Suspended Solids	10/09/19 9:20	SM2540D	10/10/19 14:09	ND	mg/L		2.50		SDR
1910074-01	D	Oil&Grease	10/09/19 9:20	EPA 1664B	10/15/19 ll:33	ND	mg/L	3.52	4.00		JEL
Final Effluent at the U.V. Channel (25003-1351}											
1910008-01	D	E.Coli	10/01/19 6:52	SM 9223B	10/2/19 12:54	<I	MPN/IOOmL		1.0		JAH
1910067-03	D	E.Coli	10/08/19 8:12	SM9223B	10/9/19 14:09	<I	MPN/IOOmL		1.0		JAH
1910120-01	D	E.Coli	10/16/19 6:56	SM9223B	10/16/19 13:20	NA	MPN/IOOmL		1.0	NI	IYC
1910130-01	D	E.Coli	10/17/19 10:37	SM9223B	I0/18/19 13:42	<I	MPN/100 mL		1.0		AV
1910169-01	D	E.Coli	10/23/19 7:03	SM9223B	10/24/19 12:52	<I	MPN/IOOmL		1.0		ANM
1910220-01	D	E.Coli	10/30/19 7:50	SM9223B	10/31/19 12:19	<I	MPN/IOOmL		1.0		MSM
Wet Haul Sluda::e (25003-1573}											
1910067-05	D	%Solids	10/08/19 8:31	SM2540G	10/9/19 14:41	1.31	ob		0.01		ANM
1910067-05	D	% Solids, Total Volatile	10/08/19 8:31	SM2540G	10/10/19 07:10	81.8	ob		0.01		ANM
1910121-01	D	Antimony	10/16/19 9:00	EPA6010D	10/30/19 13:52	ND	mg/kg dry		8.49		MLB
1910121-01	D	Anenic	10/16/19 9:00	EPA6010D	10/30/19 12:36	ND	mg/kg dry		8.49		MLB
1910121-01	D	Beryllium	10/16/19 9:00	EPA6010D	10/30/19 12:36	ND	mg/kg dry		1.70		MLB
1910121-01	D	Cadmium	10/16/19 9;00	EPA6010D	10/30/19 12:36	ND	mg/kg dry		3.40		MLB
1910121-01	D	Chromium	10/16/19 9:00	EPA6010D	10/30/19 12:36	10.8	mg/kg dry		8.49		MLB
1910121-01	D	Copper	10/16/19 9:00	EPA6010D	10/30/19 12:36	129	mg/kg dry		8.49		MLB
1910121-01	D	Lead	10/16/19 9:00	EPA6010D	10/30/19 12:36	ND	mg/kg dry		8.49		MLB
1910121-01	D	Mercury	10/16/19 9:00	EPA 7471B	11/1/19 16:04	0.42	mg/kg dry		0.34		MJC
1910121-01	D	Molybdenum	10/16/19 9:00	EPA6010D	10/30/19 12:36	7.90	mg/kg dry		3.40		MLB
1910121-01	D	Nickel	10/16/19 9:00	EPA6010D	10/30/19 12:36	9.70	mg/kg dry		8.49		MLB
1910121-01	D	Selenium	10/16/19 9:00	EPA6010D	10/30/19 12:36	ND	mg/kgdry		16.99		MLB
1910121-01	D	Silver	10/16/19 9:00	EPA6010D	10/30/19 13:52	ND	mg/kg dry		0.85		MLB
1910121-01	D	Thallium	10/16/19 9:00	EPA6010D	10/30/19 12:36	ND	mg/kg dry		8.49		MLB
1910121-01	D	Zinc	10/16/19 9:00	EPA6010D	10/30/19 12:36	427	mg/kg dry		8.49		MLB
1910121-01	D	Cyanide, Total	10/16/19 9:00	EPA 9014	10/25/19 14:25	ND	mg/kg dry	2.07	6.90	ES	CGP *
• Analysis Performed by:Legend Technical Services ofArizona, Inc. • See attached contract lab report for official results.											
1910121-01	D	%Solids	10/16/19 9:00	SM2540G	10/23/19 13:40	I	ob		1		CGP *
• Analysis Performed by:Legcnd Technical Services ofArizona, Inc. • See attached contract lab report for official results.											
1910121-01	D	%Solids	10/16/19 9:00	SM 25400	10/17/19 14:45	1.45	%		O.oJ.		ANM
1910121-01	D	Acrolein	10/16/19 9:00	EPA624	10/29/19 17:23	ND	mg/kg dry	1.40	6.91.		JEL
1910121-01	D	Acrylonitrilc	10/16/19 9:00	EPA624	10/29/19 17:23	ND	mg/kg dry	2.42	6.91		JEL
1910121-01	D	4,4-DDD	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0. 13821	0.34	D1,D7,NI	HAY
1910121-01	D	4,4-DDE	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kgdry	0.21837	0.34	D1,D7	HAY
1910121-01	D	4,4-DDT	10/16/19 9:00	EPA625	10/24/19 19:47	ND	mg/kg dry	0.19073	0.34	D1,D7	HAY
1910121-01	D	Aldrin	10/16/19 9:00	EPA62S	10/24/19 19:47.	ND	mg/kg dry	0.22390	0.34	Dl,D7	HAY
1910121-01	D	alpha-BHC	10/16/19 9:00	EPA625	10/24/19 19:47	ND	mg/kg dry	0.23496	0.34	D1,D7	HAY
1910121-01	D	bcta-BHC	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.49756	0.68	Dl,D7	HAY
1910121-01	D	Chlordane	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.52520	2.71	Dl,D7	HAY
1910121-01	D	delta-BHC	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.09951	0.34	Dl,D7	HAY
1910121-01	D	Dicldrin	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.22943	0.34	Dl,D7	HAY
1910121-01	D	Endosulfan I	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.14927	0.34	D1,D7	HAY
1910121-01	D	Endosulfan II	10/16/19. 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.20179	0.34	Dl,D7	HAY
1910121-01	D	Endosulfan sulfate	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.15756	0.34	Dl,D7,NI	HAY
1910121-01	D	Endrin	10/16/19 9:00	EPA625	10/24/19 19:47	ND	mg/kg dry	0.36764	0.68	Dl,D7	HAY
1910121-01	D	Endrin aldehyde	10/16/19 9:00	EPA625	10/24/19 19:47	ND	mg/kg dry	0.33171	0.34	D1,D7,NI	HAY
1910121-01	D	gamma-BHC (Lindane)	10/16/19 9:00	EPA625	10/24/19 19:47	ND	mg/kg dry	0.38146	0.68	Dl,D7	HAY
1910121-01	D	Heptachlor	10/16/19 9:00	EPA625	10/24/19 19:47	ND	mg/kg dry	0.13821	0.34	Dl,D7	HAY
1910121-01	D	Heptachlor Epoxide	10/16/19 9:00	EPA625	10/24/19 19:47	ND	mg/kgdry	0.23496	0.34	Dl,D7	HAY

Laboratory License # AZOl 59

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1910121-01	D	PCB 1016	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.30406	0.68	Dl,D7	HAV
1910121-01	D	PCB 1221	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.46992	0.68	Dl,D7	HAV
1910121-01	D	PCB 1232	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.19349	0.68	Dl,D7	HAV
1910121-01	D	PCB 1242	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.35935	0.68	Dl,D7	HAV
1910121-01	D	PCB 1248	10/16/19 9:00	EPA62S	I0/24/19 19:47	ND	mg/kg dry	0.29024	0.68	Dl,D7	HAV
1910121-01	D	PCB 1254	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.52520	0.68	Dl,D7	HAV
1910121-01	D	PCB 1260	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.22114	0.68	Dl,D7	HAV
1910121-01	D	Total PCBs	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	0.52520	0.68	Dl,D7	HAV
1910121-01	D	Toxaphcne	10/16/19 9:00	EPA62S	10/24/19 19:47	ND	mg/kg dry	4.8927	5.42	Dl,D7	HAV
1910121-01	D	Methoxychlor	10/16/19 9:00	EPA8270C	10/24/19 19:47	ND	mg/kg dry	0.138	0.34	Dl,D7	HAV
1910121-01	D	I, I, 1-Trichloroethane	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.26	0.69		ADP
1910121-01	D-	I, 1,2,2-Tetrachloroethane	10/16/19 9:00	EPA624	10/30/19 14: 14_	ND	mg/kg dry	0.08	0.69		ADP
1910121-01	D	I, 1,2- Trichloroethane	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.12	0.69		ADP
1910121-01	D	I, 1-Dichlorocthane	10/16/19 9:00	EPA624	10/30/19 14: 14	ND	mg/kg dry	0.23	0.69		ADP
1910121-01	D	I, 1-Dichloroethene	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.15	0.69		ADP
1910121-01	D	1,2-Dichlorobenzene	10/16/19 9:00	EPA624	10/30/19 14: 14	ND	mg/kg dry	0.11	0.69		ADP
1910121-01	D	1,2-Dichlorocthane	10/16/19 9:00	EPA624	10/30/19 14: 14	ND	mg/kg dry	0.12	0.69		ADP
1910121-01	D	1,2-Dichloropropane	10/16/19 9:00	EPA624	10/30/19 14: 14	ND	mg/kg dry	0.14	0.69		ADP
1910121-01	D	1,3-Dichlorobenzene	10/16/19 9:00	EPA624	10/30/19 14: 14	ND	mg/kg dry	0.11	0.69		ADP
1910121-01	D	1,4-Dichlorobenzene	10/16/19 9:00	EPA624	10/30/19 14: 14	ND	mg/kg dry	0.23	0.69		ADP
1910121-01	D	2-Chlorocthyl vinyl ether	10/16/19 9:00	EPA624	10/30/19 14: 14	ND	mg/kg dry	0.36	0.69		ADP
1910121-01	D	Benzene	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.15	0.69		ADP
1910121-01	D	Bromodichloromethane	10/16/19 9:00	EPA624	10/30/19 14: 14	ND	mg/kg dry	0.33	0.69		ADP
1910121-01	D	Bromoform	10/16/19 9:00	EPA624	10/30/19 14: 14	ND	mg/kg dry	0.41	0.69		ADP
1910121-01	D	Bro momethane	10/16/19 9:00	EPA624	10/30/19 14:14	0.50	mg/kg dry	0.11!	0.69	J	ADP
1910121-01	D	Carbon Tetrachloride	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.50	0.69		ADP
1910121-01	D	Chlorobenzene	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.08	0.69		ADP
1910121-01	D	Chloroethane	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.25	0.69		ADP
1910121-01	D	Chloroform	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.19	0.69		ADP
1910121-01	D	Chloromethane	10/16/19 9:00	EPA624	10/30/19 14: 14	ND	mg/kg dry	0.28	0.69		ADP
1910121-01	D	cis-1,3-Dichloropropenc	10/16/19 9:00	EPA624	10/30/19 14: 14	ND	mg/kg dry	0.12	0.69		ADP
1910121-01	D	Dibromochloromethane	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kgdry	0.08	0.69		ADP
1910121-01	D	Ethyl Benzene	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.12	0.69		ADP
1910121-01	D	Methylene Chloride	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.29	0.69		ADP
1910121-01	D	Tetrachloroethcne	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.25	0.69		ADP
1910121-01	D	Toluene	10/16/19 9:00	EPA624	10/30/19 14:14	11.57	mg/kg dry	0.18	0.69		ADP
1910121-01	D	Total Trihalomethanes	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.41	0.69		ADP
1910121-01	D	trans-1,2-Dichloroethcne	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.19	0.69		ADP
1910121-01	' D	trans-1,3-Dichloropropene	10/16/19 9:00	EPA624	10/30/19 14:14	ND	mg/kg dry	0.15	0.69		ADP
1910121-01	D	Trichloroethene	10/16/19 9:00	EPA624	I0/30/19 14: 14	ND	mg/kg dry	0.18	0.69		ADP
1910121-01	D	Trichlorofluoromethane	10/16/19 9:00	EPA624	10/30/19 14: 14	ND	mg/kg dry	0.37	0.69		ADP
1910121-01	D	Vinyl chloride	10/16/19 9:00	EPA624	10/30/19 14: 14	ND	mg/kg dry	0.29	0.69		ADP
1910121-01	D	1,2,4-Trichlorobenzene	10/16/19 9:00	EPA 8260	10/30/19 14: 14	0.235	mg/kg dry	0.152	0.69	J	ADP
1910121-01	D	1,2-Dibromo-3-chloropropane	I0/16/19 9:00	EPA8260	10/30/19 14:14	ND	mg/kg dry	0.124	0,6()		ADP
1910121-01	D	1,2-Dibromocthanc	10/16/19 9:00	EPA8260	10/30/19 14:14	ND	mg/kg dry	0.332	0.69		ADP
1910121-01	D	cis-1,2-Dichlorocthene	10/16/19 9:00	EPA8260	10/30/19 14: 14	ND	mg/kg dry	0.276	0.69		ADP
1910121-01	D	m,p-Xylenes	10/16/19 9:00	EPA8260	10/30/19 14: 14	ND	mg/kg dry	0.221	131!		ADP
1910121-01	D	o-Xylenc	10/16/19 9:00	EPA8260	10/30/19 14:14	ND	mg/kg dry	0.111	0.69		ADP
1910121-01	D	Styrene	10/16/19 9:00	EPA8260	10/30/19 14: 14	ND	mg/kg dry	0.111	0.69		ADP
1910121-01	D	Xylenes, total	10/16/19 9:00	EPA8260	10/30/19 14: 14	ND	mg/kg dry	0.221	1.38		ADP
1910121-01	D	2,3,7,8-TCDD - Dioxin Scan	10/16/19 9:00	EPA62S	11/1/19 11:02	ND	ug/kgdry		1.73		SJM
1910121-01	D	1,2,4-Trichlorobenzenc	10/16/19 9:00	EPA62S	11nt19 16:04	ND	mg/kg dry	8.29	55.28	DI, D7, NI	SJM
1910121-01	D	2,3-Dichloroaniline	10/16/19 9:00	EPA62S	11ntl9 16:04	ND	mg/kg dry	11.83	165.85	Dl,D7,L4,NI	SJM
1910121-01	D	2,4,6-Trichlorophcnol	10/16/19 9:00	EPA62S	11ntl9 16:04	ND	mg/kg dry	7.46	55.28	DI, D7	SJM
1910121-01	D	2,4-Dichlorophenol	10/16/19 9:00	EPA62S	11ntl9 16:04	ND	mg/kg dry	9.45	55.28	DI, D7	SJM
1910121-01	D	2,4-Dimethylphcnol	I0/16/19 9:00	EPA62S	11nt19 16:04	ND	mg/kg dry	19.68	165.85	Dl,D7	SJM
1910121-01	D	2,4-Dinitrophcnol	I0/16/19 9:00	EPA62S	11nt19 16:04	ND	mg/kg dry	47.65	276.42	Dl,D7	SJM
1910121-01	D	2,4-Dinitrotolucne	10/16/19 9:00	EPA62S	11ntl9 16:04	ND	mg/kg dry	12.77	165.85	Dl,D7	SJM
1910121-01	D	2,6-Dinitrotoluene	10/16/19 9:00	EPA62S	11ntl9 16:04	ND	mg/kg dry	7.80	55.28	Dl,D7	SJM
1910121-01	D	2-Chloronaphthalene	10/16/19 9:00	EPA62S	11nt19 16:04	ND	mg/kgdry	8.13	55.28	D1,D7,NI	SJM

Laboratory License# AZ0159

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Dateffime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1910121-01	D	2-Cblorophenol	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	7.08	55.28	D1,D7	SJM
1910121-01	D	2-Methyl-4,6-dinitrophenol	10/16/19 9:00	EPA62S	lln/19 16:04	ND	mg/kg dry	29.69	165.85	Dl,O7	SJM
1910121-01	D	2-Mcthylphenol	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	6.36	55.28	O1,D7,NI	SJM
1910121-01	D	2-Nitrophenol	10/16/19 9:00	EPA625	11n119 t6:04	ND	mg/kg dry	15.76	165.85	01,07	SJM
1910121-01	D	3,3-Dichlorobenzidine	10/16/19 9:00	EPA625	11n119 t6:04	ND	mg/kg dry	12.22	138.21	01,07	SJM
1910121-01	D	4-Bromophenyl phenyl ether	10/16/19 9:00	EPA625	11n119 t6:04	ND	mg/kg dry	6.58	55.28	01,07	SJM
1910121-01	D	4-Chloro-3-methylphenol	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	12.00	165.85	O1,D7,Nl	SJM
1910121-01	D	4-Chlorophenyl phenyl ether	I0/16/19 9:00	EPA625	lln/19. 16:04	ND	mg/kg dry	6.86	55.28	01,07	SJM
1910121-01	D	4-Mcthylphenol	10/16/19 9:00	EPA625	lln/19 16:04	411.3	mg/kg dry	9.45	55.28	DI, 07, U , NI	SJM
1910121-01	D	4-Nitrophenol	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	26.15	165.85	DI, D7	SJM
1910121-01	D	Accnaphthene	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	8.46	55.28	DI, 07	SJM
1910121-01	D	Accnaphthylene	10/16/19 9:00	EPA62S	Iln/19 16:04	ND	mg/kgdry	8.73	55.28	01,07	SJM
1910121-01	D	Anthraccne	10/16/19 9:00	EPA625	11n119 t6:04	ND	mg/kg dry	11.06	55.28	Dl,O7	SJM
1910121-01	D	Bcnzidine	10/16/19 ·9:00	EPA625	lln/19 16:04	ND	mg/kg dry	36.05	276:42	O1,O7,Nl	SJM
1910121-01	D	Benzo[aJanthracene	10/16/19 9:00	EPA625	11n119 t6:04	ND	mg/kg dry	6.91	55.28	Dl,D7	SJM
1910121-01	D	Benzo[aJpyrene	10/16/19 9:00	EPA625	11n119 16:04	ND	mg/kg dry	10.84	55.28	Dl,O7	SJM
1910121-01	D	Benzo[b]tluoranthene	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	8.73	55.28	Dl,O7	SJM
1910121-01	D	Benzo[ghi]pcrylene	10/16/19 9:00	EPA625	11n119 16:04	ND	mg/kg dry	16.25	165.85	Dl,O7	SJM
1910121-01	D	Benzo[k]tluoranthene	10/16/19 9:00	EPA625	11n119 16:04	ND	mg/kg dry	12.66	165.85	01,07	SJM
1910121-01	D	bis(2-chloroethoxy)methane	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	10.95	55.28	01,07	SJM
1910121-01	D	bis(2-chloroethyl)ether	10/16/19 9:00	EPA62S	lln/19 16:04	ND	mg/kg dry	11.72	165.85	01,07	SJM
1910121-01	D	bis(2-chloroisopropyl)ether	10/16/19 9:00	EPA62S	lln/19 16:04	ND	mg/kg dry	9.95	55.28	D1,O7	SJM
1910121-01	D	bis(2-ethylhexyl)phthalate	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	15.59	165.85	D1,D7	SJM
1910121-01	D	Butylbcnzylphthalate	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	10.50	55.28	01,07	SJM
1910121-01	D	Carbazolc	I0/16/19 9:00	EPA62S	Iln/19 16:04	ND	mg/kg dry	14.76	165.85	Dl,O7	SJM
1910121-01	D	Chrysene	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	6.30	55.28	01,07	SJM
1910121-01	D	Dibcnzo(a,h)anthracene	10/16/19 9:00	EPA62S	lln/19 16:04	ND	mg/kg dry	16.97	165.85	01,07	SJM
1910121-01	D	Diethyl phthalatc	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	12.38	165.85	D1,D7	SJM
1910121-01	D	Dimethyl phthalatc	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	3.21	55.28	01,07	SJM
1910121-01	D	Di•n-butyl phthalate	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kgdry	13.82	165.85	01,07	SJM
1910121-01	D	Di-n-octyl phthalate	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	14.10	165.85	01,07	SJM
1910121-01	D	Fluoranthene	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kgdry	7.30	55.28	O1,D7	SJM
1910121-01	D	Fluorenc	10/16/19 9:00	EPA62S	lln/19 16:04	ND	mg/kgdry	8.51	55.28	Nl,O1,O7	SJM
1910121-01	D	Hexachlorobcnzcne	10/16/19 9:00	EPA62S	11n119 16:04	ND	mg/kg dry.	3.43	55.28	D1,D7	SJM
1910121-01	D	Hexachlorobutadiene	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	5.58	55.28	D1,D7	SJM
1910121-01	D	Hcxachlorocyclopcntadiene	10/16/19 9:00	EPA62S	lln/19 16:04	ND	mg/kg dry	23.39	165.85	D1,D7,NI	SJM
1910121-01	D	Hexachloroethane	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	6.97	55.28	O1,D7,Nl	SJM
1910121-01	D	lndeno(1,2,3-cd)pyrene	10/16/19 9:00	EPA62S	lln/19 16:04	ND	mg/kg dry	15.65	165.85	01,07	SJM
1910121-01	D	lsophorone	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	9.18	55.28	01,07	SJM
1910121-01	D	Naphthalene	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	9.79	5528	01,07	SJM
1910121-01	D	n-Dccane	10/16/19 9:00	EPA62S	lln/19 16:04	ND	mg/kg dry	10.78	55.28	D1,D7	SIM
1910121-01	D	Nitrobcnzcne	10/16/19 9:00	EPA625	11n119 16:04	ND	mg/kg dry	11.61	16585	Dl,O7	SJM
1910121-01	D	N-Nitrosodimethylamine	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	11.55	165.85	D7,DI	SJM
1910121-01	D	N-Nitrosodi-n-propylamine	I0/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	13.43	165.85	D1,D7	SJM
1910121-01	D	N-Nitrosodiphenylamine	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	33.61	276.42	D1,D7,PC3	SJM
1910121-01	D	n-Octadecanc	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kgdry	12.05	165.85	O1,O7,Nl	SJM
1910121-01	D	Pentachlorophcnol	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	22.22	165.85	Dl,O7	SJM
1910121-01	D	Phcnanthrenc	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	9.01	55.28	Dl,O7	SJM
1910121-01	D	Phenol	10/16/19 9:00	EPA625	lln/19 16:04	ND	mg/kg dry	14.32	165.85	O1,D7	SJM
1910121-01	D	Pyrcne	10/16/19 9:00	EPA62S	lln/19 16:04	ND	mg/kg dry	7.63	55.28	Dl,O7	SJM
1910121-01	D	1,2-Diphenylhydrazine	10/16/19 9:00	EPA8270C	lln/19 16:04	ND	mg/kg dry	6.41	55.28	Dl,O7	SJM

WellAV-06 (25003-2500)

1910174-01	D	Depth to Water	10/23/19 11:25	NA	10/23/19 11:25	274.7	Feet				SMPLR
1910174-01	D	Antimony	10/23/19 11:25	EPA200.8	lln/19 16:22	ND	ug/L	0.35	1.00		JB
1910174-01	D	Arsenic	10/23/19 11:25	EPA200.8	lln/19 16:22	1.38	ug/L	0.18	1.00		JB
1910174-01	D	Beryllium	·t0/23/19 11:25	EPA200.8	lln/19 16:22	ND	ug/L	0.38	1.00		JB
1910174-01	D	Cadmium	10/23/19 11:25	EPA200.8	lln/19 16:22	ND	ug/L	0.16	1.00		JB
1910174-01	D	Chloride	I0/23/19 Il :25	SM4500-Cl-E	11/8/19 13:57	78.4	mg/L	1.88	6.00		N R
1910174-01	D	Chromium	10/23/19 11:25	EPA200.8	lln/19 16:22	0.44	ug/L	0.29	1.00	1	JB

Qualifier Definitions.

<	<1
A	Absence
DI	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.
ES	Analyte reported to MOL per project specification. Target analyte was not detected in the sample.
J	Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
u	The associated blank spike recovery was below method acceptance limits.
N1	See case narrative.
N7	Additional analysis was not performed based on the "Total" result which was below the requested analyte's MCUAction LeveVfrigger Level.
NA	Not Analyzed
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 ES 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
RPO	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
UC	Under Construction
EB	Equipment Blank
NA	Not Analyzed

Case Narrative(s)

1910120-0 I

E.Coli, SM9223B:The Colilert media (R909410) used did not have required QC performed before it was used. The sample was not analyzed due to lack of quality controlled media. The sample was resampled the following day, see 1910130-0 I. IYC 10-17-19, EDITED ESW 10/21/19

1910121-01

EPA Method 625 Pesticides: Target analytes flagged with NI failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. MCD 11/12/2019

1910121-0 I

EPA Method 625 Semi-volatiles: Target analytes flagged with NI failed the Matrix Spike from the same.extraction batch but the spike was performed on a different sample. SJM 12/18/19

Semi-Quantitatioo
Method: 625
1910121-01

Compound Name	Concentration-mg/Kg
Stearic Acid	3788

SJM 12/18/19

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Rtgulatory Affairs Office Laboratory

CHAIN OF CUSTODY

ORDER & SAMIILE(SJ

rRK'l ID 0, 1-os

PROJECT & LOCATION: Avra Valley RWRF Wet Haul Sludge

PROJECT-LOCATION NUMBER: 25003-1573

SAMPLE START DATE: _____ MMIIXI'YY OR MIMIDIYYYY

SAMPLE START TIME: _____ (Military time)

CLIENT: Sub Regional Facilities

SAMPLE END DATE: fo- -fj MMIDD/YY OR MMIDONYYY

SAMPLE END TIME: 0831 (Milliarytimo)

SAMPLER(S): ..c;Cb.J: (U/a, 't(I (Print Last Name(•) Only)

Permit Type: 0 APP D Investigative 0503
OAZPDES ☐ Reuse Process Control
☐ ,we OAir O0ther _____

Matrix: ■ Biosolids ☐ soil D Wastewater
D Groundwater D Stormwater OAir
D Industrial D 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			☐	☐

'NET 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	☐	☐
0rganochlorine 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. prome/as*	☐	☐
Chronic C. *dubia*	☐	☐
Chronic *Se/enastrum capricomutum*	☐	☐
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

	C-ult	tlult
☐ Chlorine *Hach 10014*	_____	µg/L
D Specific Conductance *SM2510B*	_____	µmhos/cm
D Oxygen, Dissolved *SM4500-OG*	_____	mg/L
☐ PH @ pH Temp *SM4500-HB*	_____ @	pH Units@ ° C
D Temperature *SM2550B*	_____	OC
☐ Total Depth of Well	_____	feet
D Depth to Water	_____	feet
☐ Other _____	_____	_____

'11ments/Instruc:ions: h,,,,,,,, 9t_ptc. loo H-1, Gd? tr;-os,,

Se11tum Blank Pe11 icate & Initials: _____ _____

Chain of Custody Record (Signatures Only)

t>iMtrJ Sample Refrigerator lo- J-11 O<B3Y

Relinquished by Sampler:	Received by:	Date:	Time: (Milttary time)
Sample Refrigerator	.,f/t1J	to/ql.a	10S
Relinquished by:	Received by:	Date:	Time: (Military time)
A	KIJ L; /	lo -3 -),	\1 Li 5
Relinquished by:	Received by:	Date:	Time: (Military time)
L/			
Relinquished by:	Received by:	Date:	Time: (Military time)

SamnlA Intaagrtiv/Preaervation:

# of Botl♦elivered ❚❚❚○

(. K.....

Transpi♦ on Ice
♦ YES ☐ NO

Lib Receipt

Temperature: -b-• C

Initials: }SI,

06 qualifier?
☐ YES ☐ NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	[:ii	☐	☐
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 h properly preserved containers?	1B	☐	☐
Sample containers damagedi1eaking/frozen?	☐		☐
40 ml vials headspace, > pea-sized air bubble?	☐	☐	
Received from a refrigerator?	☐		D

* Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, 11, Zn, Men:ury(Cold Vapot1 Zn

CCC-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): 1910121-01

PROJECT & LOCATION: Avra Valley Wet Haul Sludge (Quarterly)

PROJECT-LOCATION NUMBER: 2500-3-1-573 (000-00000)

SAMPLE START DATE: -1:ID/YY OR MM/IIIIYYYY

SAMPLE START TIME: (Military-)

CLIENT: IWC

SAMPLE END DATE: 10/16/2019 MINDDIYY OR MM/IJOMYYY

SAMPLE END TIME: 0900 (Military time)

SAMPLER(S): Riccaboni, 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	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			☐	☐

<NETMETHODS	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

☐ Chlorine (Hach 10014)		µg/L
☐ Specific Conductance (SM2510B)		µmhos/cm
☐ Oxygen, Dissolved (SM4500-OG)		mg/L
☐ pH @ pH Temp (SM4500-HB)	@	pH Units @ °C
☐ Temperature (SM 2550B)		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments: 1 of 2 TSS

Sectum Blank Pen Date & Initials: sr.s

Chain of Custody Record (Signature Only)

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: Trans on Ice ♦ YES ☐ NO

Lab Receipt: Temperature: °C; Initials: 06 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 a 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, Ba, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury (Cold Vapor)
** As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

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

PIMA COUNTY WASTEWATER MANAGEMENT
INDUSTRIAL WASTEWATER CONTROL SECTION
SAMPLE COLLECTION FIELD NOTES

I /012 (.01

SAMPLE LOCATION: Avra Valley Wet Haul Sludge

LOCATION ID: 25003-1573 SAMPLERS: R:c.c.&,;(01IS,',(v"-. (Last names only, primary sampler first.) SAMPLE DATE: /()-JI, - /q

SAMPLE Dore	PARAMETER	START TIME	END TIME	FREQUENCY	Time Flow	Auto Man.	Volume Submitted	E	PRESERVATION
D	Priority Pollutant Metals	/9/J /lt:t	tJC(00	C:t/2-4b			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						40ml	Septum	Ice
D	Purgeable Organics						40ml	Septum	Ice
D	Purgeable Organics						40ml	Septum	Ice
D	Purgeable Organics						40ml	Septum	Ice
D	Acrolein and Acrylonitrile						40ml	Septum	Ice
D	Acrolein and Acrylonitrile						40ml	Septum	Ice
'D	Acrolein and Acrylonitrile						40ml	Septum	Ice
D	Acrolein and Acrylonitrile						40ml	Septum	Ice

DM M"TCK LAL Int<A Tl\JN 1. u u

Time	Model#	Serial#	Auto/Man.	Buffer	Reading	Buffer	Reading	Temp.	Slope	Initials
			Not Applicable							

FI"1.U MP-Q:O,lr, EMEn I:,

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials
		Not Applicable							

Notes: All Samples are unpreserved

EQUIPMENT USED: D Grab Sampler ☐ Automatic Sampler ☐ Electric Pump ☐ Other _____

LEGEND
Technical Services, Inc.

4585 S. Palo Verde Rd., Ste. 423 •Tucson, AZ 85714
P (520) 327-1234 •F (520) 327-0518
www.legend-group.com

06 November 2019

Joe Doranski
Pima County RWRD CRAO_Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745
Fax: (520) 579-6002

RE: Cyanide
Laboratory Work Order No.: 19J2212

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover lett♦r and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 10/17/19 13:15.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

/:g' /f
P. Brian Merritt For Alyssa Mazza
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Pima County RWRD CRAO Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Cyanide Project Number: 10/17/19 Project Manager. Joe Doranski	Reported: 11/06/19 16:29

ANALYTICAL REPORT FOR SAMPLES

SampleID	Laboratory ID	Matrb:	'fype	Data Sampled	Data Received
1910107-01	19J2212-01	Wastewater	Composite	10/15/19 06:00	10/17/19 13:15
1910107-03	19J2212-02	Wastewater	Composite	10/15/19 06:00	10/17/19 13:15
1910114-01	19J2212-03	Wastewater	Grab	10/15/1913:50	10/17/1913:15
1910121-01	19J2212-04	Solid (Dry Weight)	Grab	10/16/19 09:00	10/17/1913:15
1910123-01	19J2212-05	Wastewater	Grab	10/16/19 12:15	10/17/19 13:15

Sample Condition Upon Receipt:

Temperature: 1.00 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed on a "wet" basis unless designated as "dry weight".

Pima County RWRD CRAO Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Cyanide Project Number: 10/17/19 Project Manager: Joe Doranski	Reported: 11/06/19 16:29

1910107-01 (19J2212-01) Wastewater (Composite) Sampled: 10115119 06:00 Received: 1011711913:15

Analyte	Result	MDL	R I	Units	DUulion	Batch	Prepared	Analyzed	Method	Notes
Le nd Technical Services of Arizona, Inc.										
Inorganic Chemistry										
Sulfate as S04	113	0.u0	1.00	mg/l.	10	B9J1645	1001/19 09:00	1«rl2/19 03:04	EPA 30D.a	0 2

1910107-03 (19J2212-02) Wastewater (Composite) Sampled: 10115119 06:00 Received: 10117119 13:15

Analyte	Result	MDL	RL	Units	Dliution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.										
Inorganic C_hemlstry										
Sulfate as S04	174	0.880	1.00	mg/l.	10	B9J1645	10/21/19 09:00	1002/19 03:31	EPA300.0	0 2

1910114-01 (19J2212-03) Wastewater (Grab) Sampled: 10115119 13:50 Received: 10117/1913:15

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.										
Inorganic Chemistry										
Cyanide, amenable	<	3	10.	ug/L	1	B9J1782	10/23/1911:30	10/23/1915:05	SM4500CNG	N7
Cyanide, Total	8	3	10	ug/L	1	B9J1782	1003/1911:30	1003/1915:05	SM4500 CN E	E4

1910121-01 (19J2212-04) Solid (Dry Weight) (Grab) Sampled: 10116/19 09:00 Received: 1011711913:15

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.										
Inorganic Chemistry										
Cyanide, Total	<	2.07	6.90	mg/kg dry	1	B&J1826	1005/19 08:13	10/25/191◄:25	EPA&D14	EB
% Solids	. 1		1	%	1	B9J1883	10/23/1913:40	10/23/19 13:◄0	SM 2540 G	

1910123-01 (19J2212-05) Wastewater (Grab) Sampled: 10116/1912:15 Received: 10/1711913:15

Analyte	Result	MDL	RL	Units	Dilution	Batch.	Prepared	Analyzed	Method	Notes
Legend Technical Services of AriZona, Inc.										
Inorganic Chemistry										
Cyanide, Total	<	3	10	ug/L	1	B8J1782	1003/1911:30	10f23/1915:05	SM 4500 CN E	EB

Pima County RWRD <RAC? Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Cyanide Project Number: 10/17/19 Project Manager: Joe Doranski	Reported: 11/06/19 16:29

Notes and Definitions

N7	Additional analysis was not performed based on the "Total" result which was below the requested analyte's MCUAction Level/Trigger .Level.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
E3	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 the MDL
D2	Sample required dilution due to high concentration of target analyte.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

1912212

CHAIN OF-CUSTODY RECORD

LEGEND Technical Services, Inc.
017631 N 25th Aven1!9 • Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 32-HI101
04585 S, Palo Verda Rd, Ste 423 • Tucaon, AZ 85714 • (52'0) 327-1234 • Fax (520) 327-0518

Page J of I

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O No	
Cyanide		Joe Doranski	20-011428	Fax Results ☐ Email Results ☑ QC Report ☐ EDD ☑ Special Detection Limits ☐

SAMPLE TYPE CODES: 0Ws0r1nking; S=Soll/Solid; Wlii.•; TmTnwel Blank; WW-W11lawal•; F=Food; SW=&Jrf11C8; CPSludgalliiD.,lldll; Waler; GW-Gl'lll.lldwlter; O=Other

TURN AROUND TIME: Laboratory Authorization Required for Rush; Standlinl 10-15 Day; 0 Other

REQUESTED ANALYSES

Client Sample Identification	Date	Time	Sample Location	Composite	G	Sample !	Compliance	No. of Containers	pH (Lab Use Only)	Amenable cyanide	Total cyanide	Sulfate	Total cyanide mg/kg	T% S for mg/kg dry weig	LAB NO.
1910107-01	10/15/19	600	Trea Rios WRF - raw Influent	X		WW	X	1				X			01
1910107-03	10/16119	600	Tres Rios WRF - final effluent #3	X		WW	X	1				X			02
1910114-01	10/15/19	1350	Trea Rios WRF - final effluent #3		X	WW	X	1		X	X				03
1910121-01	10/18/19	900	Avra Valley WRF - wet haul sludge		X	G	X	2					X	X	04
1910123-01	10/16/19	1215	Learjet Inc. - PL#1		X	WW		1			X				05

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments / Special Instructions:

SAMPLE CONDITION UPON RECEIPT (LAB Use Only)

No of Containers		
Temperature	1.6 °C	
Custody Seals	Y	N
Seals Intact	Y	N
Preserved	Y	N

	RELINQUISHED BY	Date	Time	SAMPLES RECEIVED BY	Date	Time
①	Sampler Signature / Sampler Printed Name: Greg Spence	10/17/19	1281	Signature / Printed Name: Cesy Sc	10/17/19	253
②	Signature / Printed Name: Cesy Sc	10/17/19	1600	Signature / Printed Name: Courier	10/17/19	1600
③	Signature / Printed Name: Courier	10/18/19	1010	Signature / Printed Name: Sisum	10/18/19	1010

WHITE-LAB YELLOW-CLIENT

PAGE LEFT BLANK INTENTIONALLY

ANNUAL BIOSOLIDS REPORT 2019

SECTION 7

GREEN VALLEY BNROD
AZPDES NO. AZ0024937

2019 PREPARER FORM

AND

SAMPLE ANALYSIS RESULTS
PRIORITY POLLUTANTS
TCLP
HAZARDOUSNESS

ANNUAL BIOSOLIDS REPORT 2019

PAGE LEFT BLANK INTENTIONALLY

ANNUAL BIOSOLIDS REPORT 2019

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:1/1/2019	**Reporting End Date: 12/31/2019**
Date:2/18/2020	**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)?

413 (Four Hundred and Thirteen) 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: Jeff F. Prevatt; Deputy Director - Treatment	February 18, 2020

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

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, mg/Kg			
Arsenic	EPA Method 6010 - Arsenic (ICP-OES)	< 10.9 / < 12.9 / < 10.1	Mean / Maximum / Minimum
Beryllium	EPA Method 6010 - Arsenic (ICP-OES)	< 2.0 / < 2.6 / < 1.5	Mean / Maximum / Minimum
Cadmium	EPA Method 6010 - Cadmium (ICP-OES)	< 3.9 / < 5.1 / < 2.9	Mean / Maximum / Minimum
Chromium	EPA Method 6010 - Chromium (ICP-OES)	< 11.5 / < 12.9 / 10.1	Mean / Maximum / Minimum
Copper	EPA Method 6010 - Copper (ICP-OES)	214 / 258 / 149	Mean / Maximum / Minimum
Lead	EPA Method 6010 - Lead (ICP-OES)	< 10.0 / < 12.9 / 8.3	Mean / Maximum / Minimum
Mercury	EPA Method 7471 - Mercury (CVAA)	< 0.52 / 0.7 / < 0.24	Mean / Maximum / Minimum
Molybdenum	EPA Method 6010 - Molybdenum (ICP-OES)	7.4 / 9.9 / 6.1	Mean / Maximum / Minimum
Nickel	EPA Method 6010 - Nickel (ICP-OES)	< 10.7 / < 12.9 / 9.7	Mean / Maximum / Minimum
Selenium	EPA Method 6010 - Selenium (ICP-OES)	< 19.5 / < 25.7 / < 14.6	Mean / Maximum / Minimum
Thallium	EPA Method 6010 - Thallium (ICP-OES)	< 9.7 / < 12.9 / < 7.3	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

Parameter	*Method Number or Author*	*Results (if tested)*	*Comments (required if other)*
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 Metals, Mg/L	TCLP/EPA 6010D	As < 0.03 < 0.0 < 0.03 Ba 0.081 0.081 0.030 Cd < 0.01 < 0.0 < 0.01 Cr < 0.03 < 0.0 < 0.03 Pb < 0.03 < 0.0 < 0.03 Hg Total <20X *TCLP* Se < 0.06 < 0.1 < 0.06 Ag < 0.00 < 0.0 < 0.00 **Sample Analysis Results Included in Section 5 of this Report**	Mean / Maximum / Minimum
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 **3.2 / 5.3 / 2.3**	Mean / Maximum / Minimum
Volatile Solids	SM 2540G	85.7 / 87.6 / 83.3	Mean / Maximum / Minimum

PIMA COUNTY
wmtwm••FcLAM•r10N
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: 05/09/2019
Laboratory License: AZO159

Sample Analysis Report

Green Valley WRF

January 2019

Sample Inte2rity

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 6.7.19

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

Date

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Dateffime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1901162-01	D	Chlorine	01/23/19 7:15	HACH8167	1/23/19 07:15	**6.23**	mg/L		0.23		SMPLR
190 I1 62-01	D	Temperature	01/23/19 7:15	SM2550B	1/23/19 07:15	**16.9**	oc		0.10		SMPLR
1901162-01	D	pH	01/23/19 7:15	SM4500HB	1/23/19 07:15	**7.4**	pH Units				SMPLR
1901162-01	D	Temp at time of pH, °C	01/23/19 7:15	SM4500HB	1/23/19 07:15	**17.8**	oc				SMPLR
1901162-01	D	E.Coli	01/23/19 7:15	SM9223B	1/24/19 12:33	**<1**	MPN/100 mL		1.0		SOR
1901171-01	D	Chlorine	01/24/19 7:45	HACH8167	1/24/19 07:45	**3.44**	mg/L		0.23		SMPLR
1901171-01	D	Temperature	01/24/19 7:45	SM2550B	1/24/19 07:45	**17.5**	oc		0.10		SMPLR
1901171-01	D	pH	01/24/19 7:45	SM4500HB	1/24/19 07:45	**7.5**	pH Units				SMPLR
1901171-01	D	Temp at time-of pH, °C	01/24/19 7:45	SM4500_HB	1/24/19 07:45	**17.0**	oc				SMPLR
1901171-01	D	E.Coli	01/24/19 7:45	SM 9223B	1/25/19 12:27	**<1**	MPN/lOOmL		1.0		JAH
1901196-01	D	Chlorine	01/28/19 7:00	HACH8167	1/28/19 07:00	**6.07**	mg/L		0.23		SMPLR
1901196-01	D	Temperature	01/28/19 7:00	SM2550B	1/28/19 07:00	**17.2**	oc		0.10		SMPLR
1901196-01	D	pH	01/28/19 7:00	SM4500HB	1/28/19 07:00	**7.3**	pH Units				SMPLR
1901196-01	D	Temp at time of pH, °C	01/28/19 7:00	SM4500HB	1/28/19 07:00	**17.8**	oc				SMPLR
1901196-01	D	E.Coli	01/28/19 7:00	SM 9223B	1/29/19 13:03	**<1**	MPN/lOOmL		1.0		SOR
1901204-01	D	Chlorine	01/29/19 7:00	HACH8167	1/29/19 ·01:00	**6.23**	mg/L		0.23		SMPLR
1901204-01	D	Temperature	01/29/19 7:00	SM2550B	1/29/19 07:00	**18.2**	oc		0.10		SMPLR
1901204-01	D	pH	01/29/19 7:00	SM4500HB	1/29/19 07:00	**7.3**	pH Units				SMPLR
1901204-01	D	Temp at time of pH, °C	01/29/19 7:00	SM4500HB	1/29/19 07:00	**18.7**	oc				SMPLR
1901204-01	D	E.Coli	01/29/19 7:00	SM9223B	1/30/19 12:42	**<1**	MPN/100 mL		1.0		DEB
1901213-01	D	Chlorine	01/30/19 7:00	HACH8167	1/30/19 07:00	**6.01**	mg/L		0.23		SMPLR
1901213-01	D	Temperature	01/30/19 7:00	SM2550B	1/30/19 07:00	**17.9**	oc		0.10		SMPLR
1901213-01	D	pH	01/30/19 7:00	SM4500HB	1/30/19 07:00	**7.4**	pH Units				SMPLR
1901213-01	D	Temp at time of pH, °C	01/30/19 7:00	SM4500HB	1/30/19 07:00	**18.7**	oc				SMPLR
1901213-01	D	E.Coli	01/30/19 7:00	SM9223B	1/31/19 12:46	**<1**	MPN/100 mL		1.0		AV
1901220-01	D	Chlorine	01/31/19 8:25	HACH8167	1/31/19 08:25	**1.09**	mg/L		0.23		SMPLR
1901220-01	D	Temperature	01/31/19 8:25	SM2550B	1/31/19 08:25	**17.9**	oc		0.10		SMPLR
1901220-01	D	pH	01/31/19 8:25	SM4500 HB	1/31/19 08:25	**7.5**	pH Units				SMPLR
1901220-01	D	Temp at time of pH, °C	01/31/19 8:25	SM4500 HB	1/31/19 08:25	**18.0**	oc				SMPLR
1901220-01	D	E.Coli	01/31/19 8:25	SM 9223B	2/1/19 12:46	**2.0**	MPN/lOOmL		1.0		AV
BNROD-Final Effluent-Process Control (25000-1925)											
1901015-05	C	Ammonia	01/02/19 8:00	-EPA350.1	1/3/19 13:00	**ND**	mg/L	0.13	0.50		AJH
1901015-05	C	Nitrate/Nitrite	01/02/19 8:00	EPA353.2	1/9/19 12:08	**0.79**	mg/L	0.03	0.20		AJH
1901015-05	C	Total Kjeldahl Nitrogen	01/02/19 8:00	EPA351.2	1/8/19 II :31	**1.42**	mg/L	0.30	0.80		MGA
1901015-05	C	Nitrogen Total Water	01/02/19 8:00	Calculated	1/9/19 12:08	**2.21**	mg/L	0.30	0.80		MGA
1901015-05	C	Alkalinity Total	01/02/19 8:00	SM2320B	1/2/19 16:50	**166**	mg/L		20.00		SOR
1901015-05	C	Bicarbonate Alkalinity	01/02/19 8:00	SM2320B	1/2/19 16:50	**166**	mg/L		20.00		SOR
1901015-05	C	Biochemical Oxygen Demand	01/02/19 8:00	SM5210B	1/8/19 06: 12	**2.2**	mg/L		2.00		DEB
1901015-05	C	Total Suspended Solids	01/02/19 8:00	SM2540D	1/3/19 12:51	**ND**	mg/L		2.50		ESW
BNRODMLSS (25000-1940)											
1901015-06	D	Total Suspended Solids	·01/02/19 8:15	SM2540D	1/3/19 12:51	**1790**	mg/L		2.50		ESW
1901015-06	D	Total Volatile Suspended SolidsO	1/02/19 8:15	EPA 1604	1/3/19 14:20	**1570**	mg/L		2.50		ESW
BNROD-South Aerobic Digester Sludge (25000-1960)											
1901015-02	D	%Solids	01/02/19 9:00	SM2540G	1/3/19 13:27	**3.68**	%		0.01		ANM
1901015-02	D	% Solids, Total Volatile	01/02/19 9:00	SM2540G	1/3/19 15:59	**86.8**	%		0.01		ANM
Wet Haul Sludge (25000-1962)											
1901174-01	D	2,4,5-TP (Silvex)	01/24/19 9:15	8151A	2/2/19 05:29	**ND**	ug/l		2.0	RP *	
1901174-01	D	2,4-D	01/24/19 9:15	8151A	2/2/19 05:29	**ND**	ug/l		2.0	RP *	
• Analysis Performed by:ESC AZ0612 - See attached contract lab report for official results.											
1901174-01	D	Antimony	01/24/19 9:15	EPA6010D	2/19/19 12:3 7	**ND**	nig/kgdry		12.85		MLB

Lab ID:	Sample Type	Parameter	Sample Date/fi e	Analysis Method	. Analysis Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1901174-01	D	Arsenic	01/24/19 9:15	EPA6010D	2/19/19 11:02	**ND**	mg/kg dry		12.85		MLB
1901174-01	D	Beryllium	01/24/19 9:15	EPA6010D	2/19/19 11:02	**ND**	mg/kg dry		2.57		MLB
1901174-01	D	Cadmium	01/24/19 9:15	EPA6010D	2/19/19 11:02	**ND**	mg/kg dry		5.14		MLB
1901174-01	D	Chromium	01/24/19 9:15	EPA60!0D	2/19/19 11:02	**ND**	mg/kg dry		12.85		MLB
1901174-01	D	Copper	01/24/19 9:15	EPA6010D	2/19/19 11:02	**149**	mg/kg dry		12.85		MLB
1901174-01	D	Lead	01/24/19 9:15	EPA60!0D	2/19/19 11:02	**ND**	mg/kg dry		12.85		MLB
1901174-01	D	Merc1 1ry	01/24/19 9:15	EPA 7471B	2/5/19 14:49	**ND**	mg/kg dry		0.24		MJC
1901174-01	D	Molybdenum	01/24/19 9:15	EPA6010D	2/19/19 11:02	**6.05**	mg/kg dry		5.14		MLB
1901174-01	D	Nickel	01/24/19 9:15	EPA6010D	2/19/19 11:02	**ND**	mg/kg dry		12.85		MLB
1901174-01	D	Selenium	01/24/19 9:15	EPA6010D	2/19/19 11:02	**ND**	mg/kg dry		25.69		MLB
1901174-01	D	Silver	01/24/19 9:15	EPA6010D	2/19/19 11:02	**1.97**	mg/kg dry		1.28		MLB
1901174-01	D	Arsenic	01/24/19 9:15	TCLP/EPA6010D	3/1/19 15:03	**ND**	mg/L		0.03		MLB
1901174-01	D	Barium	01/24/19 9:15	TCLP/EPA6010D	3/1/19 15:03	**0.0812**	mg/L		O.Q3		MLB
1901174-01	D	Cadmium	01/24/19 9:15	TCLP/EPA6010D	3/1/19 15:03	**ND**	mg/L		0.01		MLB
1901174-01	D	Chromium	01/24/19 9:15	TCLP/EPA6010D	3/1/19 15:03	**ND**	mg/L		0.03		MLB
1901174-01	D	Lead	01/24/19 9:15	TCLP/EPA60!0D	3/1/19 16:39	**ND**	mg/L		0.03		MLB
1901174-01	D	Mercury	01/24/19 9:15	TCLP/EPA 7470A	2/15/19 13:18	**NA**	mg/L		0.00	N7	MJC
1901174-01	D	Selenium	01/24/19 9:15	TCLP/EPA6010D	3/1/19 16:39	**ND**	mg/L		0.06		MLB
1901174-01	D	Silver	01/24/19 9:15	TCLP/EPA60!0D	3/1/19 15:03	**ND**	mg/L		0.0029		MLB
190.1174-01	D	Thallium	01/24/19. 9:15	EPA6010D	2/19/19 11:02	**ND**	mg/kg dry		12.85		MLB
1901174-01	D	Zinc	01/24/19 9:15	EPA6010D	2/19/19 11:02	**311**	mg/kg dry		12.85		MLB
1901174-01	D	Cyanide, Total	01/24/19 9:15	EPA9014	2/1/19 13:52	**ND**	mg/kg dry	0.595	1.98	ES	AM *
• Analysis Performed by:Legend Technical Services of Arizona, Inc. - See attached contract lab report for official results..											
1901174-01	D	%Solids	01/24/19 9:15	SM2540G	1/29/19 16:35	**5**	%		**1**	R 9	SLL *
• Analysis Performed by:Legend Technical Services of Arizona, Inc. - See attached contract lab report for official results.											
1901174-01	D	% Solids	01/24/19 9:15	SM2540G	1/25/19 13:53	**4.22**	%		0.01		ANM
1901174-01	D	Acrolein	01/24/19 9:15	EPA624	2/5/19 13:10	**ND**	mg/kg dry	0.0202	0.10		JEL
1901174-01	D	Acrylonitrile	o·l/24/19 9:15	EPA624	2/5/19 13:10	**ND**	mg/kg dry	0.0350	0.10		JEL
1901174-01	D	4,4-DDD	01/24/19 9:15	EPA625	2/5/19 04:20	**0.19564**	mg/kg dry	0.00362	O.OJ		MCD
1901174-01	D	4,4-DDE	01/24/19 9:15	EPA625	2/5/19 04:20	**0.10535**	mg/kg dry	0.00190	0.01		MCD
1901174-01	D	4,4-DDT	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00359	0.02		MCD
1901174-01	D	Aldrin	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00411	0.01		MCD
1901174-01	D	alpha-BHC	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00226	0.01		MCD
1901174-01	D	beta-BHC	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00545	0.03		MCD
1901174-01	D	Chlordane	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.01606	0.06		MCD
1901174-01	D	delta-BHC	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00422	0.01		MCD
1901174-01	D	Dieldrin	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00946	0.02		MCD
1901174-01	D	Endosulfan I	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00276	0.01		MCD
1901174-01	D	Endosulfan II	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00195	0.01		MCD
1901174-01	D	Endosulfan sulfate	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00269	0.01		MCD
1901174-01	D	Endrin	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00620	0.01		MCD
1901174-01	D	Endrin aldehyde	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00698	0.01		MCD
1901174-01	D	gamma-BHC (Lindane)	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00471	0.01		MCD
1901174-01	D	Heptachlor	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00302	0.01		MCD
1901174-01	D	Heptachlor Epoxide	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00226	0.01		MCD
1901174-01	D	PCB 1016	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00394	0.02		MCD
1901174-01	D	PCB 1221	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.01079	0.05		MCD
1901174-01	D	PCB 1232.	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00444	0.05		MCD
1901174-01	D	PCB 1242·	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00825	0.05		MCD
1901174-01	D	PCB 1248	01/24/19 9:15	EPA625	2/5/1 04:20	**ND**	mg/kg dry	0.00667	0.05		MCD
1901174-01	D	PCB 1254	01/24/19 9:15	EPA625.	2/5/19 04:20	**ND**	mg/kg dry	0.01206	0.05		MCD
1901174-01	D	PCB 1260	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.00457	0.02		MCD
1901174-01	D	Total PCBs	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.01016	0.05		MCD
1901174-01	D	Toxaphene	01/24/19 9:15	EPA625	2/5/19 04:20	**ND**	mg/kg dry	0.05988	0.13		MCD
1901174-01	D	Methoxychlor	01/24/19 9:15	EPA8270C	2/5/19 04:20	**ND**	mg/kg dry	0.00004	0.00024		MCD
1901174-01	D	1,1,l-Trichloroethane	01/24/19 9:15	EPA624	1/31/19 18:15	**ND**	mg/kg dry	0.004	0.01		ADP
1901174-01	D	l, 1,2,2-Tetrachloroethane	01/24/19 9:15	EPA624	1/31/19 18:15	**ND**	mg/kg dry	0.001	0.01		ADP
1901174 01	D	l, 1,2-Trichloroethane	01/24/19 9:15	EPA624	1/31/19 18:15	**ND**	mg/kg dry	0.002	0.01		ADP
1901174-01	D	1,1-Dichloroethane	01/24/19 9:15	EPA624	1/31/19 18:15	**ND**	mg/kg dry	0.003	0.01		ADP
1901174-01	D	1,1-Dichloroethene	01/24/19 9:15	EPA624	1/31/19 18:15	**ND**	mg/kg dry	0.002	0.01		ADP

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Dateffime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1901174-01	D	1,2-Dichlorobenzene	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.002	0.Ql		ADP
1901174-01	D	1,2-Dichloroethane	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.002	0.Ql		ADP
1901174-01	D	1,2-Dichloropropane	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.002	0.Ql		ADP
1901174-01	D	1,3-Dichlorobenzene	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.002	0.Ql		ADP
1901174-01	D	1,4-Dichlorobenzene	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.003	0.01		ADP
1901174-01	D	2-Chloroethyl vinyl ether	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.005	0.01		ADP
1901174-01	D	Benzene	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.002	0.Ql		ADP
1901174-01	D	Bromodichloromethane	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.005	0.01		ADP
1901174-01	D	Bromoform	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.006	0.01		ADP
1901174-01	D	Bromomethane	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.003	0.01		ADP
1901174-01	D	Carbon Tetrachloride	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.007	0.Ql		ADP
1901174-01	D	Chlorobenzene	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.001	0.01		ADP
1901174-01	D	Chloroethane	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.004	0.01		ADP
1901174-01	D	Chloroform	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.003	0.01		ADP
1901174-01	D	Chloromethane	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.004	0.01		ADP
1901174-01	D	cis-1,3-Dichloropropene	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.002	0.01		ADP
1901174-01	D	Dibromochloromethane	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.001	0.Ql		ADP
1901174-01	D	Ethyl Benzene	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.002	0.01		ADP
1901174-01	D	Methylene Chloride	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.004	0.01		ADP
1901174-01	D	Tetrachloroethene	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.004	0.01		ADP
1901174-01	D	Toluene	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.003	0.01		ADP
1901174-01	D	Total Trihalomethanes	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.006	0.01		ADP
1901174-01	D	trans-1,2-Dichloroethene	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.003	0.Ql		ADP
1901174-01	D	trans-1,3-Dichloropropene	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.002	O.oI		ADP
1901174-01	D	Trichloroethene	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.003	0.01		ADP
1901174-01	D	Trichlorofluoromethane	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.005	0.01		ADP
1901174-01	D	Vinyl chloride	01/24/19 9:15	EPA624	1/31/19 18:15	ND	mg/kg dry	0.004	0.01		ADP
1901174-01	D	1,2,4-Trichlorobenzene	01/24/19 9:15	EPA8260	1/31/19 18:15	ND	mg/kg dry	0.002	0.01		ADP
1901174-01	D	1,2-Dibromo-3-chloropropane	01/24/19 9:15	EPA8260	1/31/19 18:15	ND	mg/kg dry	0.002	0,02		ADP
1901174-01	D	1,2-Dibromoethane	01/24/19 9:15	EPA8260	1/31/19 18:15	ND	mg/kg dry	0.002	0.01		ADP
1901174-01	D	cis-1,2-Dichloroethene	01/24/19 9:15	EPA8260	1/31/19 18:15	ND	mg/kg dry	0.004	0.01		ADP
1901174-01	D	m,p-Xylenes	01/24/19 9:15	EPA8260	1/31/19 18:15	ND	mg/kg dry	0.003	0.02		ADP
1901174-01	D	o-Xylene	01/24/19 9:15	EPA8260	1/31/19 18:15	ND	mg/kg dry	0.002	0.01		ADP
1901174-01	D	Styrene.	01/24/19 9:15	EPA8260	1/31/19 18:15	ND	mg/kg dry	0.002	0.01		ADP
1901174-01	D	Xylenes, total	01/24/19 9:15	EPA8260	1/31/19 18:15	ND	mg/kg dry	0.003	0,02		ADP
1901174-01	D	2,3,7,8-TCDD-DioxinScan	01/24/19 9:15	EPA625	3/1/19 15:34	ND	ug/kg dry		0.59		SJM
1901174-01	D	1,2,4-Trichlorobenzene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901174-01	D	2,3-Dichloroaniline	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1901174-01	D	2,4,6-Trichlorophenol	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901174-01	D	2,4-Dichlorophenol	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0,07	0.08	D1,D7	SJM
1901174-01	D	2,4-Dimethylphenol	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.14	0.24	D1,D7	SJM
1901174-01	D	2,4-Dinitrophenol	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.34	0.80	D1,D7, VI	SJM
1901174-01	D	2,4-Dinitrotoluene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.09	0.24	D1,07	SJM
1901174-01	D	2,6-Dinitrotoluene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901174-01	D	2-Chloronaphthalene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901174-01	D	2-Chlorophenol	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901174-01	D	2-Methyl-4,6-dinitrophenol	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.21	0.24	D1,D7, VI	SJM
1901174-01	D	2-Methylphenol	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901174-01	D	2-Nitrophenol	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.11	0.24	D1,D7	SJM
1901174-01	D	3,3-Dichlorobenzidine	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.09	0.20	D1,D7	SJM
1901174-01	D	4-Bromophenyl phenyl ether	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901174-01	D	4-Chloro-3-methylphenol	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1901174-01	D	4-Chlorophenyl phenyl ether	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1901174-01	D	4-Methylphenol	01/24/19 9:15	EPA625	2/19/19 20:01	260.8	mg/kg dry	0.07	0.08	D1,D2,D7	SJM
1901174-01	D	4-Nitrophenol	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.19	0.24	D1,D7	SJM
1901174-01	D	Acenaphthene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901174-01	D	Acenaphthylene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1901174-01	D	Anthracene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1901174-01	D	Benzidine	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.26	0.40	D1,D7	SJM
1901174-01	D	Benzo[a]anthracene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.05	0.08	D1,D7	SJM

Lab ID:	Sample Type	Parameter	Sample Date/fime	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1901174-01	D	Benzo[a]pyrene	01/24/19 9:15	EPA625	2/19/19 21: 15	ND	mg/kg dry	0.08	0.08	D7, DI	SJM
1901174-01	D	Benzo[b Jnuoranthene	01/24/19 9:15	EPA625	2/19/19 21 :15	ND	mg/kg dry	0.06	0.08	DI, 07	SJM
1901174-01	D	Benzo[ghi]perylene	01/24/19 9:15	EPA625	2/19/19 21 :15	ND	mg/kg dry	0.12	0.24	DI, 07	SJM
1901174-01	D	Benzo[k]fluoranthene	01/24/19 9:15	EPA625	2/19/19 21 :15	ND	mg/kg dry	0.09	0.24	DI, 07	SJM
1901174-01	D	bis(2-chloroethoxy)methane	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.08	0.08	DI, 07	SJM
1901174-01	D	bis(2-chloroethyl)ether	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.08	0.24	01,07	SJM
1901174-01	D	bis(2-chloroisopropyl)ether	01/24/19 9:15	EPA 625	2/19/19 21:15	ND	mg/kg dry	O.o?	0.08	DI, 07	SJM
1901174-01	D	bis(2-ethylhexyl)phthalate	01/24/19 9:15	EPA 625	2/19/19 21 :15	ND	mg/kg dry	0.11	0.24	DI, 07	SJM
1901174-01	D	Butylbenzylphthalate	01/24/19 9:15	EPA 625	2/19/19 21:15	ND	mg/kg dry	0.08	0.08	DI, 07	SJM
1901174-01	D	Carbazole	01/24/19 9:15	EPA 625	2/19/19 21:15	ND	mg/kg dry	0.11	0.24	DI, 07	SJM
1901174-01	D	Chrysene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.05	0.08	DI, 07	SJM
1901174-01	D	Dibenzo(a,h)anthracene	01/24/19 9:15	EPA 625	2/19/19 21:15	ND	mg/kg dry	0.12	0.24	07, DI	SJM
1901174-01	D	Diethyl phthalate	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.09	0.24	DI, 07	SJM
1901174-01	D	Dimethyl phthalate	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.02	0.08	01,07, VI	SJM
1901174-01	D	Di-n-butyl phthalate	01/24/19 9:15	EPA625	2/19/19 21:15	5.26	mg/kg dry	0.10	0.24	DI, 07	SJM
1901174-01	D	Di-n-octyl phthalate	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.10	0.24	DI, 07	SJM
1901174-01	D	Fluoranthene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.05	0.08	01,07	SJM
1901174-01	D	Fluorene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.06	0.08	DI, 07	SJM
1901174-01	D	Hexachlorobenzene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.02	0.08	DI, 07	SJM
1901174-01	D	Hexachlorobutadiene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.04	0.08	DI, 07	SJM
1901174-01	D	Hexachlorocyclopentadiene	01/24/19 9:15	EPA 625	2/19/19 21:15	ND	mg/kg dry	0.17	0.24	DI, 07	SJM
1901174-01	D	Hexachloroethane	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.05	0.08	DI, 07	SJM
1901174-01	D	lndeno(1,2,3-cd)pyrene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.11	0.24	DI, 07	SJM
1901174-01	D	lsophorone	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.◊7	0.08	DI, 07	SJM
1901174-01	D	Naphthalene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.07	0.08	DI, 07	SJM
1901174-01	D	n-Decane	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1901174-01	D	Nitrobenzene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.08	0.24	DI, 07	SJM
1901174-01	D	N-Nitrosodimethylamine	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.08	0.24	DI, D7, PC3	SJM
1901174-01	D	N-Nitrosodi-n-propylamine	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.10	0.24	DI, 07	SJM
1901174-01	D	N-Nitrosodiphenylamine	01/24/19 9:15	EPA625	2/19/19 21: 15	ND	mg/kg dry	0.24	0.40	DI, 07	SJM
1901174-01	D	n-Octadecane	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.09	0.24	DI, 07	SJM
1901174-01	D	Pentachlorophenol	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.16	0.24	DI, 07	SJM
1901174-01	D	Phenanthrene	01/24/19 9:15	EPA 625	2/19/19 21:15	ND	mg/kg dry	0.07	0.08	DI, 07	SJM
1901174-01	D	Phenol	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.10	0.24	DI, 07	SJM
1901174-01	D	Pyrene	01/24/19 9:15	EPA625	2/19/19 21:15	ND	mg/kg dry	0.06	0.08	DI, 07	SJM
1901174-01	D	1,2-Diphenylhydrazine	01/24/19 9:15	EPA 8270C	2/19/19 21:15	ND	mg/kg dry	0.04	0.08	DI, 07	SJM
1901174-01	D	1,4-Dichlorobenzene	01/24/19 9:15	EPA 8270C	2/19/19 21:15	ND	mg/kg dry	0.05	0.08	DI, 07	SJM
1901174-01	D	2,4,5-Trichlorophenol	01/24/19 9:15	EPA 8270C	2/19/19 21:15	ND	mg/kgdry	0.10	0.24	DI, 07	SJM
1901174-01	D	3 & 4-Methylphenol	01/24/19 9:15	EPA8270C	2/19/19 21:15	250	mg/kg dry	0.09	0.24	DI, 07	SJM
1901174-01	D	Pyridine	01/24/19 9:15	EPA 8270C	2/19/19 21:15	ND	mg/kg dry	0.06	0.08	01,07	SJM
1901174-01	D	Chlordane	01/24/19 9:15	TC LP/EPA 8270C	2/5/19 04 :20	NA	ug/L	1.38	3.00	N7	MCD
1901174-01	D	Endrin	01/24/19 9:15	TCLP/EPA 8270C	2/5/ 19 04 :20	NA	ug/L	0.200	0.50	N7	MCD
1901174-01	D	gamma-BHC (Lindane)	01/24/19 9:15	TCLP/EPA 8270C	2/5/19 04:20	NA	ug/L	0.270	0.50	N7	MCD
1901174-01	D	Heptachlor	01/24/19 9:15	TCLP/EPA 8270C	2/5/19 04 :20	NA	ug/L	0.270	0.50	N7	MCD
1901174-01	D	Heptachlor Epoxide	01/24/19 9:15	TCLP/EPA 8270C	2/5/19 04 :20	NA	ug/L	0.290	0.50	N7	MCD
1901174-01	D	Methoxychlor	01/24/19 9:15	TC LP/EPA 8270C	2/5/1 9 04 :20	NA	ug/L	0.270	0.50	N7	MCD
1901174-01	D	Toxaphene	01/24/19 9:15	TCLP/EPA 8270C	2/5/19 04:20	NA	ug/L	3.79	6.00	N7	MCD
1901174-01	D	I, 1-Dichloroethene	01/24/19 9:15	TCLP/EPA 82608	1/31/19 18: 15	NA	ug/L	0.110	0.50	N7	ADP
1901174-01	D	1,2-Dichloroethane	01/24/19 9:15	TCLP/EPA 82608	1/31/19 18: 15	NA	ug/L	0.0900	0.50	N7	ADP
1901174-01	D	1,4-Dichlorobenzene	01/24/19 9:15	TCLP/EPA82608	1/31/19 18:15	NA	ug/L	0.170	0.50	N7	ADP
1901174-01	D	Benzene	01/24/19 9:15	TCLP/EPA 82608	1/31/19 18: 15	NA	ug/L	0.110	0.50	N7	ADP
1901174-01	D	Carbon Tetrachloride	01/24/19 9:15	TCLP/EPA82608	1/31/19 18:15	NA	ug/L	0.340	0.50	N7	ADP
1901174-01	D	Chlorobenzene	01/24/19 9:15	TCLP/EPA 82608	1/31/19 18: 15	NA	ug/L	0.0600	0.50	N7	ADP
1901174-01	D	Chloroform	01/24/19 9:15	TCLP/EPA 8260B	1/31/19 18: 15	NA	ug/L	0.140	0.50	N7	ADP
1901174-01	D	Hexachlorobutadiene	01/24/19 9:15	TCLP/EPA 82608	I/3 1/19 18: 15	NA	ug/L	0.230	0.50	N7	ADP
1901174-01	D	Methyl Ethyl Ketone	01/24/19 9:15	TCLP/EPA 82608	1/31/19 18: 15	NA	ug/L	0.290	0.50	N7	ADP
1901174-01	D	Tetrachloroethene	01/24/19 9:15	TCLP/EPA 82608	1/31/19 18: 15	NA	ug/L	0.180	0.50	N7	ADP
1901174-01	D	Trichlorocthene	01/24/19 9:15	TCLP/EPA82608	1/31/19 18:15	NA	ug/L	0.130	0.50	N7	ADP
1901174-01	D	Vinyl chloride	01/24/19 9:15	TCLP/EPA82608	1/31/19 18:15	NA	ug/L	0.210	0.50	N7	ADP
1901174-01	D	1,4-Dichlorobenzene	01/24/19 9:15	TC LP/EPA 8270C	2/ 19/19 21 : 15	NA	ug/L dry	1.37	2.00	N7	SJM

Lab ID:	Sample Type	Parameter	Sample Date/fime	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1901174-01	D	2,4,5-Trichlorophenol	01/24/19 9:15	TCLP/EPA8270C	2/19/19 21:15	**NA**	ug/L dry	2.46	10.00	N7	SJM
1901174-01	D	2,4,6-Trichlorophenol	01/24/19 9:15	TCLP/EPA8270C	2/19/19 21:15	**NA**	ug/L dry	1.14	5.00	N7	SJM
1901174-01	D	2,4-Dinitrotoluene	01/24/19 9:15	TCLP/EPA8270C	2/19/19 21:15	**NA**	ug/L dry	1.44	5.00	N7	SJM
1901174-01	D	2-Methylphenol	01/24/19 9:15	TCLP/EPA8270C	2/19/19 21:15	**NA**	ug/L dry	1.09	2.00	N7	SJM
1901174-01	D	3 & 4-Methylphenol	01/24/19 9:15	TCLP/EPA8270C	2/19/19 21:15	**NA**	ug/L_dry	1.07	4.00	N7	SJM
1901174-01	D	Hexachlorobenzene	01/24/19 9:15	TCLP/EPA8270C	2/19/19 21:15	**NA**	ug/L dry	0.610	2.00	N7	SJM
1901174-01	D	Hexachlorobutadiene	01/24/19 9:15	TCLP/EPA8270C	2/19/19 21:15	**NA**	ug/Ldry	0.880	2.00	N7	SJM
1901174-01	D	Hexachloroethane	01/24/19 9:15	TCLP/EPA8270C	2/19/19 21:15	**NA**	ug/L dry	1.09'	2.00	N7	SJM
1901174-01	D	Nitrobenzene	01/24/19 9:15	TCLP/EPA8270C	2/19/19 21:15	**NA**	ug/L dry	1.84	5.00	N7	SJM
1901174-01	D	Pentachlorophenol	01/24/19 9:15	TCLP/EPA8270C	2/19/19 21:15	**NA**	ug/L dry	6.10	10.00	N7	SJM
1901174-01	D	Pyridine	01/24/19 9:15	TCLP/EPA8270C	2/19/19 21:15	**NA**	ug/Ldry	1.55	2.00	N7	SJM

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1901174-01

PROJECT & LOCATION: Green Valley WRF - Wet Haul Sludge (Annual)

PROJECT-LOCATION NUMBER: 25000-1962

SAMPLE START DATE: MM/DOIYY OR MM/DOIYYYY

SAMPLE START TIME: (Military time)

CLIENT: IWC

SAMPLE END DATE: Ol - o2</-a015 MMIOOIYY OR MM/00/YYYY

SAMPLE END TIME: 09/5 (Military time)

SAMPLERcs>: S, -/-v &t.1- T.◆o vt1 ◆. - Q◆ (Prlnl Utt Nom<(1) !:;;)

Permit Type: O APP ■ AZPDES ☐ ,we D Investigative ☐ Reuse O Air ■ 503 D Process Control ☐ Other

Matrix: ■ Biosolids D Groundwater D Industrial ☐ Soil D Stormwater D Surface Water D Wastewater O 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 [.., •/.-•tJ	■	☐
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. prome/as*	☐	☐
Chronic *C dubia*	☐	☐
Chronic *Selenastrum capricomutum*	☐	☐
Other	☐	☐

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	☐	☐
BOD	☐	☐
COD	☐	☐
Coliform, Fecal	☐	☐
Coliform, Total	☐	☐
Specific Conductance	☐	☐
E.coli	☐	☐
Oxygen, Dissolved	☐	☐
pH	☐	☐
Solids, Total (1,n .::,,,l.,◆)	■	O
Solids, Total Dissolved	☐	☐
Solids, Total Suspended	☐	☐
Solids, Total Volatile	☐	☐
Solids, Volatile Suspended	☐	☐
Other	n	O

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

COMPLIANCE FIELD MEASUREMENTS

		Un••
☐ Chlorine *Hach 10014*		µg/L
D Specific Conductance *SM 2510B*		µmhos/cm
D Oxygen, Dissolved *SM4◆OG*		mg/L
O pH@pH Temp *SM4◆HB*	@	pH Units@ °C
☐ Temperature *SM2550B*		•C
☐ Total Depth of Well		feet
D Depth to Water		feet
☐ Other		

Comments/Instructions: C,rL:J" TC L f/ hvI c.i ,/&s 'W j { f. Z , S -!-, ... t- -h L l' rS o.-f ,L- 't-l°l Qo# t f-!.W S2Q Cztf-i C&J c,l- 'f-(J

Selium Blank Prel! Date & Initials: [/;} -/ -/<'! I [/e 1

Chain of Custody Record (S1gn-.. Ory)

Relinquished by Sampler.	Received by:	Date:	Time: (Mil•ary time)
Z.-'''	}1	01-111-1	i1.tt1
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 Integrtty/Prffervation: # o c j:/!JJ;;;e d

Transported on Ice IE) YES O N O

Lab Receipt

Temperature: { ·c

Initials: CO;,

Q6 qualifier? ☐ YES ◆ NO

LAB USE ONLY

Sample Inapeetion:	Yes	No	NA
Chain of Custody Record completed appropriately?	[8	☐	☐
Sample labels match Chain of Custody?		☐	☐
Correct number of sample bottles were delivered?	,El	☐	☐
Custody seals intact?	☐	☐	☒
Mthin holding time?	ta	☐	☐
Sufficient sample volume for analysis?		☐	☐
Samples ae in properly preserved containers?	B	☐	☐
Sample containers damaged/leaking/frozen?	☐	18	☐
40 ml vials headspace, > pea-sized air bubble?	@	☐	☐
Received from a refrigerator?	☐	El	☐

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

P01114-01

SAMPLE LOCATION: Green Valley WRF - Wet Haul Sludge

LOCATION ID: **25000-1962** SAMPLERS: S;(..A;o c/40...f< SAMPLE DATE: 1 - -2<;...i,–ir'

Last names only, primary sampler first.

SAMPLE Dore	PARAMETER	START TIME	END TIME	FREQUENCY	Time Flow	Auto Man.	Volume Submitted	PRESERVATION
D	**Priority Pollutant Metals**		Octlr	14uJ			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	**Acroleln and Acrvlonitrile**						4x40 ml	**Septum vial / Ice**
D	**Purgeable Organics**						4x40 ml	**Septum vial / Ice**
D	**TCLP Volatile Organics**						4x40 ml	**Septum vial / Ice**

pH METER CALIBRATION LOG

Time	Model#	Serial#	Auto/Man.	Buffer	Readino	Buffer	Readino	Temp.	Slope	In"ials
	Not Applicable									

FIELD MEASUREMENTS

Sample	Parameter & Method	Result	Ti;,e	Initials	Sample	Parameter & Method	Result	T I
	Not Applicable							

Notes: All samples are unpreserved

EQUIPMENT USED: ■ Grab Sampler ☐ Automatic Sampler ☐ Electric Pump ☐ Other

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
0 17631 N. 25th Avenue • Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-6101
04585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page L of _)

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Green Valley		Joe Ooranski	19-020520	Fax Results ☐ QC Report ☐ EDD ☒ Email Results ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Drinking Water; WW=Wastewater; SW=Surface Water; GW=Groundwater; O=Other; S=Soil/Solid; T=Travel Blank; F=Food; G=Sludge/Biosolids

TURN AROUND TIME: Laboratory Authorization Required for Rush
♦ Standard 10 - 15 Day
D Other _____

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Container	No. of Containers	pH ✓ (Lab Use Only)	TCLP herbicides	Total cyanide mg/kg	Total % solids dry weight	Total organic carbon	LAB NO.
1901174-01	01/24/19	915	Green Valley WRF - wet haul sludge		X	G	X	3		X	X	X		-01
1901173-01	01/24/19	1140	Avra Valley - well AV-06		X	GW	X	1					X	-01

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments / Special Instructions: Please report results from the cyanide sample in mg/kg dry weight.

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers		
Temperature	°C	
Custody Seals	Y	N
Seals Intact	Y	N
Preserved	Y	N

RELINQUISHED BY

Sampler Signature	[signature]	Date	1/24/19
Sampler Printed Name	Greg Spence	Time	1402
Signature		Date	
Printed Name		Time	
Signature		Date	
Printed Name		Time	

SAMPLES RECEIVED BY

Signature	Alyssa Mazza	Date	1/24/19
Printed Name	Alyssa Mazza	Time	1402
Signature		Date	
Printed Name		Time	
Signature		Date	
Printed Name		Time	

WHITE-LAB YELLOW-CLIENT

19

PIMA COUNTY

WASTEWATER RECLAMATION

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

LIM$ CHECKLIST FOR SUBCONTRACT DATA

LIM$ ID	**1901174-01, 1901173-01**	**DO**	**19-020520**
CONTRACT LAB	**Legend Technical Services, Inc., Phoenix; P.9ce National, M!. Juliet, TN**	**SAMPLE GROUP**	**Green Valley**
ANALYSES	**TLCP Herbicides, Total Cyanide, Total Solids, Total Org ic Carbon**	**REPORT ID**	**19A2621**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Solimsann\elementshare\TransferIn ?	y
Was the above-mentioned file converted from a .xis 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($), AND DO#:	
Is contract lab report signed and dated?	y
Is copy of contract lab COC included with contract lab report?	y
Do the contract lab COC and CRAO COC(s) list the same sample ID, sample date, and analysis requested?	y
Do the sample dates and received dates on the CL report match the CL COC?	y
Does the CL report include all requested analysis?	y
Is the CL licensed in AZ for reported methods?	y
Does the DO match COC in types and number of tests?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
Do CL report and CL spreadsheet report the same sample result(s), sample date(s), and analysis date(s)?	y
Was a case narrative included in contract lab report?	y
Does the data packet include a QC report from the primary lab and any secondary subcontract labs?	y
Did the CL report list aoolicable AZ data qualifiers?	y
Were any dilutions made?	N
Were any results from diluted samples reported as ND?	N/A
Were the results from any diluted samples qualified accordingly?	N/A
Was QC included for every analysis method (e.g. Blk, LCS, MS, MSD)?	y
Did QC pass stated acceptance limits? If not, was it qualified?	y
Were samples analyzed within required holding times?	y
SOCs: Are MDLs below water quality standards? (If not, notify Belinda Gamboa-Felix.)	N/A
Semivolatiles & Volatiles: Were all analytes 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	
Is statement of Pass/Fail reflected in endpoints?	N/A
Ceriodaphnia: Survival and reproduction data included?	N/A
P. Promelas: Survival and growth data included?	N/A
Selenastrum: Growth data included?	N/A

Was chemistry data included?	N/A
Are Reference Toxicant Test results and Control Charts within limits?	N/A
Was PMSD Determination included and within acceptable range? (minimum acceptable= 13)	N/A
Do endpoints include TUc, NOEC, LOEC, and IC25?	N/A
Do statistics verify endpoints?	N/A
Were Control Charts updated to include month of analysis?	N/A
Reviewer Initials: ABR	**Review Date:** 3-11-19

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. Legend Technical Services of Arizona, Phoenix)?	/	
DO received in Pima Core?	✓	
Analysis set to Reported?		✓
Peer Reviewer Initials:		**Review Date:** 3-15-19
Final Reviewer Initials: JEC		**Review Date:** 3·21·19

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.

LEGEND
Technical Services, Inc.

4585 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (520) 327-0518
www.legend-group.com

26 February 2019

Greg Spence
Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745
Fax: (520) 579-6002

RE: Environmental Analysis & Testing
Laboratory Work Order No.: 19A2621

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full 'report for these analyses and should only be reproduced in full. Samples for this project were receiveGI by the laboratory on 01/24/19 14:20.

The samples were processed in accordance with the Chain of Custody_ document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

;:.5'.,.:,.-/1

P. Brian Merritt
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Pima County RWRD CRAQ Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Environmental Analysis & Testing Project Number: Green Valley Project Manager: Greg Spence	Reported: 02/26/1912:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
1901174-01	19A2621-01	Solid	Grab	01/24/19 09:15	01/24/19 14:20
1901174-01	19A2621-02	Solid (Dry Weight)	Grab	01/24/19 09:15	01/24/19 14:20
1901173-01	19A2621-03	Groundwater	Grab	01 /24/19 11:40	01/24/19 14:20

Sample Condition Upon Receipt:

Temperature: 3.20 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of <:letection. All samples were analyzed on a "wet" basis unless designated as "dry weight".

This report contains data that were produced by a subcontracted laboratory certified for the fields of testing performed.

Pace National (fka ESC) AZ0612
Daphne Richards
800.767.5859

Report revised 2/26/19 to report 8151 TCLP in ug/L per client request. PBM

Pima County RWRD CRAQ Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Environmental Analysis & Testing
Project Number: Green Valley
Project Manager: Greg Spence

Reported:
02/26/19 12:17

1901174-01 (19A2621-01) Solid (Grab) Sampletl: 01/24/19 09:15 Received: 01/24/1914:20

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				ESC AZ0612						
8151A										
2,4,5-TP (Silvex)	<		2.0	ug/1	1	NG123117	E02/01/1911:01	02/02/19 05:29	8151A	
2,4-D	<		2.0	ug/1	1	NG123117	E02/01/1911:01	02/02/19 05:29	8151A	
Surrogate: 2,4-Dichlorophenyl Acetic Acid			72.8%		*14.0-158*	*WG123117 6*	*02/01/19*	*02/02/19*	*8151A*	

1901174-01 (19A2621-02) Solid (Dry Weight) (Grab) Sampled: 01124/19 09:15 Received: 01124/19 14:20

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				Legend Technical Services of Arizona., Inc.						
Inorganic Chemistry										
Cyanide, Total	<	0.595	1.98	mg/kg dry	1	8980849	02/01/19 10:26	02/01/19 13:52	EPA9014	EB
% Solids	5		1	%	1	B9A1805	01/29/19 16:35	01/29/19 16:35	SM 2540 G	

1901173-01 (19A2621-03) Groundwater (Grab) Sampled: 01/24/1911:40 Received: 01/24/1'914:20

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				Legend Technical Services of Arizona, Inc.						
Inorganic Chemistry										
Total Organic Carbon	**0.406**	**0.190**	1.00	mg/L	1	B9A1834	01/25/1914:37	01/25/1914:37	SM 5310 C	E4

Notes and Definitions

R9	Sample RPO exceeded the laboratory acceptance limit.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
E5	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 the MDL.
<	<
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPO	Relative Percent Difference

Legend Technical Services of Arizona, Inc.

LEGEND
Technical Services, Inc.

SUBCONTRACT ORDER

19A2621

PO Number:

SENDING LABORATORY:

Legend Technical Services of Arizona. Inc.
17631 North 25th Avenue
Phoenix. AZ 85023
Phone:602-324-6100
Fax: 602-324-6101
Project Manager. P. Brian Merritt

RECEIVING LABORATORY:

Pace National (fka ESC Lab Sciences)
12065 Lebanon Rd.
Mt. Juliet. TN 37122
Phone :(800) 767-5859
Fax: (615) 758-5859

Client:'F\YY\CI\ 0)\.3I. CIZAO lo.b

Analysis	Due	Expires	Sample Comments
Sample ID: 19A2621-01 Solid		**Sampled:01/24/19 09:15**	
8151 TCLP Subcontract	**02/04/19 15:00**	**02/07/19 09:15**	**Report to MDL**

Containers Supplied:
02_1000mLAmber- Glass Cool to 4° C (A)

Released By (Print & Sign)	Date	Time	Received By (Print & Sign)	Date	Time
J Williamson	1/25/19	0938	Emily Janusky	1/25/19	0938
Released By (Print & Sign)	**Date**	**Time**	**Received By (Print & Sign)**	**Date**	**Time**

Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

February 04, 2019

Legend Technical Services of Arizona,Inc

Sample Delivery Group:	L1064643
Samples Received:	01/26/2019
Project Number:	19A2621
Description:	Pima County CRAO Lab
Report To:	Brian Merritt 17631 N. 25th Avenue Phoenix, AZ 85023

Entire Report Reviewed By: J l 1JdwdJ-

Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reporte<l as rounded values. This test report shall not be reproduce<!, except in full. without written approval of the laboratory. Where applicable. sampling conducte<l by Pace Nauonal is performe<l per guidance prov1de<l In laboratory standard operating procedures: 060302. 060303. and 060304.

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
19A2621-01 L1064643-01	5
Qc: Quality Control Summary	6
Chlorinated Acid Herbicides (GC) by Method 8151A	6
Gl: Glossary of Terms	7
Al: Accreditations & Locations	8
Sc: Sample Chain of Custody	9

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.

	Collected by	Collected date/time	Received date/time
19A2621-01 L1064643-01 Waste		01/24/19 09:15	01/26/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Preparation by Method 1311	WG1230219	1	01/30/19 10:31	01/30/1910:31	RT
Chlorinated Acid Herbicides (GC) by Method 8151A	WG1231176	1	02/01/1911:01	02/02/1905:29	RP

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Legend Techn,cal Se,v,ces of Arizona.Inc	19A2621	L1064643	02/04/19 12:40	3 ofIO

CASE NARRATIVE

All sample aliquots were received at the correct temperature. in the proper containers. with the appropriate preservatives. and within method specified holding times. unless qualified or notated within the report. Where applicable, all MDL {LOD) and RDL {LOO) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne R Richards

Daphne Richards
Project Manager

Preparation by Method 1311

Analyte	Result	Prep date /time	
TCLP Extraction	-	1/3012019 10:31:53 AM	WG1230219
Fluid	1	1/3012019 10:31:53 AM	WG1230219
Initial pH	7.07	1/3012019 10:31:53 AM	WG1230219
Final pH	5.32	1/3012019 10:31:53 AM	WG1230219

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mgA	Qualifier	RDL mg/l	Limit mgA	Dilution	Analysis date /time	Batch
2.4,S-TP (Silvex)	ND		0.00200	1	1	02/0212019 05:29	
2,4-D	ND		0.00200	10	1	02/02/2019 05:29	
(SI 2,4-Dichlorophenyl Acetic Acid	*72.8*		*14.0-158*			*02/02/2019 05:29*	WG1231176

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
u	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and M◆thods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target% recovery ranges or% difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippe,s) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID. including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capactty and capability from our single location laboratory is comparable to the collective totals of the network **laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing** turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

- Not all certifications held by the laboratory are applicable to the results reported in the attached report.
- Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	**New Mexico'**	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina'	DW21704
Georgia	NELAP	North Carolina [3]	4L
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky'•	90010	South Carolina	84004
Kentucky'	16	South Dakota	n/a
Louisiana	AI30792	**Tennessee** [1']	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	**Texas** [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	**Virginia**	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	**Wisconsin**	9980939910
Montana	CERT0086	Wyoming	A2LA

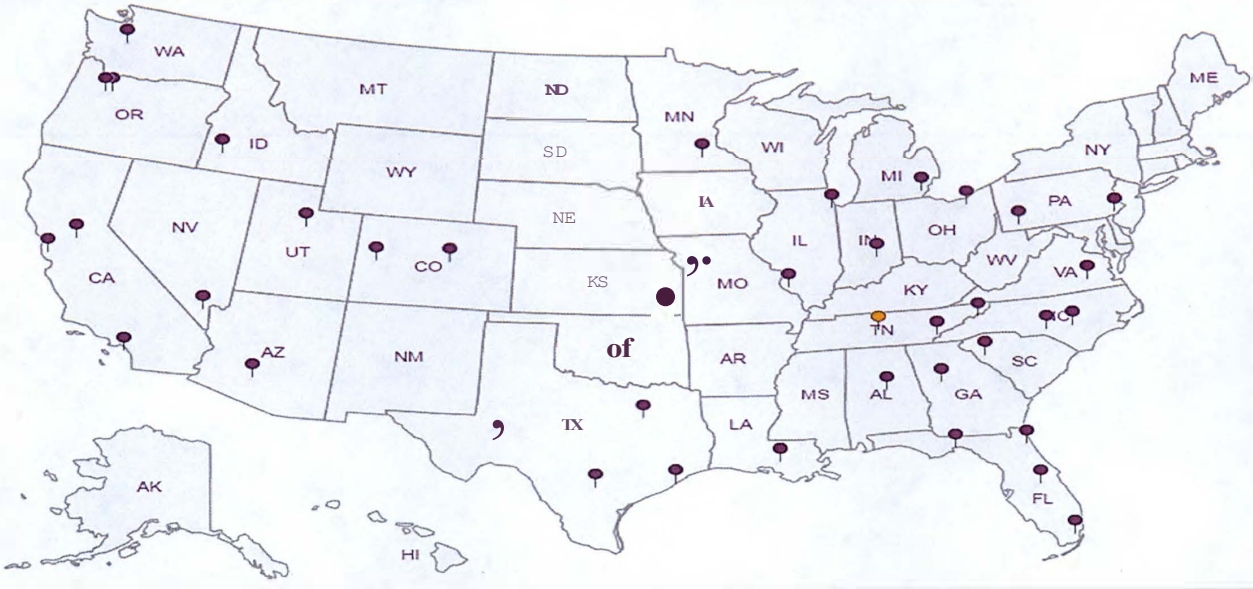
Third Party Federal Accreditations

A2LA - ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA - ISO 17025'	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

'Drinking Water [2]Underground Storage Tanks [3]Aquatic Toxicity • Chemical/Microbiological 'Mold • Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Legend Technical Services of Arizona.Inc	19A2621	L1064643	02/04/19 12:40	80110

LEGEND Technical Services, Irie:

SUBCONTRACT ORDER.

19A262 i

E087

SENDING LABORATORY:

Leg.er1d Technical Services of Arizona, Inc.
17631 North 25th Avenue
f'tmenix; 'Az 85023'
Phone:- 60-324-61 GO
Fa: 602-324-6101
Pr J ct Manager.: .P. Brian Merritt

RECEIVING LABORATORY:

Pace National (fl<a ESC Lab SGiences)
12065 Lebanon Rd.
Mt. Juliet, TN 37122
Plione :(BOO) 767-58 9
Fax: (615)758-5859

Client: Pima County CRAO lab

Analysis	Due	Expires	Sample -Comments	1064643
Sample D: 19A2621!-01 SOl d	**Sampled:01124/19 09:15**			
a1.s1 TCLP'Subcoritiaci.	02104119 15:0□	□2ipi,i.9 09:15	R porrn5 MDL	01
Conrain;JTS Supplied;				
02_1000mlAmoor Glass Cool kl;'!" C (A)				

RAD SCREEN: <0.5 mR/hr

01-24-19 0230

It

Released By (Print & Sign)	Date	Time	Received By (Print & Sign)	Date	Time
[illegible]	1/25/19	0938	Emily Vanaskey	1/25/19	0938
Emily Vanaskey	1/25/19	1400	[illegible]	1/25/19	[illegible]

ESCAT

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: Logistic Plan		SDG# 106 46 43	
Cooler Received/Opened On: 1/26/19		Temperature: 0.2	
Received By: Eric Stnidt			
Signature:			

Receipt Check Ust'	NP	Y,es	No
COC Seat ?resent/ Intact?	✓		
[illegible]		✓	
:Bottles ·ar:rive, intact?-		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct/ Checked?			

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: 08/13/2019
Laboratory License: AZO159

Sample Analysis Report

Green Valley WRF

May 2019

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

9/3/13
Date

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
\ 905119-02	C	N-Nitrosodiphcnylamine	05/17/19 6:00	EPA625	5/28/19 13:50	ND	ug/L	6.08	l0.65	D4	SJM
I90 5II9-02	C	n-Octadccane	05/17/19 6:00	EPA625	5/28/19 13:50	ND	ug/L	2.18	6.39	D4, NI	SJM
I905 II9-02	C	Pcntachlorophcnol	05/17/19 6:00	EPA625	5/28/19 13:50	ND	ug/L	4.02	6.39	D4	SJM
1905119-02	C	Phcnanthrcnc	05/17/19 6:00	EPA625	5/28/19 13:50	ND	ug/L	1.63	2.13	D4	SJM
I905 II 9-02	C	Phenol	OS/I 7/19 6:00	EPA625	5/28/19 13:50	ND	ug/L	2.59	6.39	D4	SJM
I905119-02	C	Pyrenc	05/17/19 6:00	EPA625	S/28/19 13:50	ND	ug/L	1.38	2.13	D4	SJM
1905 II 9-02	C	1,2-Diphcnylhydmzinc	OS/I 7/19 6:00	EPA8270C	5/28/19 13:50	ND	ug/L	0.98	2.13	D4	SJM
1905119-02REI	C	Zinc	05/17/19 6:00	EPA200.8	5/29/19 15:12	72.1	ug/L	0.86	5.00	DI	JB
BNROD-Final Effluent-Process Control (25000-1925)											
1905063-01	C	Ammonia	05/08/19 8:00	EPA350.I	5/9/19 II:33	1.21	mg/L	0.12	0.50		AJH
1905063-01	C	Nitrate/Nitrite	05/08/19 8:00	EPA 353.2	5/8/19 14:39	0.53	mg/L	0.04	0.20		AJH
1905063-01	C	Total Kjcldehl Nitrogen	05/08/19 8:00	EPA351.2	5/9/19 14:28	2.48	mg/L	0.29	0.80		AJH
1905063-01	C	Nitrogen Total Water	05/08/19 8:00	Calculated	5/9/19 14:28	3.01	mg/L	0.289	0.80		AJH
(905063-01	C	Alkalinity Total	05/08/19 8:00	SM23208	5/16/19 13:30	179	mg/L		20.00		ESW
1905063-01	C	Bicarbonate Alkalinity	05/08/19 8:00	SM23208	5/16/19 13:30	179	mg/L		20.00		ESW
1905063-01	C	Biochcmicel Oxygen Demand	05/08/19 8:00	SM 52108	5/14/19 07:32	ND	mg/L		2.00		AV
1905063-01	C	Total Suspended Solids	05/08/19 8:00	SM2540D	5/10/19 11:52	ND	mg/L		2.50		MSM
BNRODMLSS (25000-1940)											
1905063-04	D	Total Suspended Solids	05/08/19 9: I0	SM2540D	S/10/19 11:52	1520	mg/L		2.50		MSM
(905063-04	D	Total Volatile Suspended Solids	05/08/I 9 9: I0	EPA 160.4	5/10/19 13:27	1370	mg/L		2.50		MSM
BNROD-South Aerobic Digester Sludge (25000-1960)											
1905063-03	D	% Solids	0S/08/19 9:20	SM2540G	5/9/19 13:41	3.34	%		0.01		TLG
(905063-03	D	'1/, Solids, Total Volatile	0S/08/19 9:20	SM2540G	5/9/19 16:00	87.1	%		0.01		TLG
Wet Haul Sludge (25000-1962)											
1905158-01	D	Antimony	0S/23/19 9:00	EPA60l0D	6n/19 16:35	ND	mg/kg dry		10.13		MLB
1905158-01	D	Arsenic	0S/23/19 9:00	EPA60l0D	6n/19 12:19	ND	mg/kg dry		10.13		MLB
1905158-01	D	Beryllium	0S/23/19 9:00	EPA60l0D	6n/19 12:19	ND	mg/kg dry		2.03		MLB
1905158-01	D	Cadmium	0S/23/19 9:00	EPA60l0D	6n/19 12:19	ND	mg/kg dry		4.05		MLB
(905158-01	D	Chromium	05/23/19 9:00	EPA60l0D	6/7/19 12: 19	ND	mg/kg dry		10.13		MLB
(905158-01	D	Copper	0S/23/19 9:00	EPA6010D	6n/19 12:19	214	mg/kg dry		10.13		MLB
1905158-01	D	Leed	0S/23/19 9:00	EPA60l0D	6n/19 12:19	ND	mg/kg dry		10.13		MLB
1905158-0(	D	Mercury	0S/23/19 9:00	EPA 74718	6/7/19 IS: II	0.70	mg/kg dry		0.14		MJC
1905158-01	D	Molybdenum	0S/23/19 9:00	EPA60l0D	6/7/19 12:19	6.34	mg/kg dry		4.05		MLB
1905158-01	D	Nickel	0S/23/19 9:00	EPA60l0D	6/7/19 12:19	ND	mg/kg dry		10.13		MLB
1905158-01	D	Selenium	05/23/19 9:00	EPA60l0D	6n119 12,19	ND	mg/kg dry		20.26		MLB
1905158-01	D	Silver	05/23/(9 9:00	EPA60l0D	6/11/19 12:33	1.97	mg/kg dry		1.01		MLB
1905(58-01	D	Thallium	05/23/I 9 9:00	EPA6010D	6/7/19 12:19	ND	mg/kg dry		10.13		MLB
1905158-01	D	Zinc	0S/23/19 9:00	EPA60l0D	6/7/19 12: 19	378	mg/kg dry		10.13		MLB
(905158-01	D	Cyanide, Total	0S/23/19 9:00	EPA90l4	6/3/19 17:19	ND	mg/kg	0.030	0.100	DI, ES	KB
• Analysis Performed by:Legend Technicel Services of Arimne, Inc. - See attached contract lab report for official results.											
1905158-01	0	%Solids	0S/23/19 9:00	SM2540G	5/24/19 12:30	3	%		I		CGP
• Analysis Performed by:Lcgend Technical Services of Arizona, Inc. - Sec attached contract lab report for official results.											
1905158-01	D	% Solids	05/23/19 9:00	SM 2540G	5/24/19 13:47	3.56	%		CQI		LAH
1905158-01	0	Acrolein	05/23/19 9:00	EPA624	6/5/19 12:25	ND	mg/kg dry	0.00360	0.01		JEL
1905158-01	D	Acrylonitrilc	0S/23/19 9:00	EPA624	6/5/19 12:25	ND	mg/kg dry	0.00280	0.01		JEL
1905158-01	0	4,4-DDD	0S/23/19 9:00	EPA625	6/13/19 IS:41	ND	mg/kg dry	0.00406	0.01	Dl,D7	HAY
1905158-01	0	4,4-DDE	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.00641	0.01	Dl,D7	HAV
1905158-01	D	4,4-DDT	05/23/19 9:00	EPA 625	6/13/(9 15:41	ND	mg/kg dry	0.00560	0.02	Dl,D7	HAY
1905158-01	D	Aldrin	05/23/19 9:00	EPA 625	6/13/19 15:41	ND	mg/kg dry	0.00657	CQI	Dl,D7	HAY
1905158-01	D	alphe-BHC	05/23/19 9:00	EPA 625	6/13/19 15:41	ND	mg/kg dry	0.00689	0,0(	L4,Nl,Dl,D7	HAY
1905(58-01	D	beta-BHC	0S/23/I 9 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.01460	0.02	Dl,D7	HAY
1905158-01	D	Chlordane	0S/23/I 9 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.0(541	0.08	DI,D7	HAY
1905158-01	D	delta-BHC	0S/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.00292	0.01	D!,D7,M2	HAY
1905158-01	D	Dieldrin	0S/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.00673	0.01	Dl,D7,M2	HAY

Laboratory License # AZO 159

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1905158-01	D	Endosulfan I	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.00438	0.Ql	DI, D7, M2	HAY
1905158-01	D	Endosulfan II	05n3119 9:0o	EPA625	6/13/19 15:41	ND	mg/kg dry	0.00592	0.02	DI, D7, M2	HAY
1905158-01	D	Endosulfan sulfate	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.00462	0.02	DJ, D7	HAY
1905158-01	D	Endrin	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.0I079	0.02	DI, D7, M2	HAY
1905158-0J	D	Endrin aldehyde	05123/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.00973	0.Ql	D7, M2, DI	HAY
1905158-01	D	gamma-BHC (Lindane)	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.01119	0.02	DI, D7, R5	HAY
1905158-01	D	Heptachlor	05n3/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.00406	0.01	DI, D7	HAY
1905158-01	D	Heptachlor Epoxide	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.00689	0.01	DI, D7	HAY
1905158-0J	D	PCB 1016	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.00892	0.02	DI, D7	HAY
1905158-01	D	PCB 1221	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.01379	0.02	DI, D7	HAY
1905158-0J	D	PCB 1232	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.00568	0.02	DI, D7	HAY
1905158-01	D	PCB 1242	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.0I055	0.02	DI, D7	HAY
1905158-01	D	PCB 1248	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.00852	0Q2	DI,D7	HAY
1905158-01	D	PCB 1254	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.01541	0.02	DI, D7	HAY
1905158-01	D	PCB 1260	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.00649	0.o2	DI,D7	HAY
1905158-01	D	Total PCBs	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.01541	0.02	DI, D7	HAY
1905158-01	D	Toxaphene	05/23/19 9:00	EPA625	6/13/19 15:41	ND	mg/kg dry	0.14358	0.16	DI, D7	HAY
1905158-01	D	Methoxychlor	05/23/19 9:00	EPA8270C	6/13/19 15:41	ND	mg/kg dry	0.00406	0.01	DI, D7, M2	HAY
1905158–01	D	1,1,1-Trichloroethane	05/23/19 9:00	EPA624	5/29/19 16:01	ND	mg/kg dry	0.004	0.01		ADP
1905158-01	D	1,1,2,2-Tetrachloroethane	05/23/19 9:00	EPA624	5n9/19 16:0 I	ND	mg/kg dry	0.001	0.01		ADP
1905158–01	D	1,1,2-Trichloroethane	05/23/19 9:00	EPA624	5/29/19 16:01	ND	mg/kg dry	0.002	0.ol		ADP
1905158–01	D	1,1-Dichloroethane	05/23/19 9:00	EPA624	5/29/19 16:01	ND	mg/kg dry	0.003	0.01		ADP
1905158-01	D	1,1-Dichloroethene	05/23/19 9:00	EPA624	5/29/19 16:01	ND	mg/kg dry	0.002	0.01		ADP
1905158–01	D	1,2-Dichlorobenune	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.002	0.01		ADP
1905158-01	D	1,2-Dichloroethane	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.002	0.01		ADP
1905158-01	D	1,2-Dichloropropane	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.002	0.01		ADP
1905158-01	D	1,3-Dichlorobenunc	05/23/19 9:00	EPA 624	5n9;19 16:01	ND	mg/kg dry	0.002	0.01		ADP
1905158-01	D	1,4-Dichlorobenunc	05/23/19 9:00	EPA624	5/29/19 16:01	ND	mg/kg dry	0.003	0.01		ADP
1905158-01	D	2-Chloroethyl vinyl ether	05/23/19 9:00	EPA624	5/29/19 16:01	ND	mg/kg dry	0.005	0.Ql		ADP
1905158-01	D	Benzene	05/23/19 9:00 ,	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.002	0.01		ADP
1905158-01	D	Bromodichloromethane	05/23/19 9:00	EPA 624	5/29/19 16:0 I	ND	mg/kg dry	0.005	0.oI		ADP
1905158-01	D	Bromoform	05/23/19 9:00	EPA624	5/29/19 16:01	ND	mg/kg dry	0.006	0.01		ADP
1905158-01	D	Bromomethane	05/23/19 9:00	EPA 624	5/29/19 16:01	0,09	mg/kg dry	0.003	0.01		ADP
1905158-01	D	Camon Tetrachloride	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.007	0.Ql		ADP
1905158-01	D	Chlorobenzene	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.001	0.Ql		ADP
1905158-01	D	Chlorocthane	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.004	0.oI		ADP
1905158-01	D	Chloroform	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.003	0.Ql		ADP
1905158-01	D	Chloromethane	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.004	0.01		ADP
1905158-01	D	cis-1,3-Dichloropropene	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.002	0.01		ADP
1905158–01	D	Dibromochloromethane	05n3/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.001	0.Ql		ADP
1905158-01	D	Ethyl Benzene	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.002	0.01		ADP
1905158-01	D	Methylene Chloride	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.004	0.Ql		ADP
1905158–01	D	Tetrachloroethene	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.004	0.01		ADP
1905158–01	D	Total Trihalomethanes	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.006	0.01		ADP
1905158-01	D	trans-1,2-Dictloroethene	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.003	0.01		ADP
1905158–01	D	trans-1,3-Dichloropropene	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.002	0.01		ADP
1905158-01	D	Trichloroethene	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.003	0.oI		ADP
1905158-01	D	Trichlorofluoromethane	05/23/19 9:00	EPA 624	5/29/19 16:0 I	ND	mg/kg dry	0.005	0.Ql		ADP
1905158–01	D	Vinyl chloride	05/23/19 9:00	EPA 624	5/29/19 16:01	ND	mg/kg dry	0.004	0.01		ADP
1905158-01	D	1,2,4-Trichlorobenune	05/23/19 9:00	EPA 8260	5/29/19 16:01	ND	mg/kg dry	0.002	0.01		ADP
1905158-01	D	1,2-Dibromo-3-chloropropane	05/23/19 9:00	EPA 8260	5/29/19 16:01	ND	mg/kg dry	0.002	0.02		ADP
1905158-01	D	1,2-Dibromoethane	05/23/19 9:00	EPA 8260	5/29/19 16:01	ND	mg/kg dry	0.002	0.01		ADP
1905158-01	D	tis-1,2-Dichloroethene	05/23/19 9:00	EPA 8260	5/29/19 16:01	ND	mg/kg dry	0.004	0.01		ADP
1905158-01	D	m,p-Xylenes	05/23/19 9:00	EPA 8260	5/29/19 16:01	ND	mg/kg dry	0.003	0.02		ADP
1905158-01	D	o-Xylene	05/23/19 9:00	EPA 8260	5/29/19 16:01	ND	mg/kg dry	0.002	0.01		ADP
1905158-01	D	Styrene	05/23/19 9:00	EPA 8260	5/29/19 16:01	ND	mg/kg dry	0.002	0.01		ADP
1905158-01	D	Xylenes, total	05/23/19 9:00	EPA 8260 ,	5/29/19 16:01	ND	mg/kg dry	0.003	0,02		ADP
1905158-01	D	2,3,7,8-TCDD • Dioxin Scan	05/23/19 9:00	EPA 625	6/17/19 14:11	ND	ug/kg dry		0.70		SJM
1905158-01	D	1,2,4-Trichlorobenune	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.06	0.08	DI,D7	SJM
1905158-01	D	2,3-Dichloroanilinc	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0,09	0.24	D1,D7.	SJM

Laboratory License # AZ0 159

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1905158-01	D	2,4,6-Trichlorophenol	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.05	0.08	D!,D7	SJM
1905158-01	D	2,4-Dichlorophcnol	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.o7	0.08	D1,D7	SJM
1905158-01	D	2,4-Dimethylphenol	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.14	0.24	D1,D7	SJM
1905158-01	D	2,4-Dinitrophenol	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.34	0.40	DJ,D7	SJM
1905158-01	D	2,4-Dinitrotoluene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.o9	0.24	DJ,D7	SJM
1905158-01	D	2,6-Dinitrotoluene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1905158-01	D	2-Chloronaphthalcne	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1905158-01	D	2-Chlorophcnol	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1905158-01	D	2-Methyl-4,6-dinitrophcnol	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.21	0.24	D1,D7	SJM
1905158-01	D	2-Methylphenol	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1905158-01	D	2-Nitrophenol	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.11	0.24	D1,D7	SJM
1905158-01	D	3,3-Dichlorobenzidinc	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.o9	0.20	D1,D7	SJM
1905158-01	D	4-Bromophenyl phenyl ether	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
!905158-01	D	4-Chloro-3-methylphenol	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1905158-01	D	4-Chlorophenyl phenyl ether	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.05	0.08	D!,D7	SJM
1905158-01	D	4-Methylphenol	05/23/19 9:00	EPA625	6/14/19 18:58	I030	mg/kg dry	0.o7	0.80	DI, D2, D7	SJM
1905158-01	D	4-Nitrophenol	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.19	0.24	D!,D7	SJM
1905158-01	D	Acenaphthene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1905158-01	D	Acenaphtl1ylcne	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1905158-01	D	Anthracene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1905158-01	D	Benzidine	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.26	0.40	D1,D7	SJM
1905158-01	D	Benzo[a]anthracene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1905158-01	D	Benzo[a]pyrcne	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.08	0.08	D7,D1	SJM
1905158-01	D	Benzo[b]tluoranthene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1905158-01	D	Benzo[ghi]pcrylenc	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.12	0.24	D1,D7	SJM
1905158-01	D	Benzo[k]tluoranthene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1905158-01	D	bis(2-chlorocthoxy)methane	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1905158-01	D	bis(2-<hlorotthyl)ether	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.08	0.24	D1,D7	SJM
1905158-01	D	bis(2-chloroisopropyl)ether	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.07	0.08.	D1,D7	SJM
1905158-01	D	bis(2-,thylhexyl)phthalate	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.11	0.24	D1,D7	SJM
1905158-01	D	Butylbenzylphthalate	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1905158-01	D	Carbazole	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.11	0.24	D1,D7	SJM
1905158-01	D	Chrysene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1905158-01	D	Dibenzo(a,h)anthraccne	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.12	0.24	D1,D7	SJM
1905158-01	D	Diethyl phthalatc	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.o9	0.24	D1,D7	SJM
1905158-01	D	Dimethyl phthalate	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.o2	0.24	D1,D7	SJM
1905158-01	D	Di-n-butyl phthalate	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.10	0.24	D1,D7	SJM
1905158-01	D	Di-n-octyl phthalatc	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.10	0.24	D1,D7	SJM
1905158-01	D	Fluoranthene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.0S	0.08	D1,D7	SJM
1905158-01	D	Fluorene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1905158-01	D	Hcxachlorobenzenc	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.02	0.08	D1,D7	SJM
1905158-01	D	Hcxachlorobutadiene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.o4	0.08	D1,D7	SJM
1905158-01	D	Hexachlorocyclopentadiene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.17	0.24	D1,D7	SJM
1905158-01	D	Hexachloroethane	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.05	0.08	D1,.07	SJM
1905158-01	D	Indeno(1,2,3-cd]pyrcne	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.11	0.24	D1,D7	SJM
1905158-01	D	Isophorone	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1905158-01	D	Naphthalene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.o7	0.08	DJ,D7	SJM
1905158-01	D	n-Decane	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.08	0.08	D1,D7	SJM
1905158-01	D	Nitrobenzene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.08	0.24	DI,D7	SJM
1905158-01	D	N-Nitrosodimethylamine	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.08	0.24	DI, D7, PC3	SJM
1905158-01	D	N-Nitrosodi-n-propylamine	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.10	0.24	D1,D7	SJM
!905158-01	D	N-Nitrosodiphenylamine	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.24	0.40	D1,D7	SJM
1905158-01	D	n-Octadecane	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.09	0.24	D1,D7	SJM
1905158-01	D	Pentachlorophcnol	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.16	0.24	DJ,D7	SJM
1905158-01	D	Phenanthrene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.07	0.08	D1,D7	SJM
1905158-01	D	Phenol	05/23/19 9:00	EPA625	6/14/19 19:36	23.06	mg/kg dry	0.10	0.24	DJ,D7	SJM
1905158-01	D	Pyrene	05/23/19 9:00	EPA625	6/14/19 19:36	ND	mg/kg dry	0.06	0.08	D1,D7	SJM
1905158-01	D	1,2-Diphenylhydrazine	05/23/19 9:00	EPA8270C	6/14/19 19:36	ND	mg/kg dry	0.0S	0.08	D1,D7	SJM
1905158-01	D	1,4-Dichlorobenzene	05/23/19 9:00	EPA8270C	6/14/19 19:36	ND	mg/kg dry	0.22	0.24		SJM
1905158-01	D	2,4,5-Trichlorophenol	05/23/19 9:00	EPA8270C	6/14/19 19:36	ND	mg/kg dry	0.10	0.24		SJM

Laboratory License # AZ0159

Lab ID:	Sample Type	Parameter	Sample Date/fime	Analysis Method	Analysi Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
190SlS8-0l	D	3 & 4-Methylphenol	OS/23/19 9:00	EPA8270C	6/14/19 19:36	ND	mg/kg dry	0.0S	0.24		SJM
190S1S8-0l	D	Pyridine	OS/23/19 9:00	EPA8270C	6/14/19 19:36	ND	mg/kg dry	0.06	0.08		SJM
190S1S8-0IREI	D	Toluene	OS/23/19 9:00	EPA624	S/31/19 12:SS	140.19	mg/kg dry	0.003	0.0S	D2,D7	ADP

Qualifier Definitions

ES	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
<	<I
DI	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.
J	Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
K2	The sample dilutions set up for the BOD/CBOD analysis did not meet the criteria of a residual dissolved oxygen of at least I mg/L. Any reported result is an estimated value.
L2	The associated blank spike recovery was below laboratory acceptance limits.
L4	The associated blank spike recovery was below method acceptance limits.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
MS	Analyte concentration was determined by the method of standard addition (MSA).
NI	See case narrative.
N7	Additional analysis was not performed based on the "Total" result which was below the requested analyte's MCUAction level/Trigger Level.
NA	Not Analyzed
NC	Not Calculable
PC3	Semi-quantitation is included in the case narrative.
RI	RPD/RSD exceeded the method acceptance limit. See case narrative.
R4	MS/MSD RPO exceeded the method acceptance limit. Recovery met acceptance criteria.
RS	MS/MSD RPO exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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 E3 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
RPO	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

UC	Under Construction
EB	Equipment Blank
NA	Not Analyzed

1905158-01

EPA Method 625 Pesticides: Target analytes flagged with NI failed the MS Recovery and MS/MSD RPD. Blank Spike Recovery was also low. CCV recovery was acceptable. HAY 06/25/2019. Edited by MCD 06/25/19.

Semi-Quantitation
Method: 625
1905158-01

Compound Name	Concentration-mg/Kg
Benzeneacetic Acid	167
Palmitic Acid	17641
OleicAcid	9049
Stearic Acid	3958

SJM 06/20/19

PIMA COUNTY R W R D
CRAO -WATER QUALITY LABORATORY

Raw Data Sheet

LIMs #: lqo .s,00,tJI

Sample Location:Green Valley WRF-BNROD-Final Effluent-AZPDES Sampler(s): R ; OIJ;. ,S,it/A.

Sample Location ID#: 25000-1923 Analyst: S/ 'V"'-

Sample Date & Time: D5°-/'-I- lt:t JDo O Sample Type: - -F.'! = b- -

Field Measurements

pH SM 4500 H B

Hach: /A; Probe# 8"

Time: /Oi:J o pH: 7. f' @ .,2 S", r- °C

Duplicate - Time: /0 0 1 pH: f. S"'° @ o2r-.g- °C Must be ,± 0.1 of pH

Compliance? @ N If"Yes", a duplicate pH analysis is *REQUIRED*

Temperature

Instrument.SN: or 869544

Time: /000
Temp: d<"-f °C Correction Factor: f' & •(°C Corrected Temp: J. \ °C

Duplicate
Time: J00 {
Temp: ;J'[, I °C CorrectionFactor: +tJ. f °C CorrectedTemp: -2("'%'° °C

Compliance (Y) N

Dissolved Oxygen HACH 10360

Hach: / A- Probe#..;=c.....;:.

Time:/f>fJO D.O.: JI-{ mg/1@:..ZS--'1 °C

Duplicate - Time: l 0 0 L D.O.: - l\ mg/1@ ;L C · 8" °C

Barometric Pressure: .JCi, -&ft/-...) Ue, Barometric Temp: o7j .o °C

Compliance (Y) N If"Yes", a duplicate D.O. analysis is *REQUIRED*

Total Chlorine Residual HACH 10014

Instrument: /.),0 7:0£"'O'f <f 6'1 Time: /0 00

Result: Ct(ug/1 Reagent Blank:._-'/.. - - ug/1

Compliar?ce (Y) N

5-fcl	Result
0.23	0.22
0.93	0.88
1.65	1.58

Comments:
Readings 1 ppb - 1 Reagent Blank = 0

PIMA COUNTY WASTEWATER RECLAMATION

Pima County Regional Wastewater Reclamation Department

Compliance and Regulatory Affairs Office Laboratory

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): f'to 5ac3..oJ

PROJECT & LOCATION: GREEN VALLEY WRF-BNROD SOUTH AEROBIC DIGESTED SLUDGE

PROJECT-LOCATION NUMBER: 25000-1960

SAMPLE START DATE: _____ (MM/DD/YY OR MM/DD/YYYY)

SAMPLE START TIME: _____ (Military time)

CLIENT: Sub-Regional Facilities

SAMPLE END DATE: 05/07/2019 (MM/DD/YY OR MM/DD/YYYY)

SAMPLE END TIME: 0920 (Military time)

SAMPLER(S): D-Mhr!:ufy (Print Last Name(s) Only)

Permit Type: 0 APP 0 Investigative 0503
OAZPDES ▯ Reuse ▌ Process Control
▯ ,we OAir ▯ Other _____

Matrix: 0 Biosolids ▯ Soil ▌ Wastewater
0 Groundwater 0 Stormwater OAir
0 Industrial 0 Surface Water O0ther _____

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
ntanium				
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	O	O
Other _____	n	O

OTHER	D	C
Paint Filter		
_____		
_____		
_____		
_____		

COMPLIANCE FIELD MEASUREMENTS

	R"AUlt	Units
▯ Chlorine *Hach 10014*	_____	µg/L
O Specific Conductance *SM2510B*	_____	µmhos/cm
O Oxygen, Dissolved *SM4500-0G*	_____	mg/L
OPH@pHTemp *SM4500-HB*	_____ @	pH Units@ ˚C
0 Temperature *SM2550B*	_____	∞
▯ Total Depth of Well	_____	feet
0 Depth to Water	_____	feet
▯ Other _____	_____	_____

Comments/Instructions: _____

Sellum Blank Ref1 Date & Initials: _____

Chain of Custody Record (Signatures Only)

O, J½	Refrigerator	SI(JtJl1,	0'1,)
♦nqu'lshed by Sampler.	by:	Date:	nme: (Military time)
Refrigerator	-Mii'ived L.	5/ JJq	n'\ S
R ♦		Date:	Timi'
£		q 71	lll
Relinquished by:"	Receivedby:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Military time)

Sample Integrity/Preservation:

# of BoWis1s. _____

Transported on Ice [8j YES ONO

Lab Receipt

Temperature: ♦° C

Initials: _____

06 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? l'2(		▯	▯
Custody seals intact?	▯	▯	(g
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?	▯	▯	tsa
Received from a refrigerator?	▯	51'	▯

• Sb, As, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl, Zn, Mercury(Cold Vapory

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): 1905158-01

PROJECT & LOCATION: Green Valley WRF - Wet Haul Sludge (Quarterly)

PROJECT-LOCATION NUMBER: 250-0-0-1-1-2 (XXX-XXX-XXX)

SAMPLE START DATE: _____ SAMPLE START TIME: _____ (Military time)

CLIENT: IWC

SAMPLE END DATE: 05/23/2019 (MM/DD/YYYY) SAMPLE END TIME: 0900 (Military time)

SAMPLER(S): S. Ellick

Permit Type: ☐ APP ☐ AZPDES ☐ Investigative ☐ Reuse ☐ Other ☐ 5DB ☐ Process Control ☐ Other

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

INORGANIC CHEMISTRY

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

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

WET METHODS	D	C
AmmoniaasN	D	D
Chloride	D	D
Cyanide, Total (.....).....t	7	0
Cyanide, Amenable	O	D
Fluoride	D	D
Ignitability	D	D
Nitrate as N	D	D
Nitrite as N	D	D
Nitrate/Nitrite as N	D	D
Nitrogen, Total Kjeldahl	D	D
Nitrogen, Total as N	D	D
Orthophosphate as P	D	D
Phosphorus, Total as P	D	D
Sulfate	D	D
Sulfide	O	D
Other	D	D
Other	D	D

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	D	D
Oil and Grease	☐	☐
Organic Carbon, Total	☐	☐
Organic Carbon, Dissolved	☐	☐
TCLP Herbicides (Contract Lab)	D	D
TCLP Pesticides	☐	☐
TCLP Semivolatile Organics	☐	☐
TCLP Volatile Organics	☐	☐
TTHM	☐	☐
Total Petroleum Hydrocarbons	O	D
Volatile Acids	☐	☐
Other	D	D
Other	D	D

EFFLUENT TOXICITY TESTING

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

MICROBIOLOGY· WET CHEM

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

OTHER

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

COMPLIANCE FIELD MEASUREMENTS

☐ Chlorine Hach 10014		µg/L
☐ Specific Conductance SM25108		µmhos/an
☐ Oxygen, Dissolved SM4500-0G		mg/l.
OPH@pHTemp SM4500-HB	0	pHUnit10 °C
☐ Temperature Sfl/25508		°C
☐ Total Depth of Well		feet
☐ Depth to Water		feet
☐ Other		

Comments/Instructions: GOS 05-21-19

GOS PJ-11-14

Seem Blank Prel! Date & Initial: 4-11-19 SRS

Chain of Custody Record (Signature Only)

Relinquished by:	Received by:	Date:	Time (Military time)
04/ddl		05-23-19	11:Zb
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 containers

Transported on Ice (IE) YES ONO

Lab Receipt

Temperature: 3 °C

Initials: CW

06 quality?

OYES NO

LAB USE ONLY

Sample Inspection:	Yes	No	NA
Chain of Custody Record completed appropriately?	☐	D	D
Sample labels match Chain of Custody?	☐	D	D
Correct number of sample bottles - re de1Mif9d?	☐	D	D
Custody seals intact?	D	D	☐
Within holding time?	☐	D	D
Sufficient sample volume for analysis?		D	D
Samples are in property preHMld containers?	☐	D	D
Sample containers damaged/leaking/frozen?	D		D
40 ml vials head1pace, >.,._ized air bubble?	☐	D	D
Received from a refrigerator?	D		D

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

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

(qo5t5 3,01

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:** _S_,_i VC.. +-T; , -=tW Ht..----=c/4 a.-K--- **SAMPLE DATE:** c.OS::'-2-/9

Last na es only, primary sampler first.

SAMPLE Dore	PARAMETER	START TIME	END TIME	FREQUENCY	w	Auto Man.	Volume Submitted	Bottle Tyoe & Preservation
D	Priority Pollutant Metals	S-.V '/'t	1°'00	2-A 6b			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						40ml	Septum vial / Ice
D	Acrolein and Acrylonitrile						40ml	Septum vial / Ice
D	Acrolein and Acrvlonitrile						40ml	Septum vial / Ice
D	Acrolein and Acrylonitrile						40 ml	Septum vial / Ice
D	Purgeable Organics						40ml	Septum vial / Ice
D	Purgeable Organics						40ml	Septum vial / Ice
D	Purgeable Organics						40 ml	Septum vial / Ice
D	Purgeable Organics	W	W	J			40ml	Septum vial / Ice

pH METER CALIBRATION LOG

Time	Model#	Serial#	Auto/Man.	Buffer	Reading	Buffer	Reading	Temo.	Slope	Initials
			Not Applicable							

FIELD MEASUREMENTS

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials
		Not Applicable							

Notes: All Samples are Unpreserved

EQUIPMENT USED: D Grab Sampler ☐ Automatic Sampler ☐ Electric Pump ☐ Other _____

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
D 17631 N. 25th Avenue• Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-6101
04585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page J ot-/

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Green Valley		Joe Doranski	19-031813	Fax Results ☐ QC Report ☐ EDD ☑ Email Results ☑ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Drinking Water; WW=Wastewater; SW=Surface Water; GW=Groundwater; O=Other; S=Soil/Solid; T=Travel Blank; F=Food; G=Sludge/Biosolids

TURN AROUND TIME: Laboratory Authorization Required for Rush; D (i)standard 10 - 15 Day; D Other _____

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Comp. Type	Grab	No. of Containers	pH ✓ (Lab Use Only)	Total cyanide mg/kg	Total % solids dry weight																							
1905158-01	05/23/19	900	Green Valley WRF - wet haul sludge		X	G	X	2		X	X																						

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments/ Special Instructions:

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers		
Temperature	°C	
Custody Seals	y	N
Seals Intact	y	N
Preserved	y	N

	RELINQUISHED BY			SAMPLES RECEIVED BY		
①	Sampler Signature		Date 5/23/19	Signature		Date 5/23/19
	Sampler Printed Name	Greg Spence	Time 1357	Printed Name	Cisco	Time 1357
@	Signature		Date	Signature		Date
	Printed Name		Time	Printed Name		Time
③	Signature		Date	Signature		Date
	Printed Name		Time	Printed Name		Time

WHITE-LAB YELLOW-CLIENT

FORM CS-016.2 (07/18)

PIMA COUNTY

WASTEWATER RECLAMATION

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

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1905158-01**	**DO**	**19-031813**
CONTRACT LAB	**Legend Technical Services, Inc. - Phoenix**	**SAMPLE GROUP**	**Green Valley**
ANALYSES	**Total Cyanide, Total Solids**	**REPORT ID**	**19E2614**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Solimsann\elementshare\TransferIn ?	y
Was the above-mentioned file converted from a .xis 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>Proiect Manaqement>Reports)	y
Was the converted file attached to the sample in LIMS?	y
VALIDATING CONTRACT LAB REPORT, CHAIN OF CUSTODY(S), AND DO#:	
Is contract lab report signed and dated?	y
Is copy of contract lab COC included with contract lab report?	y
Do the contract lab COC and CRAO COC(s) list the same sample ID, sample date, and analysis requested?	y
Do the sample dates and received dates on the CL report match the CL COC?	y
Does the CL report include all requested analysis?	y
Is the CL licensed in AZ for reported methods?	y
Does the DO match COC in types and number of tests?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
Do CL report and CL spreadsheet report the same sample result(s), sample date(s), and analysis date(s)?	y
Was a case narrative included in contract lab report?	y
Does the data packet include a QC report from the primary lab and any secondary subcontract labs?	y
Did the CL report list aoolicable AZ data qualifiers?	y
Were any dilutions made?	y
Were any results from diluted samples reported as ND?	y
Were the results from any diluted samples qualified accordingly?	y
Was QC included for every analysis method (e.g. Blk, LCS, MS, MSD)?	y
Did QC pass stated acceptance limits? If not, was it qualified?	y
Were samples analyzed within required holding times?	y
SOCs: Are MDLs below water quality standards? (If not, notify Belinda Gamboa-Felix.)	N/A
Semivolatiles & Volatiles: Were all analvtes delivered?	N/A
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	N/A
Was Belinda Gamboa-Felix notified of any exceedences?	NIA
WET TESTING SPECIFIC REQUIREMENTS	
Is statement of Pass/Fail reflected in endpoints?	NIA
Ceriodaphnia: Survival and reproduction data included?	NIA
P. Promelas: Survival and growth data included?	NIA
Se/enastrum: Growth data included?	N/A
Was chemistry data included?	NIA

Are Reference Toxicant Test results and Control Charts within limits?	NIA
Was PMSD Determination included and within acceptable ranQe? (minimum acceptable= 13)	N/A
Do endpoints include TUc, NOEC, LOEC, and IC25?	N/A
Do statistics verify endpoints?	N/A
Were Control Charts updated to include month of analy_ ·is_?	N_IA_.
Reviewer Initials: ABR **Review Date:** 6-25-19	

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. Legend Technical Services of Arizona, Phoenix)?	✓	
DO received in Pima Core?	✓	
Analysis set to Reported?		✓

Peer Reviewer Initials:	JR	**Review Date:**	6-27-19
Final Reviewer Initials:	JEC	**Review Date:**	6·28·19

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

UMS#:	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.

LEGEND
Technical Services, Inc.

4585 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (520) 327-0518
www.legend-group.com

12 June 2019

Greg Spence
Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745
Fax: (520) 579-6002

RE: Environmental Analysis & Testing

Laboratory Work Order No.: 19E2614

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 05/23/19 14:15.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

,?.,#.,:_ft__::#-

P Brian Merritt For Alyssa Mazza
Client Services Representative
(602) 324-6100

This laboratory report is confidential and'is intended for the sole use of LEGEND and it's client.

Pima County RWRD GRAD Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Environmental Analysis & Testing Project Number: Environmental Analysis & Testing Project Manager: Greg Spence	Reported: 06/12/19 17:42

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
1905158-01	19E2614-01	Solid (Dry Weight)	Grab	05/23/19 09:00	05/23/19 14:15

Sample Condition Upon Receipt:

Temperature: 3.50 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Crite♦ia: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed on a "wet" basis unless designated as "dry weight".

Pima County RWRD CRAO Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Environmental Analysis & Testing Project Number: Environmental Analysis & Testing Project Manager: Greg Spence	Reported: 06/12/19 17:42

1905158-01 (19E2614-01) Solid (Dry Weight) (Grab) Sampled: 05/23/19 09:00 Received: 05/23/1914:15

Legend Technical Services of Arizona, Inc.

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry										
Cyanide, Total	<	0.030	0.100	mg/kg	10	B9F0922	06/03/19 12:30	06/03/19 17:19	EPA9014	D1, E8
% Solids	3		1	%	1	B9E1626	05/24/19 12:30	05/24/19 12:30	SM 2540 G	

Pima County RWRD CMOD Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Environmental Analysis & Testing
Project Number: Environmental Analysis & Testing
Project Manager: Greg Spence

Reported:
06/12/19 17:42

Notes and Definitions

EB	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
D1	Sample required dilution due to matrix.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPO	Relative Percent Difference

Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Environmental Analysis & Testing
Project Number: Environmental Analysis & Testing
Project Manager: Greg Spence

Reported:
06/12/1917:42

19E26 1354
AM 5/23/19

CHAIN OF CUSTODY RECORD

L:EGEND Technical Services, Inc.

017831 N.251hAvo,...,Phoenlx.AZ 85023 •(802) 324-8100• Fax(802)32•-a101
0•585 S. PaloVeroe Rd, S18•23 •Tu"'"°",AZ 85714 • (520) 327-1234 • Fax(520) 327-0518

Page J of J

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2956 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name: Green Valley
Project Number:
Contact: Joa Doranski
P.O. No.: 19-031813
Fax Results ☐ Email Results ☑ QC Report ☐ EDD ☑ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Drinking; WW=Wastewater; SW=Surface; WOIS; GW=Groundwater; O=Other; S=Soil/Solid; T=Tm B...; F:food; O-Sludga/BiOsolm

TURN AROUND TIME: Laboratory Authorization Required for Rush

f;illE-.10-150-,
Dou..

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Comp	Grab	Matrix	# of Containers	Total cyanide mg/kg	Total % solids dry weight	
1905158-01	05/23/19	910	Green Valley WRF • wet haul sludge		X	G	X 2	X	X	

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments/Special Instructions:

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers	2	
Temperature	3.5 °C	
Custody Seals	Y	N
Seals Intact	Y	N
Preserved	Y	N

	RELINQUISHED BY	Date	Time	SAMPLES RECEIVED BY	Date	Time
①	Sampler Signature / Sampler Printed Name: Greg Spence	5/23/19	1357	Signature / Printed Name: Casey Scott	5/23/19 @ Lab	1357
②	Signature / Printed Name: Casey Scott 5/23/19	5/23/19	1600	Signature / Printed Name: Courier	5/23/19	1600
③	Signature / Printed Name: Calvin	5/24/19	730	Signature / Printed Name: Michael	5/24/19	730

2415

WHITE-LAB YELLOW-CLIENT

FORM CS.016.2 (07/18)

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

Report Date: 11/12/2019
Laboratory License: AZ0159

Sample Analysis Report

Green Valley WRF

July 2019

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 a alysis.

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

11122!!CJ
Date

Laboratory License# AZO159

Lab ID:	Sample Type	Parameter	Sample Date/Time	Analysis Method	Analysis Dateffime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
BNRODMLSS (25000-1940)											
1907073-04	D	Total Suspended Solids	07/10/19 9:05	SM 2S40D	7/11/19 11:46	1410	mg/L		2.50		AV
1907073-04	D	Total Volatile Suspended Solids	07/10/l 9 9:05	EPA 160.4	7/11/19 13:05	1220	mg/L		2.50		AV
BNROD-South Aerobic Digester Sludge (25000-1960)											
1907111-02	D	%Solids	07/16/19 7:00	SM 2S40G	7/17/19 12:50	2.79	%		0.01		MSM
1907\ 1\-02	D	% Solids, Total Volatile	07/16/19 7:00	SM 2S40G	7/17/19 15:23	84.2	%		0.01		MSM
Wet Haul Sludge (25000-1962)											
1907130-01	D	Antimony	07/18/19 9:15	EPA6010D	7/30/19 12:32	ND	mg/kgdry		8.67		MLB
1907130-0\	D	Arsenic	07/18/19 9:15	EPA6010D	7/26/19 16:34	10.4	mg/kg dry		8.67		MLB
1907130-0\	D	Beryllium	07/18/19 9:15	EPA6010D	7/26/19 16:34	ND	mg/kg dry		1.73		MLB
1907130-0\	D	Cadmium	07/18/19 9:15	EPA6010D	7/26/19 16:34	ND	mg/kgdry		3.47		MLB
)907130-01	D	Chromium	07/18/19 9:15	EPA6010D	7/26/19 16:34	12.S	mg/kg dry		8.67		MLB
1907130-01	D	Copper	07/18/19 9:15	EPA6010D	7/26/19 16:34	2S8	mg/kg dry		8.67		MLB
1907130-01	D	Lead	07/18/19 9:15	EPA6010D	7/30/19 14:01	ND	mg/kg dry		8.67		MLB
1907130-01	D	Mercury	07/18/19 9:15	EPA7471B	8n/19 15:58	0.62	mg/kg dry		0.17		MJC
1907130-01	D	Molybdenum	07/18/19 9:15	EPA6010D	7/26/19 16:34	9.92	mg/kg dry		3.47		MLB
1907130-01	D	Nickel	07/)8/19 9:15	EPA6010D	7/26/19 16:34	9.66	mg/kg dry		8.67		MLB
1907130-01	D	Selenium	07/18/19 9:15	EPA6010D	7/26/19 16:34	ND	mg/kgdry		17.35		MLB
)907130-01	D	Silver	07/18/19 9: 15	EPA 6010D	7/26/19 16:34	3.45	mg/kg dry		0.87		MLB
1907130-0\	D	Thallium	07/18/19 9:15	EPA6010D	7/30/19 10:47	ND	mg/kg dry		8.67		MLB
1907130-01	D	Zinc	07/18/19 9:15	EPA6010D	7/26/19 16:34	484	mg/kg dry		8.67		MLB
1907130-01	D	Cyanide, Total	07/18/19 9:15	EPA9014	7/26/19 14:11	1.7S	mg/kg dry	1.05	3.50	E4	SK •
• Analysis Performed by:Legend Technical Services of Arizona, Inc. • See attached contract lab report for official results.											
1907130-01	D	%Solids	07/18/19 9:15	SM2S40G	7/25/19 14:40	3	%		1		SLL •
• Analysis Performed by:Legend Technical Services of Arizona, Inc. • See attached contract lab report for official results.											
1907130-01	D	%Solids	07/18/19 9:15	SM2S40G	7/19/19 13:17	3.00	%		0.01		MSM
1907130-01	D	Acrolein	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.00360	0.01		JEL
1907130-01	D	Acrylonitrile	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.00276	0.01	NI	JEL
1907130-01	D	4,4-DDD	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00198	0.00496	NI	MCD
1907130-01	D	4,4-DDE	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00313	0.00496	NI	MCD
1907130-01	D	4,4-DDT	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00274	0.00496	NI	MCD
1907130-01	D	Aldrin	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00321	0.00496	NI	MCD
1907130-01	D	alpha-BHC	07/18/19 9: 15	EPA 62S	9/25/19 12:02	NA	mg/kg dry	0.00337	0.00496	NI	MCD
1907130-01	D	beta-BHC	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00714	0.ot	NI	MCD
1907130-01	D	Chlordane	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00754	0.04	NJ	MCD
1907130-01	D	delta-BHC	07/i8/19 9:15	EPA62S	9/25/19 f2:02	NA	mg/kg dry	0.00143	0.00496	NJ	MCD
1907130-01	D	Dieldrin	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00329	0.00496	NI	MCD
1907130-01	D	Endosulfan I	07/18/19 9:15	EPA62S	9/25/19 I2:02	NA	mg/kg dry	0.00214	0.00496	NI	MCD
1907130-01	D	Endosulfan II	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00290	0.00496	NI	MCD
.1907130-01	D	Endosulfan sulfate	07/18/19 9:15	EPA625	9/25/19 12:02	NA	mg/kg dry	0.00226	0.00496	NI	MCD
)907130-01	D	Endrin	07/18/19 9:15	EPA625	9/25/19 12:02	NA	mg/kg dry	0.00528	0.ot	NI	MCD
1907130-01	D	Endrin aldehyde	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00476	0.004%	NI	MCD
1907130-01	D	gamma-BHC (Lindane)	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	ci.00547	0.01	NJ	MCD
1907130-01	D	Heptachlor	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00198	0.00496	NI	MCD
1907130-01	D	Heptachlor Epoxide	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00337	0.00496	NI	MCD
1907130-01	D	PCB 1016	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00436	0.01	NI	MCD
1907130-01	D	PCB 1221	07/18/19 9:15	EPA62S	9/25/19 12 :02	NA	mg/kg dry	0.00674	0.ot	NI	MCD
1907130-01	D	PCB 1232	07/18/19 9:15	EPA62S	9/25/19 12 :02	NA	mg/kg dry	0.00278	0.ot	NI	MCD
)907130-01	D	PCB 1242	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00516	0.01	NI	MCD
1907130-01	D	PCB 1248	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00417	0.01	NI	MCD
1907130-01	D	PCB 1254	07/18/)9 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00754	0.ot	NI	MCD
1907130-01	D	PCB 1260	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	mg/kg dry	0.00317	0.01	NI	MCD
1907130-01	D	Total PCBs	07/18/19 9:15	EPA62S	9/25/19 12:02	NA	,mg/kg dry	0.00754	O.OJ	NJ	MCD
1907130-01	D	Toxaphene	07/18/19 9: 15	EPA 625	9/25/19 12:02	NA	mg/kg dry	0.07021	0.08	NJ	MCD
)907130-01	D	Methoxychlor	07/18/19 9:15	EPA8270C	9/25/19 12:02	NA	mg/kg dry	0.00198	0.00496	NI	MCD
)907130-01	D	1,J,1-Trichloroethane	07/18/19 9:15	EPA624	7/24/19 19: 12	ND	mg/kg dry	0.004	0.01		ADP
1907130-01	D	I, 1,2,2-Tetrachloroethane	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.001	0.01		ADP
1907130-01	D	I, 1,2-Trichloroethane	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.002	0.01		ADP

Laboratory License# AZ0159

Lab ID:	Sample Type	Parameter	Sample Dateffime	Analysis Method	Analysis Date/Time	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1907130-01	D	I, 1-Dichloroethane	07/18/19 9:15	EPA624	7/24/19 19: 12	ND	mg/kg dry	0.003	0.01		ADP
1907130-01	D	I, 1-Dichloroethene	07/18/19 9: 15	EPA624	7/24/19 19: 12	ND	mg/kg dry	0.002	0.01		ADP
1907130-01	D	1,2-Dichlorobenzene	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.002	0.01		ADP
1907130-01	D	1,2-Dichloroethane	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.002	0.01		ADP
1907130-01	D	1,2-Dichloropropane	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.002	O.QI		ADP
1907130-01	D	1,3-Dichlorobenzene	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.002	0.01		ADP
1907130-01	D	1,4-Dichlorobenzene	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kgdry	0.003	0.01		ADP
1907130-01	D	2-Chloroethyl vinyl ether	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.005	0.01		ADP
1907130-01	D	Benzene	07/18/19 9:15	EPA624	7/24/19 I9: 12	ND	mg/kg dry	0.002	O.ol		ADP
1907130-01	D	Bromodichloromethane	07/18/19 9:15	EPA624	7/24/19 19: 12	ND	mg/kgdry	0.005	0.01		ADP
1907130-01	D	Bromoform	07/18/19 9: 15	EPA624	7/24/19 19: 12	ND	mg/kg dry	0.006	0.01		ADP
1907130-01	D	Bromomethane	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.003	0.01		ADP
1907130-01	D	Carbon Tetrachloride	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.007	0,01		ADP
1907130-01	D	Chlorobenzene	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.001	0.01		ADP
1907130-01	D	Chloroethane	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.004	0.01		ADP
1907130-01	D	Chloroform	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.003	0.01		ADP
1907130-01	D	Chloromethane	07/18/19 9:15	EPA624	7/24/19 19: 12	ND	mg/kg dry	0.004	0.01		ADP
1907130-01	D	cis-1,3-Dichl ropropene	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.002	0.01		ADP
1907130-01	D	Dibromochloromethane	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.001	0.01.		ADP
1907130-01	D	Ethyl Benzene	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.002	0.01		ADP
1907130-01	D	Methylene Chloride	07/18/19 9: 15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.004	0.01		ADP
1907130-01	D	Tetrachloroethene	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0,004	0.01		ADP
1907130-01	D	Total Trihalomethanes	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.006	0.01		ADP
1907130-01	D	trans-1,2-Dichloroethene	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.003	0.01		ADP
1907130-01	D	trans-1,3-Dichloropropene	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kgdry	0.002	0.01		ADP
1907130-01	D	Trichloroethene	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.003	0.01		ADP
1907130-01	D	Trichlorofluoromethane	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.005	0.01		ADP
1907130-01	D	Vinyl chloride	07/18/19 9:15	EPA624	7/24/19 19:12	ND	mg/kg dry	0.004	0.01		ADP
1907130-01	D	1,2,4-Trichlorobenzene	07/18/19 9:15	EPA8260	7/24/19 19: 12	ND	mg/kg dry	0.002	0.01		ADP
1907130-01	D	1,2-Dibromo-3-chloropropane	07/18/19 9: 15	EPA 8260	7/24/19 19:12	ND	mg/kg dry	0.002	0.02		ADP
1907130-01	D	1,2-Dibromoethane	07/18/19 9: 15	EPA 8260	7/24/19 19:12	ND	mg/kg dry	0.002	0.01		ADP
1907130-01	D	cis-1,2-Dichloroethene	07/18/19 9:15	EPA8260	7/24/19 19: 12	ND	mg/kg dry	0.004	0.01		ADP
1907130-01	D	m,p-Xylenes	07/18/19 9:15	EPA8260	7/24/19 19:12	ND	mg/kg dry	0.003	0.02		ADP
1907130-01	D	o-Xylene	07/18/19 9:15	EPA8260	7/24/19 19: 12	ND	mg/kg dry	0.002	0.01		ADP
1907130-01	D	Styrene	07/18/19 9: 15	EPA 8260	7/24/19 19:12	ND	mg/kg dry	0.002	0.01		ADP
1907130-01	D	Xylenes, total	07/18/19 9: 15	EPA 8260	7/24/19 19:12	ND	mg/kg dry	0.003	0.02		ADP
1907130-01	D	2,3,7,8-TCDD-DioxinScan	07/18/19 9:15	EPA62S	8/9/19 17:28	ND	ug/kgdry		0.83		-SJM
1907130-01	D	1,2,4-Trichlorobenzene	07/18/19 9: 15	EPA 625	7/25/19 19:35	ND	mg/kg dry	0.06	0.08	DI, D7, SIO	SJM
1907130-01	D	2,3-Dichloroaniline	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.09	0.24	DI, D7, SIO	SJM
1907130-01	D	2,4,6-Trichlorophenol	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.05	0.08	DI, D7, SIO	SJM
1907130-01	D	2,4-Dichlorophenol	07/18/19 9: IS	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.07	0.08	DI, D7, SID	SJM
1907130-01	D	2,4-Dimethylphenol	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kgdry	0.14	0.24	Dl,D7,SIO	SJM
1907130-01	D	2,4-Dinitrophenol	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.34	0.80	DI, D7	SJM
1907130-01	D	2,4-Dinitrotoluene	07/18/19 9: 15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.09	0.24	DI, D7	SJM
1907130-01	D	2,6-Dinitrotoluene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.06	0.08	DI, D7	SJM
1907130-01	D	2-Chloronaphthalene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.06	0.08	DI, D7	SJM
1907130-01	D	2-Chlorophenol	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.05	0.08	DI, D7, S10	SJM
1907130-01	D	2-Methyl-4,6-dinitrophenol	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.21	0.24	DI, D7	SJM
1907130-01	D	2-Methylphenol	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kgdry	0.05	0.08	SIO, DI, D7	SJM
1907130-01	D	2-Nitrophenol	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.11	0.24	Dl,D7,S10	SJM
1907130-01	D	3,3-Dicltlorobenzidine	07/18/19 9: 15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.09	0.20	DI, D7	SJM
1907130-01	D	4-Bromophenyl phenyl ether	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.05	0.08	DI, D7	SJM
1907130-01	D	4-Chloro-3-methylphenol	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kgdry	0.09	0.24	DI, D7, S10	SJM
1907130-01	D	4-Chlorophenyl phenyl ether	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.05	0.08	DI, D7	SJM
1907130-01	D	4-Methylphenol	07/18/19 9:15	EPA62S	7/25/19 18:22	2176	mg/kg dry	0.07	0.80	Dl,D2,D7,S10	SJM
1907130-01	D	4-Nitrophenol	07/18/19 9: 15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.19	0.24	DI, D7	SJM
1907130-01	D	Acenaphthene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.06	0.08	Dl,D7	SJM
1907130-01	D	Acenaphthylene	07/18/19 9:15	EPA62S	7/25/19 19,35	ND	mg/kg dry	0.06	0.08	Dl,D7	SJM
1907130-01	D	Anthracene	07/18/19 9: 15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.08	0.08	Dl,D7	SJM
1907130-01	D	Benzidine	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.26	0.40	Dl,D7	SJM

Laboratory License # AZ0159

Lab ID:	Sample Type	Parameter	Sample Date/fime	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Sample/Data Qualifiers	Analyst
1907130-01	D	Benzo[a]anthracene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.05	0.08	Dl,D7	SJM
1907130-01	D	Benzo[a]pyrene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.08	0.08	Dl,D7	SJM
1907130-01	D	Benzo[b]fluoranthene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.06	0.08	Dl,D7	SJM
1907130-01	D	Benzo[ghi]perylene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.12	0.24	Dl,D7	SJM
1907130-01	D	Benzo[k]fluoranthene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.09	0.24	Dl,D7	SJM
1907130-01	D	bis(2-chloroethoxy)methane	07/18/19 9:15.	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.08	0.08	Dl,D7,SI0	SJM
1907130-01	D	bis(2-chloroethyl)ether	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.08	0.24	SI0,Dl,D7	SJM
1907130-01	D	bis(2-chloroisopropyl)ether	07/18/19 9:15	EPA62S	7/25/.!9 19:35	ND	mg/kg dry	0,07	0.08	DI, D7, SI0	SJM
1907130-01	D	bis(2-cthylhexyl)phthalate	07/18/19 9:15	EPA62S	7/25/19 19:35	18.43	mg/kg dry	0.11	0.24	Dl,D7,J	SJM
1907130-01	D	Butylbenzylphthalate	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.08	0.08	Dl,D7	SJM
1907130-01	D	Carbazole	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.11	0.24	01,07	SJM
1907130-01	D	Chrysene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.05	0.08	D1,D7	SJM
1907130-01	D	Oibenzo(a.h)anthracene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.12	0.24	O1,D7	SJM
1907130-01	D	Diethyl phthalate	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.09	0.24	Dl,D7	SJM
1907130-01	D	Dimethyl phthalate	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.02	0.08	Dl,D7	SJM
1907130-01	D	Di-n-butyl phthalate	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kgdry	0.10	0.24	Dl,D7	SJM
1907130-01	D	Di-n-octyl phthalate	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.10	0.24	Dl,D7	SJM
1907130-01	D	Fluoranthene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.05	0.08	Dl,O7	SJM
1907130-01	D	Fluorcnc	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.06	0.08	Dl,D7	SJM
1907130-01	D	Hcxachlorobenzene	07/18/19 9:15	EPA625	7/25/19 19:35	ND	mg/kg dry	0.02	0.08	D1,D7	SJM
1907130-01	D	Hexachlorobutadiene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.04	0.08	DI, D7,SIO	SJM
1907130-01	D	Hcxachlorocyclopentadiene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.17	0.24	Dl,O7,SIO	SJM
1907130-01	D	Hexachloroethane	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.05	0.08	D1,D7,SI0	SJM
1907130-01	D	lndeno(1,2,3-cd)pyrene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.11	0.24	Dl,D7	SJM
1907130-01	D	lsophorone	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0,07	0.08	SI0,Dl,D7	SJM
1907130-01	D	Naphthalene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.07	0.08	Dl,D7,SI0	SJM
1907130-01	D	n-Decane	07/18/19 9:15	EPA625	7/25/19 19:35	ND	mg/kg dry	0.08	0.08	Dl,D7,SI0	SJM
1907130-01	D	Nitrobenzene	07/18/19 9:15	EPA625	7/25/19 19:35	ND	mg/kg dry	0.08	0.24	DI, D7, S!0	SJM
1907130-01	D	N-Nitrosodimcthylamine	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.08	0.24	D1,D7,SI0	SJM
1907130-01	D	N-Nitrosodi-n-propylamine	07/18/19 9:15	EPA625	7/25/19 19:35	ND	mg/kg dry	0.10	0.24	Dl,D7,SI0	SJM
1907130-01	D	N-Nitrosodiphenylamine	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.24	0.40	Dl,D7,PC3	SJM
1907130-01	D	n-Octadecane	07/18/19 9:15	EPA62S	7/25/19 19:35	14.79	mg/kgdry	0.09	0.24	Dl,D7,J	SJM
1907130-01	D	Pentachlorophenol	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.16	0.24	Dl,D7	SJM
1907130-01	D	Phenanthrene	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.07	0.08	Dl,D7	SJM
1907130-01	D	Phenol	07/18/19 9:15	EPA62S	7/25/19 19:35	68.S8	mg/kg dry·	0.10	0.24	D1,D7,SI0	SJM
1907130-01	D	Pyrcne	07/18/19 9:15	EPA62S	7/25/19 19:35	ND	mg/kg dry	0.06	0.08	Ol,D7	SJM
1907130-01	D	1,2-Oiphenylhydrazine	07/18/19 9:15	EPA8270C	7/25/19 19:35	ND	mg/kg dry	0.04	0.08	Dl,D7	SJM
1907130-01	D	1,4-Dichlorobenzene	07/18/19 9:15	EPA8270C	7/25/19 19:35	ND	mg/kg dry	0.05	0.08		SJM
1907130-01	D	2,4,5-Trichlorophenol	07/18/19 9:15	EPA8270C	7/25/19 19:35	ND	mg/kg dry	0.10	0.24		SJM'
1907130-01	D	3 & 4-Methylphenol	07/18/19 9:15	EPA8270C	7/25/19 19:35	ND	mg/kg dry	0.09	0.24		SJM
1907130-01	D	Pyridine	07/18/19 9:15	EPA8270C	7/25/19 19:35	ND	mg/k:g dry	0.06	0.08		SJM
1907130-0IREI	D	Toluene	07/18/19 9:15	EPA624	7/30/19 16:44	140.05	mg/kg dry	0.003	0.05	D2,D7	ADP

Qualifier Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
<	<I
A	Absence
DI	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.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL), but above the MDL.
ES	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.
K2	The sample dilutions set up for the BOD/CBOD analysis did not meet the criteria of a residual dissolved oxygen of at least 1 mg/L. Any reported result is an estimated value.
L4	The associated blank spike recovery was below method acceptance limits.
MS	Analyte concentration was determined by the method of standard addition (MSA).
NI	See case narrative.
N7	Additional analysis was not performed based on the "Total" result which was below the requested analyte's MCL/Action levelffrigger Level.
NA	Not Analyzed
PC3	Semi-quantitation is included in the case narrative.
SIO	Surrogate recovery was above laboratory and method acceptanc limits. See 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 ES 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
RPO	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

UC	Under Construction
EB	Equipment Blank
NA	Not Analyzed

Case Narrative(s)

1907073-05
SM 4500-CN E Contract lab results are expressed in fewer than three significant figures due to the fact that the contract lab normally reports total cyanide results in mg/L, not ug/L. ABR 8-7-19

1907119-05
Total Cyanide SM 4500 CN E: Total Cyanide contract lab results are expressed in fewer than three significant figures due to the fact that the contract lab normally reports in milligrams per liter, not micrograms per liter. See contract lab report for additional case narrative. MLF 8-06-2019.

1907129-01
Total Cyanide SM 4500 CN E: Contract lab results are expressed in fewer than three sgnificant figures due to the fact that the contract lab normally reports in milligrams per liter, not micrograms per liter. MLF 8-09-2019.

1907130-0 I
EPA Method 625/8270C Semi-Volatiles: S 10: Surrogate recovery was above laboratory acceptance limits. Results are biased high. Target analytes associated with high surrogate recovery were either non-detect or below the analyte's MCL/Action Levelsffrigger level. SJM 08/08/19. Edited by MCD 08/15/19.

Semi-Quantitation
Method: 625
1907130-01

Compound Name	Concentration-mg/Kg
Benzeneacetic Acid	591
Palmitic Acid	48469
OleicAcid	37712
Stearic Acid	24082

SJM 08/08/19

1907130-01
EPA Method 624 Acrylonitrile: Target analytes flagged with N1 failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. JEL 08/26/2019

1907130-01
EPA Method 625/8270C Pesticides: Nl/NA: Sample could not be analyzed within holding time due to unexpected instrument downtime following scheduled maintenance performed by the manufacturer. MCD 09/26/19.

1907181-01,-02
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 09/06/19

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.

17631 N. 25th Avenue • Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-8101
04585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page I of J

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Cyanides		Joe Doranski	20-01901	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Drinking Water; WW=Waslewater; SW=Surface Water; S=SolVSolid; T=Traval Blank; F=Food; G=Sludge/Biosolida

TURN AROUND TIME: Laboratory Authorization Required for Rush; ◆ Standard 10 • 15 Day

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Preservative	Grab	Sample Type	Compliance	No. of Containers	Total cyanide	Amenable cyanide	Tota cyanide mg/kg dry	Total % solids for mg/kg	Lab Use Only
1907119-05	07/17/19	900	Green Valley WRF - effluent APP		X	WW	X	1	X	X			01
1907122-01	07/17/19	955	Avra Valley WRF - final effluent		X	WW	X	1	X	X			02
1907123-01	07117/19	900	Avra Valley WRF - wet haul sludge	~~X~~	X	G	X	2			X	X	03
			CGS 07-22-19										

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments / Special Instructions: Please report the cyanide resullts from the sludge sample as mg/kg dry weight.

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers		
Temperature		•C
Chain of Custody	Y	N
Seals Intact	Y	N
Preserved	Y	N

	RELINQUISHED BY			SAMPLES RECEIVED BY	
①	Sampler Signature	Date 7/17/19	Signature	Date 7/17/19
	Sampler Printed Name: Greg Spence	Time 1410	Printed Name: Cory Sos	Time 1410
②	Signature	Date	Signature	Date
	Printed Name	Time	Printed Name	Time
③	Signature	Date	Signature	Date
	Printed Name	Time	Printed Name	Time

WHITE-LAB YELLOW-CLIENT

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
17631 N 25th Avenue • Phoenix, AZ 85023 • (602) 324-6100 • Fax (602) 324-6101
04585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1234 • Fax (520) 327-0518

Page 1 of 1

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Cyanides		Joe Doranski	20-01910	Fax Results ☐ QC Report ☐ EDD ☒ Email Results ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: DW=Drinking Water; WW=WBBtwwater; SW=Surface Water; GW=Groundweler; O=Other; S=Soil/Solid; T=Travel Blank; F=Food; G=Sludge/Biosolids

TURN AROUND TIME: Laboratory Authorization Required for Rush; ☒ Standard 10 - 15 Day; ☐ Other _____

Client's Sample Identification	Date	Time	Sample Location	Composite	Matrix	Grab	Compliance	No. of Containers	(Lab Use Only)	Total cyanide	Amenable cyanide	Total cyanide mg/kg dry	Total % solids for mg/kg	Lab No.
1907130-01	07/18/19	915	Green Valley WRF - wet haul sludge		X	G	X	2				X	X	01
1907129-01	07/18/19	1040	Green Valley WRF - final effluent		X	WW	X	1		X	X			02

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments / Special Instructions: Please report the cyanide results from the sludge sample as mg/kg dry weight.

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers		
Temperature	°C	
Custody Seals	y	N
Seals Intact	y	N
Preserved	y	N

	RELINQUISHED BY	Date	Time	SAMPLES RECEIVED BY	Date	Time
①	Sampler Signature / Sampler Printed Name: Greg Spence	7/18	1328	Signature / Printed Name: Cory Sos	7/18/19	1328
②	Signature / Printed Name			Signature / Printed Name		
③	Signature / Printed Name			Signature / Printed Name		

WHITE-LAB YELLOW-CLIENT

FORM CS-016.2 (07/18)

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

CHAIN OF CUSTODY

WORK ORDER & SAMPLE(S): 1907130-01

PROJECT & LOCATION: Green Valley WRF - Wet Haul Sludge (Quarterly)

PROJECT-LOCATION NUMBER: 25000-1962

SAMPLE START DATE: MMIDOIYY Oli MMIDDIYYYY

SAMPLE START TIME: (Miii...,time)

CLIENT: IWC

SAMPLE END DATE: 0 =l- l<t- .;l.D let MMIDDIYY 0ri MM00/YYYY

SAMPLE END TIME: 0'1/S: (,...,time)

SAMPLER (S): 5; /I.IAR; (.CA J.o'1,;

Permit Type: ☐ APP ☐ AZPDES ☐ we ☐ Investigative ☐ Reuse ☐ Air 503 D Process Control ☐ Other

Matrix: ■ Biosolids ☐ Groundwater ☐ Industrial ☐ Soil ☐ Stormwater ☐ Surface Water D Wastewater O Air 0 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				
PPMI •	X		■	
TCLP Metals				
503 Metal• "			■	
Dissolved Cr+6				

WET METHODS	D	C
Ammonia as N		D
Chloride	D	D
Cyanide, Total (♦ J)		
Cyanide, Amenable	D	D
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
Aorolein and Acrylonitrile		D
Dioxin GC/SIMIM8 Scan		
Organochlorll'll Peatlcldel & PCBI	■	
Purgeable Organlca (OOM8)		
Semlvolatlle OlJanlca (OCMS)		
Bls(2-ethylhexyl) phthalate	O	0
Digester Gas	D	D
Oli and Grease	D	D
Organic Carbon, Total	D	
Organic Carbon, Dissolved	D	
TCLP Herbicides (Contract Lab)		
TCLP Pesticides	D	D
TCLP Semivolatlle Organics	D	D
TCLP Volatile Organics		0
TTHM		
Total Petroleum Hydrocarbons	D	D
Volatile Acids	D	D
Other		D
Other	D	D

EFFLUENT TOXICITY TESTING

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

MICROBIOLOGY - WET CHEM

	D	C
Alkalinity	D	D
BOD	D	D
COD	D	D
Coliform, Fecal	0	0
Coliform, Total		D
Specific Conductance	0	0
E. coll		
Oxygen, Dissolved	O	O
pH	D	
Iolldl, Total [1 Pn c /		0
Solids, Total Dissolved		
Solids, Total Suspended	D	D
Solids, Total Volatile		
Solids, Volatile Suspended		D
Other		D

OTHER	D	C
Paint Filter	0	0

COMPLIANCE FIELD MEASUREMENTS

	Result	Units
D Chlorine *Hach 10014*		µg/L
D Specific Conductance *SM 2610 B*		µmhos/cm
D Oxygen, Dissolved *SM 4600-0 G*		mg/L
☐ PH @ pH Temp *SM 4600-H B*	@	pH Un" 1ffi C
D Temperature *SM26608*		·C
D Total Depth of Well		feet
☐ Depth to Water		feet
Other		

Comments/Instructions: Cv""J" a_L l2£ 2 z%5 Le,e-J TS, œs o1-IS-tj Oo 'Zb-al'l.k'

Septum Blank Prwp Date & Initials: IO<.o-,41-tt!l I I srs

Chain of Custody Record (Signatures Only)

Relinquished by Sampler:	Received by:	Date:	Time: (Military time)
[signature]	[signature]	07-18-19	1222
Relinquished by:	Received by:	Date:	Time: (Military time)
Relinquished by:	Received by:	Date:	Time: (Mliitary time)
Relinquished by:	Received by:	Date:	Time: (Mlitary time)

Sample Integrity/Preservation:

of Bottles Delivered: 9 COS

Transported on Ice: ☒ YES ☐ NO

Lab Receipt

Temperature: i °C

Initials: GOS

06 qualifier? ☐ YES ♦ NO

WU.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?			fB
Within holding time?	☒		
Sufficient sample volume for analysis?	☒		
Samples are in properly preserved containers?	☒		
Sample containers damaged/leaking/frozen?		1B	
40 ml vials headspace, > pea-sized air bubble?		?	
Received from a refigerator?		123	

- Sb, Aa, 811, Cd, Cr, Cu, Pb, Nl, Sli, Ag, Tl, Zn, Men:ury(Co/d Vaporj
- As, Cd, Cr, Cu, Pb, Mercury, Mo, Ni, Se, Zn

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT 1-I◆{q
INDUSTRIAL WASTEWATER CONTROL SECTION {1"
SAMPLE COLLECTION FIELD NOTES JE101.I /0,01)'31_ 0{

SAMPLE LOCATION: Green Valley WRF -Wet. Haul Sludge

LOCATION ID: 25000-1962 SAMPLERS: S:1 VA. K;<:.c..p.looo; SAMPLE DATE: 0-J.-1 t- 10i

Last na◆s oniy primary sampler first.

SAMPLE D orC	PARAMETER	START TIME	END TIME	FREQUENC			Volu◆ Subm-itted	Bottle ype & Preservation
D	Priority Pollutant Metals	7	Q	c./LClb			1000 ml	Dissolve Metals / Ice
D	'503 Metals							
D	!Cyanide, Total						1000 ml	Dissolved Metals / Ice
D	Dioxin Scan						1000 ml	Amber/Ice
D	I<>rg. Pesticides						1000 ml	Amber/Ice
D	◆ivolatile Organics						1000 ml	Amber/Ice
D	◆ids, Total						1000ml	General Purpose / Ice
D	◆lids, Total						1000 ml	General Purpose / Ice
D	IAcrolein and Acrvtonitrile						40ml	Seotum vial / Ice
D	Acrolein and Acrylonitrile						40ml	Sentum vial / Ice
D	Acrolein and Acrvlonitrile						40ml	Sentum vial / ice
D	IAcrolein and Acrvlonitrile						40ml	Sentum vial / Ice
D	PurQeable Oraanics						40ml	Sentum vial /.Ice
D	Pul"Qeable Oraanics						40ml	Sentum vial / Ice
D	Purgeable Oraanics						40ml	Sentum vial / ice
D	PurQeable Oraanics			t.1			40ml	Sentum vial / Ice

pH METER CALIBRATION LOG

nme	Model#	Serial#	Auto/Man.	Buffer	Readina	Buffer	Readina	Temo.	Slooe	.Initials
			Not Applicable							

FIELD MEASUREMENTS

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials
		Not Applicable							

Notes: All Samples are Unpreserved

EQUIPMENT USED: D Grab Sampler ☐ Automatic Sampler ☐ Electric Pump ☐ Other _____

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

Report Date: 10/1/2019
Laboratory License: AZO159

NA/NR Report

The analytes listed in this report were reported Not Analyzed or Not Reported

Project: **Green Valley WRF**

Client: **Industrial Wastewater Control**

sample Name:	**Wet Haul Sludge**	**Sample ID:**	**1907130-01**
Sample Date:	**7/18/2019 9:15:00**	**RegID:**	**25000-1962**
Permit Type:	**AZPDES**	**Sampler:**	**Rusty Riccaboni**

Analysis	Sample Type	Result
Pesticides 625	***Discrete***	***Not Analyzed***
Pesticides 625+	***Discrete***	***Not Analyzed***

Submitted by: MCD 09/25/2019 12:02
Date:

Reviewed by: MCD 9/25/2019 12:06:31
Date:

CHAIN OF CUSTODY RECORD

LEGEND'
Technical Services, Inc.
D 17631 N. 25th Avenue• Phoenix, AZ 65023 • (602) 324-6100 • Fax (602) 324-6101
04565 S. Palo Verde Rd, Ste 423 • Tucson, AZ 65714 • (520) 327-1234 • Fax (520) 327-0516

Page 1 of 1

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Cyanides		Joe Doranski	20-01910	Fax Results ☐ QC Report ☐ EDD ☒ Email Results ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: OW=Drinking Water; WW=Wastewater; SW=Surface Water; GW=Groundwater; O=Other; S=Soil/Solid; T=Travel Blank; F=Food; G=Sludge/Biosolids

TURN AROUND TIME: Laboratory Authorization Required for Rush. Standard 10-15 Day. D Other _____

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab (!)	Matrix	Composite	No. of Containers	Total cyanide	Amenable cyanide	Tota cyanide mg/kg dry	Total % solids for mg/kg	Lab No.
1907130-01	07/18/19	915	Green Valley WRF - wet haul sludge		X	G	X	2			X	X	01
1907129-01	07/16/19	1040	Green Valley WRF - final effluent		X	WW	X	1	X	X			02

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments / Special Instructions: Please report the cyanide results from the sludge sample as mg/kg dry weight.

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers		
Temperature	°C	
Custody Seals	y	N
Seals Intact	y	N
Preserved	y	N

	RELINQUISHED BY		SAMPLES RECEIVED BY	
①	Sampler Signature: [signature]	Date: 7/18/19	Signature: [signature]	Date: 7/18/19
	Sampler Printed Name: Greg Spence	Time: 1328	Printed Name: Cory Sos	Time: 1328
@	Signature	Date	Signature	Date
	Printed Name	Time	Printed Name	Time
@	Signature	Date	Signature	Date
	Printed Name	Time	Printed Name	Time

WHITE-LAB YELLOW-CLIENT

FORM CS-016.2 (07/18)

PIMA COUNTY
WASTEWATER RECLAMATION

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

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1907119-05,1907122-01,1907123 01**	**DO**	**20-01901**
CONTRACT LAB	**Legend Technical Services,** Inc. - **Phoenix**	**SAMPLE GROUP**	**Cyanides**
ANALYSES	**Cyanide SM 4500 CN {G,E), EPA 9014** **% Solids SM 2540 G**	**REPORT ID**	**19G2147**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Solimsann\elementshare\TransferIn ?	y
Was the above-mentioned file converted from a .xis 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#:	
Is contract lab report signed and dated?	y
Is copy of contract lab COC included with contract lab report?	y
Do the contract lab COC and CRAO COC(s) list the same sample ID, sample date, and analysis requested?	y
Do the sample dates and received dates on the CL report match the CL COC?	y
Does the CL report include all requested analysis?	y
Is the CL licensed in AZ for reported methods?	y
Does the DO match COC in types and number of tests?	.N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
Do CL report and CL spreadsheet report the same sample result(s), sample date(s), and analysis date(s)?	y
Was a case narrative included in contract lab report?	y
Does the data packet include a QC report from the primary lab and any secondary subcontract labs?	y
Did the CL report list aoolicable AZ data aualifiers?	y
Were any dilutions made?	N
Were any results from diluted samples reported as ND?	N/A
Were the results from any diluted samples qualified accordingly?	N/A
Was QC included for every analysis method (e.g. Blk, LCS, MS, MSD)?	y
Did QC pass stated acceptance limits? If not, was it qualified?	y
Were samples analyzed within required holding times?	y
SOCs: Are MDLs below water quality standards? (If not, notify Belinda Gamboa-Felix.)	N/A
Semivolatiles & Volatiles: Were all analytes delivered?	N/A
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	y
Was Belinda Gamboa-Felix notified of any exceedences?	N/A
WET TESTING SPECIFIC REQUIREMENTS	
Is statement of Pass/Fail reflected in endpoints?	N/A
Ceriodaphnia: Survival and reproduction data included?	N/A
P. Promelas: Survival and growth data included?	NIA
Selenastrum: Growth data included?	NIA

Was chemistry data included?	N/A
Are Reference Toxicant Test results and Control Charts within limits?	N/A
Was PMSD Determination included and within acceptable range? (minimum acceptable= 13)	N/A
Do endpoints include TUc, NOEC, LOEC, and IC25?	N/A
Do statistics verify endpoints?	N/A
Were Control Charts updated to include month of analysis?	N/A
Reviewer Initials: MLF	**Review Date:** 08-06-2019

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. Legend Technical Services of Arizona, Phoenix)?	✓	
DO received in Pima Core?	✓	
Analysis set to Reported?		✓
Peer Reviewer Initials: JR	**Review Date:** 8-9-19	
Final Reviewer Initials: JEC	**Review Date:** 8·12·19	

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

I:JMS#:	DEVIATION:	CORRECTIVEACTION:·-

DEVIATIONS FROM ACCEPTABLE QA/QC:

Missing QC Report/Data
Holding Time for analysis exceeded.
Inappropriate dilution performed.
Missing COG.
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.

LEGEND
Technical Services, Inc.
4585 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (520) 327-0518
www.legend-group.com

05 August 2019

Joe Doranski
Pima County RWRD Cf½O Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745
Fax: (520) 579-6002

RE: Cyanide

Laboratory Work Order No.: 19G2147

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for th aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 07/17/19 14:35.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

? /i

P. Brian Merritt For Alyssa Mazza
Client Services Representative
(602) 324-6100

This laboratory report s confidential and is intended for the sole use of LEGEND and it's client.

Pima County RWRD CRAO Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Cyanide Project Number: 7/17/19 Project Manager: Joe Doranski	Reported: 08/05/19 14:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
1907119-05	19G2147-01	Wastewater	Grab	07/17/19 09:00	07/17/19 14:35
1907122-01	19G2147-02	Wastewater	Grab	07/17/19 09:55	07/17/19 14:35
1907123-01	19G2147-03	Solid (Dry Weight)	Grab	07/17/19 09:00	07/17/19 14:35

Sample Condition Upon Receipt:

Temperature: 6.50 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed on a "wet" basis unless designated as "dry weight".

Per client, sample -03 is a Grab rather than a Composite as indicted by the COC.

N1 - The result after removal of amenable cyanide was significantly higher than the result for total cyanide. According to the method, for samples containing significant quantities of iron cyanides, it is possible that the second distillation (after removal of amenable cyanide) will give a higher value than the test for total cyanide, leading to a negative result for amenable cyanide.

Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Cyanide
Project Number: 7/17/19
Project Manager: Joe Doranski

Reported:
08/05/19 14:49

1907119-05 (19G2147-01) Wastewater (Grab) Sampled: 07/17/19 09:00 Received: 07/17/19 14:35

Legend Technical Services of Arizona, Inc.

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry										
Cyanide, amenable	<	3	10	ug/L	1	89G1823	07/25/1914:20	07/25/19 18:28	SM 4500 CN G	E8,N1
Cyanide, Total	3	3	10	ug/L	1	89G1771	07124/19 11 :25	07/24/19 11 :25	SM 4500 CN E	E4

1907122-01 (19G2147-02) Wastewater (Grab) Sampled: 07/17/19 09:55 Received: 07/17/19 14:35

Legend Technical Services of Arizona, Inc.

Analyte	Result.	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry										
Cyanide, amenable	<	3	10	ug/L	1	B9G1823	07/25/1914:20	07/25/1918:28	SM 4500 CN G	E8,N1
Cyanide, Total	3	3	10	ug/L	1	89G1771	07/24/1911:25	07/24/1914:06	SM 4500 CN E	E4

1907123-01 (19G2147-03) Solid (Dry Weight) (Grab) Samplecl: 07/17/19 09:00 Received: 07/17/19 14:35

Legend Technical Services of Arizona, Inc.

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Inorganic Chemistry										
Cyanide, Total	<	1.97	6.58	mg/kg dry	1	89G1843	07/26/19 10:35	07/26/19 14:11	EPA 9014	EB
% Solids	2		1	%	1	89G1548	07/18/1915:50	07/18/1915:50	SM 2540 G	

Legend Technical Services of Arizona, Inc.

The ;esults in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Laboratory Work Order No.: 19G2147

Pima County RWRD CHAD Lab	Project: Cyanide	
2955 W Calle Agua Nueva	Project Number: 7/17/19	Reported:
Tucson, AZ 85745	Project Manager: Joe Doranski	08/05/19 14:49

Notes and Definitions

N7	Additional analysis was not performed based on the "Total" result which was below the requested analyte's MCUAction LeveVTrigger Level.
N1	See case narrative.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
EB	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 the MDL.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

19.

PIMA COUNTY

WASTEWATER RECLAMATION

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

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	1907130-01, 1907129-01	DO	20-01910
CONTRACT LAB	Legend Technical Services, Inc. - Phoenix	SAMPLE GROUP	Cyanides
ANALYSES	Cyanide SM 4500 CN (G,E), EPA 9014 % Solids SM 2540 G	REPORT ID	19G2302

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Sgli_'!l_ _eg\elementshar_T ci3._nsf E!!:1 ?	y
Was the above-mentioned file converted from a .xis 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>Proiect Management> Reports)	y
Was the converted file attached to the sample in LIMS?	y
VALIDATING CONTRACT LAB REPORT, CHAIN OF CUSTODY(S), AND DO#:	
Is contract lab report signed and dated?	y
Is CQP'}. of contract lab COC included with contract lab report?	y
Do the contract lab COC and CRAO COC(s) list the same sample ID, sample date, and analysis requested?	y
Do the sample dates and received dates on the CL report match the CL COC?	y
Does the CL report include all requested analysis?	y
Is the CL licensed in AZ for reported methods?	y
Does the DO match COC in types and number of tests?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
Do CL report and CL spreadsheet report the same sample result( ). sample date(s), and analysis date(s)?	y
Was a case narrative included in contract lab report?	y
Does the data packet include a QC report from the primary lab and any secondary subcontract labs?	y
Did the CL report list applicable AZ data qualifiers?	y
Were any dilutions made?	N
Were any results from diluted samples reported as ND?	N/A
Were the results from any diluted samples qualified according!y?	N/A
Was QC included for every analtsis method (e.g. Blk, LCS, MS, MSD)?	y
Did QC pass stated acceptance limits? If not, was it qualified?	y
Were samples anal>-1zed within required holding times?	y
SOCs: Are MDLs below water quality standards? (If not, notify Belinda Gamboa-Felix.)	N/A
Semivolatiles & Volatiles: Were all analytes delivered?	NIA
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	y
Was Belinda Gamboa-Felix notified of any exceedences?	N/A
WET TESTING SPECIFIC REQUIREMENTS	
Is statement of Pass/Fail reflected in endpoints?	N/A
Ceriodaphnia: Survival and reproduction data included?	N/A
P. Promelas: Survival and growth data included?	N/A
Selenastrum: Growth data included?	N/A

Was chemistry data included?	N/A
Are Reference Toxicant Test results and Control Charts within limits?	N/A
Was PMSD Determination included and within acceptable ran9e? (minimum acceptable= 13)	N/A
Do endpoints include TUc, NOEC, LOEC, and IC25?	N/A
Do statistics verify endpoints?	N/A
Were Control Charts updated to include month of anal'(Sis?	N/A

Reviewer Initials:	**MLF**	**Review Date:**	**08 09-2019**
	MLF		**10-18-2019**

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. Legend Technical Services of Arizona, Phoenix)?	✓	✓
DO received in Pima Core?	✓	
Analysis set to Reported? - on 6 · 1'L · I -:f EC 10· 2,1 · 19		✓

Peer Reviewer Initials:	JLP	**Review Date:**	10-18-19
Final Reviewer Initials:	JEC	**Review Date:**	10,2{·/1

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

LIMS#:	**DEVIATION:**	**CORRECTIVE ACTION:**
1907129-01	Missing Data Qualifiers	Request report correction from Subcontract Lab project manager.

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.

LEGEN
Technical Services, Inc.
4585 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (520) 327-0518
www.legend-group.com

17 October 2019

Joe Doranski
Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745
Fax: (520) 579-6002

RE: Cyanide

Laboratory Work Order No.: 19G2302

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 07/18/19 14:20.

The samples were processed in accordance with the Chain of Custody document and the results presented relate Only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Alyssa Mazza

Alyssa Mazza
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Pima County RWRD CRAO Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Cyanide Project Number: 7/18/19 Project Manager: Joe Doranski	**Reported:** 10/17/19 14:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
1907130-01	19G2302-01	Solid (Dry Weight)	Grab	07/18/19 09:15	07/18/19 14:20
1907129-01	19G2302-02	Wastewater	Grab	07/18/19 10:40	07/18/19 14:20

Sample Condition Upon Receipt:

Temperature: 3.80 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method r◆quirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE **Member.**

Accreditation is applicable only to the test methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed on a "wet" basis unless designated as "dry weight".

Report revised on **10/17/2019** to include ES Qualifier for Amenable Cyanide. AMM

Pima County RWRD CRAO Lab	Project: Cyanide	
2955 W Calle Agua Nueva	Project Number: 7/18/19	Reported:
Tucson, AZ 85745	Project Manager: Joe Doranski	10/17/19 14:24

1907130-01 (19G2302-01) Solid (Dry Weight) (Grab) Sampled: 07/18/19 09:15 Received: 07/18/19 14:20

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.										
Inorganic Chemistry										
Cyanide, Total	1.75	1.05	3.50	mg/kg dry	1	B9G1843	07/26/19 10:35	07/26/1914:11	EPA 9014	E4
% Solids	3		1	%	1	B9G1848	07/25/19 14:40	07/25/1914:40	SM 2540 G	

1907129-01 (19G2302-02) Wastewater (Grab) Sampled: 07/18/19 10:40 Received: 07/18/19 14:20

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.										
Inorganic Chemistry										
Cyanide, amenable	<	3	10	ug/L	1	B9G1846	07/26/1910:35	07/26/19 14:11	SM 4500 CN G	ES
Cyanide, Total	4	3	10	ug/L	1	B9G1TT1	07/24/19 11:25	07/24/1914:06	SM 4500 CN E	E4,M2

Pima County RWRD CRAO Lab	Project: Cyanide	
2955 W Calle Agua Nueva	Project Number: 7/18/19	Reported:
Tucson, AZ 85745	Project Manager: Joe Doranski	10/17/19 14:24

Notes and Definitions

N7	Additional analysis was not perfonned based on the "Total" result which was below the requested analyte's MCUAction Level/Trigger Level.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
EB	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 the MDL.
BIK	Method Blank
ICS/Dup	laboratory Control Sample/laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPO	Relative Percent Difference

Pima County RWRD CRAO Lab	Project: Cyanide	
2955 W Calle Agua Nueva	Project Number: 7/18/19	Reported:
Tucson, AZ 85745	Project Manager: Joe Doranski	10/17/19 14:24

19G2302

CHAIN OF CUSTODY RECORD

LEGEND
Technical Services, Inc.

017631 N.25ffiA-•PhoonP<,AZ85023•(602)324-81DD•Fox(602)324-8101
04685 S. Pala VerOe Rd, Ste ◄23 • Tucson, AZ 8571◄ • (520) 327-123<1 • F u (52D) 327-0518

Page-_1_of_j_

PINtt Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No.	
Cyanides		Joe Doranski	20-01910	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES

DW=DrittU'1Q S=Scill.,olla
w - T:Travel&ank;
WW:Wastewater F:::facd
SW---&,f"" G=SIUdgilfBiOIOIidl
w -
GW•Grou,ii,i,ater
O=Other

TURN AROUND TIME

Laboratory Authorization Required for Rush

i2'S1andard1C-160.,

☐ - - - - - - - - - -

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Sample Type	Grab	Composite	No. of Containers	Total cyanide	Amenable cyanide	Total cyanide mg/kg dry	Total % solids for mg/kg	Lab Sample ID
1907130-01	07/16/19	915	Green Valley WRF - wet haul sludge		X	G	X	2		X	X	01
1907129-01	D7116119	10◄0	Green Valley WRF - final effluent		X	WW	X	1	X	X		02

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments / Special Instructions: Please repart the cyanide resullts foIT the sludge sample as mg/kg dry weight

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers	3	
Temperature	3.5 °C	
Custody Seals	Y	N
Seals Intact	Y	N
Received	Y	N

RELINQUISHED BY

	Sampler Signature / Printed Name	Date	Time	Signature / Printed Name	Date	Time
(D	Greg Spence	7/18/19	1328	Cos Cos	7/18/19	1328
@	Cosy Cos	7/18/19	1600	Cooper	7/18/19	1600
0)	Pm!!!INMIa Collin	7/19/19	730	Mulvaly	7/19/19	730

SAMPLES RECEIVED BY

WHITE-LAS YELLOW-CLIENT

FORM CS-016.2 (07/18)

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

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**19071!0-01, 1907129-01**	**DO**	**20-01910**
CONTRACT LAB	**Legend Technical Services, Inc. - Phoenix**	**SAMPLE GROUP**	**Cyanides**
ANALYSES	**Cyanide SM 4500 CN (G,E), EPA 9014** **% Solids SM 2540 G**	**REPORT ID**	**19G2302**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\Solimsann\elementshare\TransferIn?	y
Was the above-mentioned file converted from a .xis 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>Proiect Manaqement>Reports)	y
Was the converted file attached to the sample in LIMS?	y
VALIDATING CONTRACT LAB REPORT, CHAIN OF CUSTODY(S), AND DO#:	
Is contract lab report signed and dated?	y
Is copy of contract lab COC included with contract lab reoort?	y
Do the contract lab COC and CRAO COC(s) list the same sample ID, sample date, and analysis requested?	y
Do the sample dates and received dates on the CL report match the CL COC?	y
Does the CL report include all requested analysis?	y
Is the CL licensed in AZ for reported methods?	y
Does the DO match COC in types and number of tests?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
Do CL report and CL spreadsheet report the same sample result(s), sample date(s), and analysis date(s)?	y
Was a case narrative included in contract lab report?	y
Does the data packet include a QC report from the primary lab and any secondary subcontract labs?	y
Did the CL report list applicable AZ data qualifiers?	y
Were any dilutions made?	**N**
Were any results from diluted samples reported as ND?	N/A
Were the results from any diluted samples qualified accordingly?	**N/A**
Was QC included for every analysis method (e.Q. Blk, LCS, MS, MSD)?	y
Did QC pass stated acceptance limits? If not, was it qualified?	**Y.**
Were samples analyzed within required holding times?	y
SOCs: Are MDLs below water quality standards? (If not, notify Belinda Gamboa-Felix.)	**N/A**
Semivolatiles & Volatiles: Were all analytes delivered?	N/A
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge oermit?.	y
Was Belinda Gamboa-Felix notified of any exceedences?	N/A
WET TESTING SPECIFIC REQUIREMENTS	
Is statement of Pass/Fail reflected in endpoints?	**N/A**
Ceriodaphnia: Survival and reproduction data included?	**N/A**
P. Promelas: Survival and growth data included?	**N/A**
Se/enastrum: Growth data included?	**N/A**

Was chemistry data included?	N/A
Are Reference Toxicant Test results and Control Charts within limits?	N/A
Was PMSD Determination included and within acceptable range? (minimum acceptable= 13)	N/A
Do endpoints include TUc, NOEC, LOEC, and IC25?	N/A
Do statistics verify endpoints?	N/A
Were Control Charts updated to include month of analysis?	N/A
Reviewer Initials: MLF	**Review Date:** 08-09-2019

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. Legend Technical Services of Arizona, Phoenix)?	✓	
DO received in Pima Core?	✓	
Analysis set to Reported?		✓
Peer Reviewer Initials: JD	**Review Date:** 8-9-19	
Final Reviewer Initials: JEC	**Review Date:** 8.12.19	

CORRECTIVE ACTION REPORT:			
Preliminary Review:		Date:	
QNQC Review:		Date:	
Data Entry:		Date:	
Peer Review:		Date:	
Lab Supervisor:		Date:	

LIMS #:	DEVIATION:	CORRECTIVEACTION:

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 resarnpling.
Other.

LEGEND
Technical Services, Inc.
4585 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (520) 327-0518
www.legend-group.com

05 August 2019

Joe Doranski
Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745
Fax (520) 579-6002

RE: Cyanide

Laboratory Work Order No.: 19G2302

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 07118119 14:20.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

7 ,.t.,.:/1

P. Brian Merritt For Alyssa Mazza
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Pima County RWRD CRAO Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Cyanide Project Number: 7/18/19 Project Manager: Joe Doranski	Reported: 08/05/19 15:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
1907130-01	19G2302-01	Solid (Dry Weight)	Grab	07/18/19 09:15	07/18/19 14:20
1907129-01	19G2302-02	Wastewater	Grab	07/18/19 10:40	07/18/19 14:20

Sample Condition Upon Receipt:

Temperature: 3.80 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times **were** met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed on a "wet" basis unless designated as "dry weight".

Pima County RWRD CRAO Lab	Project: Cyanide	
2955 W Calle Agua Nueva	Project Number: 7/18/19	Reported:
Tucson, AZ. 85745	Project Manager: Joe Doranski	08/05/19 15:14

1907130-01 (19G2302-01) Solid (Dry Weight) (Grab) Sampled: 07/18/19 09:15 Received: 07/18/19 14:20

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry										
Cyanide, Total	1.75	1.05	3.50	mg/kg dry	1	B9G1B43	07/26/1910:35	07/26/1914:11	EPA 9014	E4
% Solids	3		1	%	1	B9G1848	07/25/1914:40	07/25/1914:40	SM 2540 G	

1907129-01 (19G2302-02) Wastewater (Grab) Sampled: 07/18/1910:40 Received: 07/18/1914:20

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			Legend Technical Services of Arizona, Inc.							
Inorganic Chemistry										
Cyanide, amenable	<	3	10	ug/L	1	B9G1846	07/26/1910:35	07/26/1914:11	SM 4500CN G	EB, N7
Cyanide, Total	4	3	10	ug/L	1	B9G1771	07/24/19 11 :25	07/24/1914:06	SM 4500 CN E	E4, M2

Pima County RWRD CBAO Lab	Project: Cyanide	
2955 W Calle Agua Nueva	Project Number: 7/18/19	Reported:
Tucson, AZ 85745	Project Manager: Joe Doranski	08/05/19 15:14

Notes and Definitions

N7	Additional analysis was not performed based on the "Total" result which was below the requested analyte's MCUAction LeveVTrigger Level.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
E5	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 the MDL.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPO	Relative Percent Difference

Pima County RWRD CRAO Lab
2955 W Calle Agua Nueva
Tucson, AZ 85745

Project: Cyanide
Project Number: 7/18/19
Project Manager: Joe Doranski

Reported:
08/05/1915:14

19G2302

CHAIN OF CUSTODY RECORD

LEGEND
Technical Services, Inc.

☐17f131N.25GiAvenue•-AZaso2H 802) " "-"100 . Fu <02, 32..., 101
04585S. PaloVonleRd, Sloc23 • Tucoon,AZ . . ., . • (520) !27-1234 • Fm<6211) 327>0518

Pt11&_l_of_J__

PjNNPr/ntOlNrly

CLIENT INFORMATION

CliwritNar.•	29fi5 W Calle Agua Nuava	C, Tucson	State AZ	Zip 85745	Phone 520-724-6016	Fax Number or Email Address joseph.doranski@pima.gov
Project Name Cyanides	Project Number	Contact Joe Doranski	P.O. No. 20-01910	Fax Results ☐ Email Results ☒	QC Report ☐ EDD ☒ Special Detection Limits ☐	

SAMPLE TYPE CODES: DW=Drinking Water; WW=Wastewater; SW=Surface Water; GW=Groundwater; S=SoilSolid; T=Tr1141B_; f=faiaod; G=Ilda

TURN AROUND TIME: Laboratory Authorization Required for Rush 11:!s-•o-m,., ☐\"

Client's Sample Identification	Date	r1111e	Sample Location	Gas & Grab	Matrix	Preservative	No. of Containers	Total cyanide	Amenable cyanide	Tota cyanide mg/kg dry	Total % solids for mg/kg	
1907130-01	07116/19	e,s	Green Valley WRF - wet haul sludge		X	B	X	2		X	X	01
1907129-01	011, 6/19	1040	Green Valley WRF - final effluent		X	WW	X	1	X	X		02

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments / Special Instructions: Please repof1. the cyanide resutlts from ttle sludge sample as mg/kg dry weight

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers	3	
Temperature	3.1 °C	
Custody Seals	Y	N
Seals Intact	Y	N
Preservation	Y	N

	RELINQUISHED BY	Date/Time	SAMPLES RECEIVED BY	Date/Time
(i)	Sampler Signature / Printed Name Greg Spence	7/18 1328	Signature / Printed Name Casy Cos	7/18/19 1328
Ii)	Casy Cos	7/18/19 1600	Signature / Printed Name Cooper	7/18/19 1600
	Cooper	7/19/19 730	Signature / Printed Name Mulvaly	7/19/19 730

WHITE4AB YELLOW-CLIENT

FORM CS-016.2 (07118)

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: 02/14/2020
Laboratory License: AZ0159

Sample Analysis Report

Client:	Industrial Wastewater Control	Work Order ID:	1910212
Project:	Green Valley WRF	LabReceivedDate:	10/29/19 11:37
Permit Type:	AZPDES	Project Number:	25000

Sample Integrity

SAMPLE RECEIPT: Samples were received intact at the required temperature, unless otherwise noted with a data qualifier. 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.

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

COMMENTS:

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 2/14/202-1)

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

Sample ID: **1910212-01**
Site Location: Wet Haul Sludge
Site Number: 25000-1962

Sample Start Date/fime 10/29/2019 9:18:00
Sample End Date/fime 10/29/2019 9:18:00
Sampled By: Michael Silva

Parameter	Sample Type	Analysis Method	Analysis Dateffime	Analysis Value	Units	MDL	MRL	Data Qualifiers	Analyst	SubLab
Antimony	D	EPA6010D	11/19/19 11:19	**ND**	mg/kg dry		7.30		MLB	
Arsenic	D	EPA6010D	11/19/19 11:19	**10.1**	mg/kg dry		7.30		MLB	
Beryllium	D	EPA6010D	11/14/19 13:54	**ND**	mg/kg dry		1.46		MLB	
Cadmium	D	EPA6010D	11/14/19 13:54	**ND**	mg/kg dry		2.92		MLB	
Chromium	D	EPA6010D	11/14/19 13:54	**10,5**	mg/kg dry		7.30		MLB	
Copper	D	EPA6010D	11/14/19 13:54	**235**	mg/kg dry		7.30		MLB	
Lead	D	EPA6010D	11/14/19 13:54	**8.29**	mg/kg dry		7.30		MLB	
Molybdenum	D	EPA6010D	11/14/19 13:54	**7.46**	mg/kg dry		2.92		MLB	
Nickel	D	EPA6010D	11/14/19 13:54	**10.3**	mg/kg dry		7.30		MLB	
Selenium	D	EPA6010D	11/14/19 13:54	**ND**	mg/kg dry		14.60		MLB	
Silver	D	EPA6010D	11/14/19 13:54	1.67	mg/kg dry		0.73		MLB	
Thallium	D	EPA60!0D	11/14/19 13:54	**ND**	mg/kg dry		7.30		MLB	
Zinc	D	EPA60!0D	11/14/19 13:54	**446**	mg/kg dry		7.30		MLB	
Mercury	D	EPA 74718	11/1/19 16:17	**0.50**	mg/kg dry		0.12		MJC	
Cyanide, Total	D	EPA 9014	11/7/19 10:14	**ND**	mg/kg dry		0.274	E8	CGP	*
• Analysis Performed by:Legend Technical Services of Arizona, Inc. - See attached contract lab report for official results.										
% Solids	D	SM 2540G	11/5/19 14:20	**4**	%		1		SLL	*
• Analysis Performed by:Legend Technical Services of Arizona, Inc. - See attached contract lab report for official results.										
% Solids	D	SM 2540G	10/30/19 14:37	**3.93**	%		0.01		SDR	
Acrolein	D	EPA624	10/29/19 18:53	**ND**	mg/kg dry	0.514	2.54		JEL	
Acrylonitrile	D	EPA624	10/29/19 18:53	**ND**	mg/kg dry	0.890	2.54		JEL	
1,2-Dichloropropane	D	EPA624	10/30/19 17:44	**ND**	mg/kg dry	0.05	2.54	01,07	ADP	
Carbon Tetrachloride	D	EPA624	10/30/19 17:44	**ND**	mg/kg dry	0.18	2.54	01,07	ADP	
Bromomethane	D	EPA624	I0/30/19 17:44	**1.47**	mg/kg dry	0.07	2.54	DI, 07,J	ADP	
Bromoform	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.15	2.54	DI, D7	ADP	
Bromodichloromethane	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.12	2.54	01,07	ADP	
Benzene	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.06	2.54	DI, 07	ADP	
2-Chloroethyl vinyl ether	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.13	2.54	DI, D7	ADP	
Chloroethane	D	EPA624	10/30/19 17:44	**ND**	mg/kg dry	0.09	2.54	DI, 07	ADP	
1,3-Dichlorobenzene	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.04	2.54	01,D7	ADP	
Chloroform	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.07	2.54	Dl,D7	ADP	
1,2-Dichloroethane	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.05	2.54	DI, D7	ADP	
1,2-Dichlorobenzene	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.04	2.54	DI, 07	ADP	
I, 1-Dichloroethene	D	EPA624	10/30/19 17:44	**ND**	mg/kg dry	0.06	2.54	01,D7	ADP	
I, 1-Dichloroethane	D	EPA 624	10/30/19 17:44	**ND**	mg/kg dry	0.09	2.54	01,D7	ADP	
I, I,2-Trichloroethane	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.05	2.54	01,07	ADP	
I, 1,2,2-Tetrachloroethane	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	O.Q3	2.54	Dl,D7	ADP	
I, I, I-Trichloroethane	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.10	2.54	01,07	ADP	
1,4-Dichlorobenzene	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.09	2.54	01,07	ADP	
Vinyl chloride	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.11	2.54	DI, 07	ADP	
Trichlorofluoromethane	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.14	2.54	01,07	ADP	
Trichloroethene	D	EPA624	10/30/19 17:44	**ND**	mg/kg dry	0.07	2.54	Dl,D7	ADP	
trans-1,3-Dichloropropene	D	EPA624	10/30/19 17:44	**ND**	mg/kg dry	0.06	2.54	DI, D7	ADP	
Chlorobenzene	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.03	2.54	DI, D7	ADP	
Total Trihalomethanes	D	EPA624	10/30/19 17:44	**ND**	mg/kg dry	0.15	2.54	DI, D7	ADP	
Toluene	D	EPA624	I0/30/19 17:44	**152.41**	mg/kg dry	O.Q7	2.54	Dl,D7	ADP	
Tetrachloroethene	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.09	2.54	01,07	ADP	
Methylene Chloride	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.11	2.54	01,07	ADP	
Ethyl Benzene	D	EPA624	I0/30/19 17:44	**ND**	mg/kg dry	0.05	2.54	DI, D7	ADP	

Sample ID: 19102212-01 **Sample Start Date/Time** 10/29/2019 9:18:00

Site Location: Wet Haul Sludge **Sample End Dateffime** 10/29/2019 9:18:00

Site Number: 25000-1962 **Sampled By:** Michael Silva

Parameter	Sample Type	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Data Qualifiers	Analyst	SubLab
Dibromochloromethane	D	EPA624	I0/30/19 17:44	ND	mg/kg dry	0.03	2.54	O1,D7	ADP	
cis-1,3-Dichloropropene	D	EPA624	I0/30/19 17:44	ND	mg/kg dry	0.05	2.54	DI, 07	ADP	
Chloromethane	D	EPA624	10/30/19 17:44	ND	mg/kg dry	0.10	2.54	DI, 07	ADP	
trans-1,2-Dichloroethene	D	EPA624	I0/30/19 17:44	ND	mg/kg dry	0.07	2.54	01,07	ADP	
Toxaphene	D	EPA625	11/9/19 01:04	ND	mg/kg dry	1.8002	2.01	01,07	HAY	
beta-BHC	D	EPA625	11/9/19 0I :04	ND	mg/kg dry	0.18308	0.25	DI, 07, L3, NI	HAY	
alpha-BHC	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.08645	0.13	DI, 07, LI, NI	HAY	
Aldrin	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.08238	0.13	DI, 07	HAY	
4,4-DDT	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.07018	0.13	O1,O7,N1	HAY	
4,4-DDE	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.08035	0.13	DI, 07, L3, NI	HAY	
4,4-DDD	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.05085	0.13	DI, 07, L3, NI	HAY	
Heptachlor Epoxide	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.08645	0.13	O1,O7,N1	HAY	
Total PCBs	D	EPA625	I 1/9/19 01:04	ND	mg/kg dry	0.19325	0.25	DI, 07	HAY	
PCB 1260	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.08137	0.25	DI, 07	HAY	
PCB 1254	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.19325	0.25	01,07	HAY	
PCB 1248	D	EPA625	11/9/19 0I:04	ND	mg/kg dry	0.10679	0.25	01,07	HAY	
PCB 1242	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.13222	0.25	DI, 07	HAY	
PCB 1232	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.07120	0.25	01,07	HAY	
Chlordane	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.19325	1.00	DI, 07	HAY	
PCB 1016	D	EPA625	11/9/19 0I:04	ND	mg/kg dry	0.11188	0.25	DI, 07	HAY	
delta-BHC	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.03662	0.13	DI, D7, L3, NI	HAY	
Heptachlor	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.05085	0.13	DI, 07	HAY	
gamma-BHC (Lindane)	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.14036	0.25	DI, 07, LI, NI	HAY	
Endrin aldehyde	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.12205	0.13	DI, 07	HAY	
Endrin	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.13527	0.25	DI, 07	HAY	
Endosulfan sulfate	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.05797	0.13	DI, 07, L3, NI	HAY	
Endosulfan II	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.07425	0.13	DI, 07, LI, NI	HAY	
Endosulfan I	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.05492	0.13	DI, 07, LI, NI	HAY	
Dieldrin	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.08442	0.13	DI, 07, L3, NI	HAY	
PCB 1221	D	EPA625	11/9/19 01:04	ND	mg/kg dry	0.17290	0.25	DI, 07	HAY	
2,3,7,8-TCDD - Dioxin Scan	D	EPA625	12/6/19 11:41	ND	ug/kg dry		0.64		SJM	
Fluoranthene	D	EPA625	12/3/19 17:07	ND	mg/kg dry	2.69	10.17	DI, 07	SJM	
N-Nitrosodi-n-propylamine	D	EPA625	12/3/19 17:07	ND	mg/kg dry	4.94	30.51	DI, 07	SJM	
n-Decane	D	EPA625	12/3/19 17:07	ND	mg/kg dry	3.97	10.17	O1,D7	SJM	
lsophorone	D	EPA625	12/3/19 17:07	ND	mg/kg dry	3.38	10.17	01,07	SJM	
lndeno(1,2,3-cd)pyrene	D	EPA625	12/3/19 17:07	ND	mg/kg dry	5.76	30.51	DI, 07	SJM	
Hexachloroethane	D	EPA625	12/3/19 17:07	ND	mg/kg dry	2.50	10.17	01,07	SJM	
Hexachlorocyclopentadiene	D	EPA625	12/3/19 17:07	ND	mg/kg dry	8.60	30.51	DI, 07	SJM	
Hexachlorobutadiene	D	EPA625	12/3/19 17:07	ND	mg/kg dry	2.05	10.17	07,01	SJM	
Butylbenzylphthalate	D	EPA625	12/3/19 17:07	ND	mg/kg dry	3.86	10.17	D1,D7	SJM	
Fluorene	D	EPA625	12/3/19 17:07	ND	mg/kg dry	3.13	10.17	DI, 07	SJM	
n-Octadecane	D	EPA625	12/3/19 17:07	ND	mg/kg dry	4.43	30.51	DI, 07	SJM	
Dimethyl phthalate	D	EPA625	12/3/19 17:07	ND	mg/kg dry	1.18	10.17	D1,O7	SJM	
Diethyl phthalate	D	EPA625	12/3/19 17:07	ND	mg/kg dry	4.56	30.51	01,07	SJM	
Dibenzo(a,h)anthracene	D	EPA625	12/3/19 17:07	ND	mg/kg dry	6.24	30.51	DI, 07	SJM	
Di-n-butyl phthalate	D	EPA625	12/3/19 17:07	ND	mg/kg dry	5.09	30.51	DI, 07	SJM	
Carbazole	D	EPA625	12/3/19 17:07	ND	mg/kg dry	5.43	30.51	DI, 07	SJM	
Hexachlorobenzene	D	EPA625	12/3/19 17:07	ND	mg/kg dry	1.26	10.17	01,07	SJM	
N-Nitrosodimethylamine	D	EPA625	12/3/19 17:07	ND	mg/kg dry	4.25	30.51	DI, 07, PC3	SJM	
Pyrene	D	EPA625	12/3/19 17:07	ND	mg/kg dry	2.81	10.17	01,07	SJM	
N-Nitrosodiphenylamine	D	EPA625	12/3/19 17:07	ND	mg/kg dry	12.37	50.85	01,07	SJM	
Phenol	D	EPA625	12/3/19 17:07	18.10	mg/kg dry	5.27	30.51	O1,07,J	SJM	
Phenanthrene	D	EPA625	12/3/19 17:07	ND	mg/kg dry	3.32	10.17	01,07	SJM	
Pentachlorophenol	D	EPA625	12/3/19 17:07	ND	mg/kg dry	8.18	30.51	D1,D7	SJM	
Nitrobenzene	D	EPA625	I2/3/19 17:07	ND	mg/kg dry	4.27	30.51	O1,D7	SJM	
Naphthalene	D	EPA 625	12/3/19 17:07	ND	mg/kg dry	3.60	10.17	DI, D7	SJM	

Sample ID: 19102212-01 **Sample Start Dateffime** 10/29/2019 9:18:00

Site Location: Wet Haul Sludge **Sample End Dateffime** 10/29/2019 9:18:00

Site Number: 25000-1962 **Sampled By:** Michael Silva

Parameter	Sample Type	Analysis Method	Analysis Date/fime	Analysis Value	Units	MDL	MRL	Data Qualifiers	Analyst	SubLab
Chrysene	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	2.32	10.17	D1,D7	SJM	
2,4,6-Trichlorophenol	D	EPA 625	I2/3/19 17:07	**ND**	mg/kg dry	2.75	10.17	D1,D7	SJM	
bis(2-ethylhexyl)phthalate	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	5.74	30.51	D1,D7	SJM	
2-Chlorophenol	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	2.60	10.17	D1,D7	SJM	
Di-n-octyl phthalate	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	5.19	30.51	D1,D7	SJM	
2,6-Dinitrotoluene	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	2.87	10.17	D1,D7	SJM	
2,4-Dinitrotoluene	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	4.70	30.51	D1,D7	SJM	
2,4-Dinitrophenol	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	17.53	50.85	D1,D7	SJM	
2-Methyl-4,6-dinitrophenol	D	EPA 625	12/3/19 1707	**ND**	mg/kg dry	10.92	30.51	D1,D7	SJM	
2,4-Dichlorophenol	D	EPA 625	12/3/19 1707	**ND**	mg/kg dry	3.48	10.17	D1,D7	SJM	
2,3-Dichloroaniline	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	4.35	30.51	DI,D7	SJM	
1,2,4-Trichlorobenzene	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	3.05	10.17	D1,D7	SJM	
2,4-Dimethylphenol	D	EPA625	12/3/19 1707	**ND**	mg/kg dry	7.24	30.51	D1,D7	SJM	
Benzo[a]pyrene	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	3.99	10.17	D1,D7	SJM	
bis(2-chloroisopropyl)ether	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	3.66	10.17	D1,D7	SJM	
bis(2-chloroethyl)ether	D	EPA 625	12/3/19 I7:07	**ND**	mg/kg dry	4.31	30.51	D1,D7	SJM	
bis(2-chloroethoxy)methane	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	4.03	10.17	DI, D7	SJM	
Benzo[k]fluoranthene	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	4.66	30.51	DI, D7	SJM	
2-Chloronaphthalene	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	2.99	10.17	D1,D7	SJM	
Benzo[b]tluoranthene	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	3.21	10.17	D1,D7	SJM	
2-Methylphenol	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	2.34	1017	D1,D7	SJM	
Benzo[a]anthracene	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	2.54	10.17	DI, D7	SJM	
Benzidine	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	13.26	50.85	D7, DI	SJM	
3,3-Dichlorobenzidine	D	EPA 625	I2/3/19 I7:07	**ND**	mg/kg dry	4.50	25.43	D1,D7	SJM	
Acenaphthylene	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	3.21	10.17	D1,D7	SJM	
Acenaphthene	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	3.11	1017	D1,D7	SJM	
4-Nitrophenol	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	9.62	30.51	D1,D7	SJM	
4-Chlorophenyl phenyl ether	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	2.52	10.17	D1,D7	SJM	
4-Chloro-3-methylphenol	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	4.41	30.51	DI, D7	SJM	
4-Bromophenyl phenyl ether	D	EPA 625	12/3/19 I7:07	**ND**	mg/kg dry	2.42	10.17	D1,D7	SJM	
Anthracene	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	4.07	10.17	D1,D7	SJM	
2-Nitrophenol	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	5.80	30.51	D1,D7	SJM	
Benzo[ghi]perylene	D	EPA 625	12/3/19 17:07	**ND**	mg/kg dry	5.98	30.51	D1,D7	SJM	
1,2-Dibromoethane	D	EPA 8260	10/30/19 17:44	**ND**	mg/kg dry	0.122	2.54	DI, D7	ADP	
1,2-Dibromo-3-chloropropane	D	EPA 8260	10/30/19 17:44	**ND**	mg/kg dry	0.046	2.54	DI, D7	ADP	
1,2,4-Trichlorobenzene	D	EPA 8260	10/30/19 17:44	**ND**	mg/kg dry	0.056	2.54	D1,D7	ADP	
m,p-Xylenes	D	EPA 8260	10/30/19 17:44	**ND**	mg/kg dry	0.081	5.09	01,07	ADP	
cis-1,2-Oichloroethene	D	EPA 8260	10/30/19 17:44	**ND**	mg/kg dry	0.102	2.54	D1,O7	ADP	
Xylenes, total	D	EPA 8260	I0/30/19 17:44	**ND**	mg/kg dry	0.081	5.09	O1,D7	ADP	
Styrene	D	EPA 8260	I0/30/19 17:44	**2.44**	mg/kg dry	0.041	2.54	DI, D7,J	ADP	
o-Xylene	D	EPA 8260	I0/30/19 17:44	**ND**	mg/kg dry	0.041	2.54	D1,D7	ADP	
Methoxychlor	D	EPA 8270C	I1/9/19 01:04	**ND**	mg/kg dry	0.0509	0.13	D1,D7,N1	HAY	
1,2-Diphenylhydrazine	D	EPA 8270C	12/3/19 17:07	**ND**	mg/kg dry	2.36	10.17	D1,D7	SJM	

Sample ID: 1910212-0IKEI **Sample Start Dateffime** 10/29/2019 9:18:00

Site Location: Wet Haul Sludge **Sample End Dateffime** 10/29/2019 9:18:00

Site Number: 25000-1962 **Sampled By:** Michael Silva

Parameter	Sample Type	Analysis Method	Analysis Date/Time	Analysis Value	Units	M D L	MRL	Data Qualifiers	Analyst	SubLab
4-Methylphenol	D	EPA625	12/3/19 16:31	646.6	mg/kgdry	3.48	50.85	DI, D2, D7	SJM	

Qualifier Definitions

DI	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.
J	Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL) but above MDL.
LI	The associated blank spike recovery was above laboratory acceptance limits.
L3	The associated blank spike recovery was above method acceptance limits.
NI	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 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
UC	Under Construction
EB	Equipment Blank
NA	Not Analyzed

Case Narrative(s)

1910212-01

EPA Method 625/8270C Pesticides: Target analytes flagged with NI failed the Matrix Spike from the same extraction batch but the spike was performed on a different sample. HAV I1/19/2019. Edited by MCD 1/8/20.

Semi-Quantitation
Method: 625
1910212-01

Compound Name	Concentration-mg/Kg
Palmitic Acid	21372
OleicAcid	21809
Stearic Acid	10700

SJM 12/20/19

Pima County Regional Wastewater Reclamation Department

ConflianctartdRquwor, AffoinOJfta uilorato,y

CHAIN OF CUSTODY

COPY

WORK ORDER & SAMPLE(S): 1910212-01

PROJECT & LOCATION: Green V.., WRF • Wet Haul Sludge (Quarttlfty)

PROJECT-LOCATION NUMBER: 2 ... 1196_2

SAMPLE START DATE: SAMPLE START TIME: (Military time) CLIENT: JWC

SAMPLE ENO DATE: /I) - ot1- Dl1 (Military time) SAMPLE ENO TIME: (Military time) S·/ &I"-p,,, ch,le.

Permit TyP9: 0 APP ■ AZPDES QrM; D InvestiglIlY¥e 0 Reuee □ Air 503 D ProcNs eontra1 □ Other

Matrtx: Bioeolids 0 Grol.ntwall9r D Industrial O Soil D Stormwater □ &nace w .ter ow.u,watef □ Air 0 Other

INORGANIC CHEMISTRY

METALS	Tot	Olu	DC
Aluminum	□	□	□□
Antimony	□	□	□□
Arsenic	□	□	0 0
Barium	D	Q	DO
Beryllium	0	0	0 0
Boron	0		DO
CadmlUm	0	0 0 0	
Calcium	D	D	0 0
Chromium	D	O	OD
Cobalt	D	D	0 0
Copper	0	0 0 0	
Hardness	0	□	0 0
Iron	D	D	0 0
Lead	0	0	0 0
Magnesium	0	D	DO
Manganese	□	□	DD
Menuy			■D
Mercur, LL	0	0 0 0	
Molybdenum	0	D	0 0
Nickel	0	0	0 0
Potassium	□	0	DO
Selenium	□	0	0 0
Sliver	□	□	OD
Sodium	'OD		0 0
Thalium	□	D	DD
Tin	□	0	OD

METALS	Tot	Dia	DC
Titanium	□	□	□□
Vanadium	D	□	DD
Zinc:	□	D	□□
PPMs•			□
TCLP Metall			□□
503 Metals"			□
DlnolwdCr+t			□□

WI;TMEnIODS	DC
AmmonlaasN	DO
Chlortde	□□
Cyanide, TOCII , 4-,t	□
Cyanide.Amenable	DO
F1uorlde	□□
IgnitablIty	□□
N11rateas N	□□
Nltrtle as N	DO
Nitrate/Nitrite a N	DO
Nitrogen, Total t<;eldahl	DO
Nitrogen, Total as N	DD
°'1hopholphate as P	□□
Pholphon.ts, Total as P	□□
Sulfate	DO
&IIIde	□□
Other	□□
Other	□□

ORGANIC CHEMISTRY

	DC
Acroleln and Acrylolillrtle	□
Dlon'1 GC/SIM/MS Scan	□
Organoc:hlof'lje Pestic:Idea & PCB1	□
Pwgeeble Organics (GCMS)	□
Semlvolallle Organics (GCMS)	□
Bls(2-ethyhtxyf) phChalate	DO
OlgnterGaa	OD
Ol--,Greae	DD
Organic Carbon, Total	OD
Organic Calbon, Oluolved	OD
TCI..P (Contred lab)	DO
TCI..P Pesticides	□□
TCI..P Semlvolatle Organics	DO,
TCI..P Volatle Organics	:00
TTHM	100
Tobil Petroleun Hydrocarbons	□□
Volatile Acids	DO
Other	OD
Olher	·□□

EFFLUENT TOXICITY TESTING

	DC
Chronic P. prome/a$	□□
Chronic C. duble	DD
Chronic Selena$fnHn	0 0
Other	DO

MICROBIOLOGY - WET CHA.I

	0 C
Alkalinity	DD
BOO	188
COO	
Coliform,Fecal	□□
Collform. Total	DD
Specltlc Conductance	DD
E. coif	□□
Oxygen,Oluollled	DO
pH	Di □
SOllda, Total ½0 '"-J.	0
Solds, Total OinolYed	DO
Solds, Total SUspended	DO
Solds, Total Volallle	DD
Solds, Volatile SUspended	□□
Olhei'	n0

OTHER

	DC
Paint Flier	DO
	DO
	DD
	DD
	OD

COMPLIANCE REt.D MEASUREMENTS

QChlorine Hedi 10014		19-
OSpecfflc Conductance $1115108		IJfflhos/an
OOxygen, Dissolved SM4500-0G		mgll.
OpHOpHTemp SM4500-H8	●	pHUnllaO•C
DTempefllture SIIUAOB		·C
□ Total Depth ofWeR		feet
ODeptlltoWater		feet
□Other		

C=t.'wudf"',°lot 1 7"%5 ,, f fo

L_1...-i rS. cos .10-z•Hj_ Qop to-vnb'f 2

Blank Pl9D 1 Initials: I/4I-:U:>a I lst +J<lw I

Chain CU.tady Record

jp	(0-I,C,../"f	1/1'7	
R , y 1	,_....II,:	0..:	,pia.y_)
R.....,._t,J:	.....II,:	0..:	TIIM:(Malry-)
Rolinquit,ed ty,	R.-...11,:	0..:	TIIM: pia.y-.
Re11nqu,1•e<1	lilallMdll,:	0..:	TIIM: pia.y-.i

Integrity reservation: •ot ered &j

TraiiSpOl1lld on Ice IE) YES ONO

Temperature: 0 ·C

Initials: Ccf

a& qualtler? oves (2INO

LAB USE ONLY

a-pe.1n1pect1nn:	Y•	No	NA
Chain dCIMI!dy R--«I conplet8d	12'	0	0
Sample lebel• rna1lh CfIlln otCuelody?	fig	□	□
Comtc:tnumberd bolles-?		D	01
Custody ... inllcf?	D	D	B
?	ff9	D	D
Sufflcient..mple--- analya?		D	O
Samples- Inpn,peity prNel'V9d ?		□	□
Sample conlllnenl d11m11gedlNdnglfmen?	D	lzJ	0,
·orn.__ hNdepece, >,,..._.ci • 1u1111a1	D		0
ReceMICI from ■ NfriO■•IDI?	□	1zl	□

•D, Aa, 8l1, Cd, Cr, Cl, P&, "·, Se, Ar, ff, Z,, Vapo,j

COC-Single Revlalon 2 Revl8ed: 03112/2015

!1-10 1/2-0/

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT

INDUSTRIAL WASTEWATER CONTROL SECTION
SAMPLE COLLECTION FIELD NOTES

SAMPLE LOCATION: Green Valfey WRF - Wet Haul Sludge

LOCATION ID: 2sooo-19&2 **SAMPLERS:** S. (v-.. t'o mc.h. Is **SAMPLE DATE:** /0-..?'7- (1

Last nam s onlv, primarv sampier first.

SAMPLE Dore	PARAMETER	START TIME	END TIME	FREQUENCY	Time Flow	Auto Man.	Submitted	Bottle Type & Preservation
D	Priority Pollutant Metals		c:P 9.	LAb			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	Semlvolatlle Organics						1000 ml	Amber/ Ice
D	Solids, Total						1000 ml	General Purpose / Ice
D	Solids, Total						1000 ml	General Purpose / Ice
D	Acroleln and Acrvtonltrlle						40ml	Septum vial / Ice
D	IAcroleln and Acrvtonitrile						40ml	Septum vial / Ice
D	IAcroleln and Acrvtonltrlle						40ml	Septum vial / Ice
D	IAcroleln and Acrvtonltrlle						40ml	Septum vial / Ice
D	Purgeable Organics						40ml	Septum vial / Ice
D	Purgeable Organics						40ml	Septum vial / Ice
D	Purgeable Organics						40ml	Septum vial / Ice
D	Purgeable Organics						40ml	Septum vial / Ice

pH METER CALIBRATION LOG

Time	Model#	Serial#	Auto/Man.	Buffer	Reading	Buffer	Reading	Temp.	Sloce	Initials
			Not Applicable							

FIELD MEASUREMENTS

Sample	Parameter & Method	Result	Time	Initials	Sample	Parameter & Method	Result	Time	Initials
		Not Applicable							

Notes: All Samples are Unpreserved

EQUIPMENT USED: ☐ Grab Sampler ☐ Automatic Sampler ☐ Electric Pump O Other _____

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
017631 N 25th Avenue• Pt\oenix, AZ 65023 • (602) 324-6100 • Fax (802) 324-6101
04585 S. Pale Verde Rd, Ste 423 • Tucson, AZ 65714 • (520) 327-1234 • Fax (520) 327-0516

Page 1 of 1

Please Print Clearly

CLIENT INFORMATION

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2955 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O. No	
Cyanide		Joe Doranski	20-012642	Fax Results ☐ QC Report ☐ EDD ☒ Email Results ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: OW=Or1nung; WMer; W>N"WBSIII Watar; SW=Sl.fface; Wmor; OW-CTOUIIdWaler; O=Other; S:Sotl/Sohd; T;Trawl81ank; F:Food; G•S!uoge/Biosohds

TURN AROUND TIME: Laboratory Authorization Required for Rush; ☐ S-d 10-15 Day; Doaw

REQUESTED ANALYSES

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample • !	Compliance	No. of Containers	pH (Lab Use Only)	Amenable cyanide	Total cyanide	Total solids for mg/kg	Cyanide (T) mg/kg dry	LAB NO.
1910203-01	10128/19	1120	Tres Rios WRF - well SC-05R		X	GW	X	1		X	X			01
1910203-02	10128/19	1235	Tres Rios WRF - well SC-07R		X	GW	X	1		X	X			02
1910209-01	10129/19	907	Sample bottles Lot# 0114801 E		X	O		1			X			03
1910212-01	10/29/19	816	Green Valley WRF - wet haul sludge		X	G	X	2				X	X	OW
1910211-01	10/29119	1008	Green Valley WRF - BNROD final eff		X	WW	X	1		X	X			tU

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXPIRATION

Comments / Special Instructions:

SAMPLE CONDITION UPON RECEIPT (Lab Use)

No. of Containers		
Temperature		°C
Custody Seals	y	N
Seals Intact	y	N
Preserved	y	N

	RELINQUISHED BY		SAMPLES RECEIVED BY	
①	Sampler Signature: Greg Spence	Date 10/30/19 Time 1227	Signature / Printed Name	Date 10/30/19 Time 1227
(2)	Signature / PrinledNamo	Date / Time	Signature / PnnlodNamo	Date / Time
a,	Signature / PrlnladNamit	Time	Signature	Dot• / Time

WHITE-LAS YEUOW-<:LIENT

FORM CS-016.2 (07/18)

PIMA COUNTY

WASTEWATER RECLAMATION

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

LIMS CHECKLIST FOR SUBCONTRACT DATA

LIMS ID	**1910203-01-02, 1910209-01, 1910212-01, 1910211-01**	**DO**	**20-012642**
CONTRACT LAB	**Legend Technical Services, Inc. - Phoenix**	**SAMPLE GROUP**	**GraRides,-,frfs c\\AN•'06**
ANALYSES	**Cyanide SM 4500 CN (E, G), EPA 9014, % Solids SM 2540 G**	**REPORT ID**	**19J3440**

TRANSFER & CONVERT FILES:	
Was the contract lab spreadsheet file saved to \\nlim nn\elementshare\TransferIn ?	y
Was the above-mentioned file converted from **a .xis** 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#:	
Is contract lab report signed and dated?	y
Is copy of contract lab COC included with contract lab report?	y
Do the contract lab COC and CRAO COC(s) list the same sample ID, sample date, and analysis requested?	y
Do the sample dates and received dates on the CL report match the CL COC?	y
Does the CL report include all requested analysis?	y
Is the CL licensed in AZ for reported methods?	y
Does the DO match COC in types and number of tests?	N/A
CONTRACT LAB REPORT, EXCEL SPREADSHEET, and QC:	
Do CL report and CL spreadsheet report the same sample result(s), sample date(s), and analysis date(s)?	y
Was a case narrative included in contract lab report?	y
Does the data packet include a QC report from the primary lab and any secondary subcontract labs?	y
Did the CL report list applicable AZ data qualifiers?	y
Were any dilutions made?	N
Were any results from diluted samples reported as ND?	NA
Were the results from any diluted samples qualified accordingly?	NA
Was QC included for every analysis method (e.g. Blk, LCS, MS, MSD)?	y
Did QC pass stated acceptance limits? If not, was it qualified?	y
Were samples analyzed within required holding times?	y
SOCs: Are MDLs below water quality standards? **(If** not, notify Belinda Gamboa-Felix.)	N/A
Semivolatiles **&** Volatiles: Were all analytes delivered?	N/A
COMPLIANCE LIMIT REVIEW	
Were results compared to the discharge permit?.	y
Was Belinda Gamboa-Felix notified of any exceedences?	NIA
WET TESTING SPECIFIC REQUIREMENTS	
Is statement of Pass/Fail reflected in endpoints?	NIA
Ceriodaphnia: Survival and reproduction data included?	N/A
P. Promelas: Survival and growth data included?	N/A

Selenastrum: Growth data included?	NIA
Was chemistry data included?	NIA
Are Reference Toxicant Test results and Control Charts within limits?	NIA
Was PMSD Determination included and within acceptable range? (minimum acceotable= 13)	NIA
Do endpoints include TUc, NOEC, LOEC, and IC25?	NIA
Do statistics verify endpoints?	NIA
Were Control Charts updated to include month of analysis?	NIA
Reviewer Initials: MLF Review Date: 11-13-2019	

PEER/FINAL REVIEW:	PR	FR
LIMSIExcel 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. Legend Technical Services of Arizona, Phoenix)?	✓	✓
DO received in Pima Core?	✓	
Analysis set to Reported?		✓

Peer Reviewer Initials:	MP	Review Date:	11-18-19
Final Reviewer Initials:	JEC	Review Date:	12·4·19

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.

LEGEND
Technical Services, Inc.
4585 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (S20) 327-0518
www.legend-group.com

08 November 2019

Joe Doranski
Pima County RWRD CRAO Lab
2955 WCalleAgua Nueva
Tucson, AZ 85745
Fax: (520) 579-6002

RE: Cyanide

Laboratory Work Order No.: 19J3440

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 10/30/19 12:45.

The samples were processed in accordance with the, Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples wi11 be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Alyssa Mazza

Alyssa Mazza
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and It's client.

Pima County RWRD CRAO Lab	Project: Cyanide	
2955 W Cane Agua Nueva	Project Number: 10/30/19	Reporwcf:
Tucson, AZ 85745	Project Manager: Joe Doranski	11/08/19 13:21

ANALYTICAL REPORT FOR SAMPLES

	LaboralDly ID	IllaCrtx		Date	
1910203,-01	19J3440-01	Groundwater	Grab	10/28/19 11:20	10/30/19 12:45
1910203,-02	19J3440-02	Groundwater	Grab	10/28/19 12:35	10/30/19 12:45
1910209-01	19J3440-03	DI Water	Grab	10/29/19 09:07	10/30/19 12:45
1910212-01	19J3440-04	Solid (Ory Weight)	Grab	10/29/19 09:18	10/30/19 12:45
1910211-01	19J3440-05	Wastewater	Grab	10/29/19 10:08	10/30/19 12:45

Sample Condition Upon Receipt:

Temperature: 2.60 C

All samples were received in acceptable condition unless noted otheiwise in *the* case narrative.

case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otheiwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)0OO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on the scope of accreditation held by LEGEND.

Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed On a "wet" basis unless designated as "dry weighr.

Pima County R D CRAO Lab 2955 W Calle Agua Nueva Tucson; AZ 85745	Project: Cyanide Project Number: 10/30/19 Project Manager: Joe Doranski	Reported: 11/08/1913:21

1910203-01 (19J3440-01) Groundwater (Grab) Sampled: 10/28/19 11:20 Received: 10/30/19 12:45

Legend Technical Services of Arimn-. Inc.

Analyte	Reauft	MDL	RL	Unlll	Dlution	Batch	Prepared	Analyzed	Metha4	Noles
Inorganic Cbem!!!7										
Cyanide, amenable	<	3	10	ug/1.	1	B9K0915	11106119 08:30	11106119 10:50	SM4500CNG	N7
Cyanide, Total	<	3	10	ug/1.	1	B9K0915	11106/19 08:30	1110611910:50	SM4500CN E	ES

1910203-02 (19J3440-02) Groundwater (Grab) Sampled: 10/28/19 12:35 Received: 10/30/19 12:45

Leg⊕nd Technical Services of Arizona, Inc.

Analyte	Reault	MOL	RL	Unltl	D U a n	Balctl	PreJl.8Rld	Analyzed	Method	Noc.
Inorganic Chemistry										
Cyanide, amenable	<	3	10	ug/1.	1	B9K0915	11106119 08:30	11/06/19 10:50	SM4500CNG	N7
Cyanide, Total	<	3	10	ug/1.	1	B9K0915	11106119 08:30	11106119 10:50	SM4500CNE	ES

1910209-01 (19J3440-03) DI Water (Grab) Sampled: 10/29/19 09:07 Received: 10/30/19 12:45

Legend Tochnical Services of Arizona, Inc.

Analyte	Result	MDL	RL	Units	DUuflon	8alctl	Prepa,ed	Analyzed	*Mllhod*	Noa
Inorganic Chemistry										
Cyanide, Total	<	3	10	ug/1.	1	B9K0915	11106119 08:30	11106/1910:50	SM4500CN E	ES

1910212-01 (19J3440-04) Solid (Dry Weight) (Grab) Sampled: 10/29/19 09:18 Received: 10/30/19 12:45

Legend Technical Services of Arizonil, Inc.

Analyte	Rault	MOL	RL	Units	DIkllon	8Llch	Pnq,ared	Analyzed	tMlhod	Ndta
Inorganic Chtmtatry										
Cyanide, Total	<		0.274	mpikodly	·1	88I<09i0!	11.1117/1907:515	11/11711110:1<4	EPA8014	El
% Solid•	*4*		1	%	1	B9K0SS5	11/05/19 1•:20	11/0511914:20	SM2540G	

1910211-01 (19J3440-05) Wastewater (Grab) Sampled: 10/29/1910:08 Received: 10/30/1912:45

Legend Technical Services of Adami. Inc.

Analyte	Rel"I	MOL	RL	Units	DUan	Jlalcl	Prepared	Analyzed	Molhod	IIIIiM
Inorganic Chemla!!Y										
Cyanide,	<	3	10	ug/1.	1	S	111011NI 01:31)	11m,1110:so	SM4500CNG	N7
Cyanide, Total	<	3	10	ug/1.	1	B9K0915	11106119 08:30	11106/1910:50	SM 4500CNE	ES

Legend Technical Services of Ar⊕ona, Inc.

The results In th⊕ repo,tapplyto thesamplesanalyzedIn accordancewithth e chain of custodydocument. This analyticalreportmustIHI reproducedIn Its entirety.

Laboratory Work Order No.: 19J3440

Pima County R\NRD CRAO Lab 2955 W Cane Agua Nueva Tucson, AZ 85745	Project: Cyanide Project ·Number: 10/30/19 Project Manager: Joe Doranski	Reported: 11/08/19 13:21

Inorganic Chemistry • Quality Control

Legend Technical Services of Arizona, Inc.

	Raull	Reporting Llmlt	Unll!l	Spike Level	Scxd,W	'SREC	%REC Llmltl	RPO	RPO Umll	Nala.
Batch BIK08U •NO PREP										
BfinlC (B9K0885-BLK1)				Ptwpe/'N ,.An .	11,,,14:20					
%Solids	<1	1	%							
Dupnc.t. {BIKOll5-DUP1)		Source: 19J3272 1		Prfpettd &AMIJZe(l: ff,_,,114:20						
% Solids	66	1			62			7	5	R9
Batch B8K09fl •NO PREP										
Blank (B9K0915-BLit1)				Prepnd: 11/DtV1f 08:30 Ana&:zC,: 11JOlltlt 1OSO						
Cyanide, amenable	<10	10	ug/l							N7
Cyanide, Total	<10	10	ug/L							
● ●(B●KOt1.l,eLK2)				:	tMJ(IIfl Oft:30AM/'tZfl« 11AJSIP 10:fO					
Cyanide, amenable	<10	10	ug/1..							N7
Cyanide, Total	<10	10	ug/1..							
Blank (B9K0915-Eu a)				Pnlpe/ett f1IrIIIft Oll:30Analyzed: 11AW'll 10:li0						
Cyanide, amenable	<10	10	ug/1..							N7
Cyanide, Total	<10	10	ug/1..							
LCS (B9Kff15-881)				Prep,le,tl: 11A1fIfl OtUOAnalytlld: 1,_.,110:50						
Cyanide, Total	54	10	ug/1..	50.0		108	80-120			
LCSDup (B9K09tl-8SD1)				Ptapnd: 11/0IIIffJ 09:.!0AINIl)fld: t1 MItl 10:fO						
Cyanide, Total	50	10	ug/1..	50.0		100	80-120	8	20	
Matrix Spik ●(B9KO9 1MIS1)		Soun:1: 19.13299-03			11AW'll08:30Analynd; 11AW'll 10:50					
Cyanide, Totaf	M	10	ug/1..	50.0		50	8'>-120			M2

Legend Technical Services of Arizona, Inc.

The results in this report apply to the samples ana/yZed in accorrJance with the chain of custody document. This anal'jtical report must be reproduced in its en11,.1y.

Laboratory Work Order No:: 19J3440

Pima County RWRD CRAO Lab 2955 W Calle Agua Nueva Tucson, AZ 85745	Project: Cyanide Project Number: 10/30/19 Project Manager: Joe Doranski	Reported: 11/08/1913:21

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPO	RPO Limit	Notes
Batch B9K0915 •NO PREP										
Matrfx Spike (B9K091MIS2)		Source: 1tJ34-4Ct-01		Prep,nd: 11/0el1108:30Analyzed:1A16'tl1():50						
Cyanide, Total	51	10	ug/L	50.0	<10	102	80-120			
Matrix Spike Dup (B9K091MISD1)		SoIlf'C9:1tJ32ff.43		*Prepared: 11/06/19 08:30 Analyzed: 11/06/19 10:50*						
Cyanide, Total	34	10	ug/L	50.0	8	50	80-120	0	20	M2
Matrix Spike Dup (BIK091 I-MSD2)		Source: 18J:M-40-41		Prepen,d: 11IOI!I1106:30nalyzed:11/04/19 10:50						
Cyanide, Total	51	10	ug/L	50.0	<10	102	80-120	0	20	
Batch B9K0920 •NO PREP										
Blank (B9K0920-BLK1)				*Prepared: 11/07/19 07:55 Analyzed: 11/07/19 10:14*						
Cyanide, Total	<0.010	0.010	mg/kg wet							
LCS (B9K0920-BS1)				,,,.,__,: 11AJ1/19 07:55Ana/yHd; fil(J7/19 10:14						
Cyanide, Total	0.050	0.010	mg/kg wet	0.0500		100	80-120			
LCS Dup (BtKOt2o-8SD1)				Prlpared: 11/aTltll 07."55AIIffIN' 11Jf111ff 1Q:14						
Cyanide, Total	0.050	0.010	mg/kg wet	0.0500		100	80-120	0	20	
Matrfx Spike (BtK0920-MS1)		Source: 1tJM40-04		*Pre,NIlfld:* 11AJ7/1f 01:66 Analyzed:11A:rl/ft 10:14						
Cyanide, Total	1.28	0.274	mg/kg dry	1.37	<0,274	82	80-120			
Matrix Spike Dup (BIK092D-118D1)		Source: 1tJ3440-04		*Prepi,t9d: 11AJ1/19 01:56Analyz.ed: ff/07/19 10:14*						
Cyanide, Total	1.23	0.274	mg/kg dry	1.37	<0.274	90	80-120	2	20	

Pima County RWRD CRAO Lab	Project: Cyanide	
2955 W Calle Agua Nueva	Projed Number: , 0/30/19	Reported:
Tucson, AZ 85745	Project Manager: Joe Doranski	11/08/19 i3:21

Notes and Definitions

R9	Sample RPO exceeded the laboratory acceptance limit.
N7	Additional analysis was not performed based on the "Total" result which was below the requested anatyte's MCUAction LeveVTrigger Level.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
ES	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/laboratory Fortified Blank/Duplicate
MSIDup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

19]3440

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.

017931 N. 21ith Awnue • Phoe,az 85023 • (802) 32 100 • Fax (1102) 324-e101
0◄585 8. Pliio Verde Rd, Ste ◄23 • Tucaon, AZ 8571◄ • (520) 327•123◄ • Fax (520) 327.0518

Page j a1 (.

ClenlName	Address	City	State	Zip	Phone	Fax Number or Email Address
Pima County CRAO Lab	2965 W Calle Agua Nueva	Tucson	AZ	85745	520-724-6016	joseph.doranski@pima.gov

Project Name	Project Number	Contact	P.O No	
Cyanide		Joe Doranski	20-012642	Fax Results ☐ Email Results ☒ QC Report ☐ EDD ☒ Special Detection Limits ☐

SAMPLE TYPE CODES: Water WN-W..i-t• 8-solmolld T&T,,.BW11 F-Food GaSludgLiBloaolld; Wtbr GW=GroundMII• O=Other

TURN AROUND TIME: Laboratory Authorization Required for Rush

§ii s.ndlnl 10 • 15

Doe.

REQUESTED ANALYSES

Client'a Sample IdentlftcaUon	Date	Time	Sample Location	posite	Grab	Sample • !	Compliance	No. of Containers	pH ✓ (Lab Use Only)	Amenable cyanide	Total cyanide	Total solids for mg/kg	Cyanide (T) mg/kg dry	LAB NO.
1910203-01	10/28119	1120	Trea Rios WRF - well SC-05R		X	GW	X	1		X	X			0J
1910203-02	10/28/19	1235	Trea Rios WRF - wen SC-07R		X	GW	X	1		X	X			D?
1910209-01	1◄W29/19	907	Semple bottles Lot# 0114801E		X	O		1			X			O,J
1910212-01	10/29119	918	Green Valley WRF - wet haul sludge		X	G	X	2				X	X	04
1910211-01	10/29119	1008	Green Valley WRF - BNROO final efl		X	WW	X	1		X	X			fU

TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 2 HOURS PRIOR TO THE HOLD TIME EXPIRATION

comments / Special Instructions:

SAMPLE CONDITION UPON RECEIPT (Lab Use)		
No. of Containers	6	
Temperature	2.6 °C	
Custody Seals	Y	(N)
Seals Intact	Y	N
Preserved	(Y)	N

	RELINQUISHED BY		SAMPLED RECEIVED BY	
①	Sampler Signature / Sampler Printed Name: Greg Spence	Date 10/30/19 Time 1227	Signature / Printed Name	Date 10/30/19 Time 1227
②	Signature: Carey Sos	Date 10/30/19 Time 1600	Signature / Printed Name: Carey	Date 10/30/19 Time 1600
(3)		Date 10/31/19 Time 0700	Signature / Printed Name: Kati Reters	Date 10/31/19 Time 0700

Clab 1245

WHITE-LAB YELLOW-CLIENT