

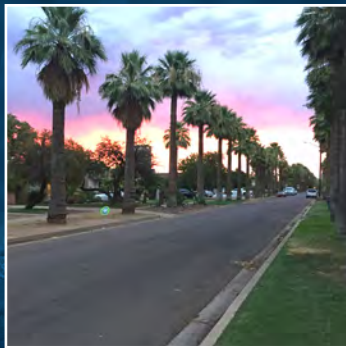


City of Phoenix

2020

ANNUAL REPORT

Municipal Separate Storm Sewer System



PHX WATER SMART

Prepared by: **AECOM**

SEPTEMBER 28, 2020



City of Phoenix
WATER SERVICES DEPARTMENT
ENVIRONMENTAL SERVICES DIVISION
Quality Reliability Value

September 28, 2020

Mr. Christopher Montague-Breakwell
Manager
Stormwater and General Permits Unit, Surface Water Section
Arizona Department of Environmental Quality
Mail Code: 5415A-1
1110 West Washington Street
Phoenix, Arizona 85007

Re: ANNUAL REPORT FOR AZPDES PERMIT NO. AZS000003,
MUNICIPAL SEPARATE STORM SEWER SYSTEM

Dear Mr. Montague-Breakwell:

We are pleased to submit the 2019-2020 Annual Report for the City's Municipal Separate Storm Sewer System (MS4) Permit No. AZS000003, issued on February 3, 2009. This report covers the reporting period beginning July 1, 2019 and ending on June 30, 2020. This document includes the information specified in Section 8.1.1 for All Annual Reports.

We appreciate this opportunity to provide you with information about our stormwater management program. Please direct any questions you may have regarding this report to Linda Palumbo at 602-534-2916.

Sincerely,

A handwritten signature in black ink that reads "Kathryn Sorensen".

Kathryn Sorensen
Water Services Director

fx

Enclosure

cc: Alexis Strauss, Region IX, Environmental Protection Agency (with attachment)
Nancy Allen (Office of Environmental Programs)
Kini Knudsen (Street Transportation Department)
Alan Stephenson (Planning and Development Services Department)
Ray Dovalina (Public Works Department)
Stephen Wetherell (Law Department)

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Drainage System Maps
List of Major Outfalls
List of Changes to the Major Outfall Inventory
Laboratory Reports for Stormwater Monitoring Performed in the Reporting Period
New or Revised Public Outreach Documents
Public Awareness Survey
STORM Annual Report

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ANNUAL REPORT FORM
For Phase I MS4s – Due September 30th each year

PART 1: GENERAL INFORMATION

A. Name of Permittee: City of Phoenix, Arizona

B. Permit Number: AZS000003

C. Reporting Period: July 1, 2019 – June 30, 2020

D. Name of Stormwater Mgt. Program Contact: Linda Palumbo

Title: Environmental Programs Coordinator

Mailing Address: 2474 South 22nd Avenue, Building #31

City: Phoenix Zip: 85009 Phone: (602) 534-2916

Fax Number: (602) 534-7151 Email Address: linda.palumbo@phoenix.gov

E. Name of Certifying Official: Kathryn Sorensen, PhD
(Sections 9.2 and 9.12 of the permit)

Title: Water Services Director

Mailing Address: 200 West Washington Street, 9th Floor


City: Phoenix Zip: 85003 Phone: (602) 262-6627

Fax Number: (602) 534-1090 Email Address: kathryn.sorensen@phoenix.gov

PART 2: ANNUAL REPORT CERTIFICATION

The Annual Report Form must be signed and certified by either a principal executive officer or ranking elected official; or by a "duly authorized representative" of that person in accordance with Sections 9.2 and 9.12 of the permit.

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


Signature of Certifying Official

8/27/20
Date

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PART 3: NARRATIVE SUMMARY OF STORMWATER MANAGEMENT PROGRAM ACTIVITIES

Attach a status summary addressing each of the following in the approximate order referenced below. Briefly describe implementation, progress, and challenges in each area during the reporting year. Also, explain any significant developments or changes to the number or type of activities, frequency or schedule of activities, or the priorities or procedures for specific management practices.

A. Summarize public awareness activities including outreach

- **Report outreach events, topics, number of people reached, number and type of materials distributed and the Target groups.**

Stormwater Outreach

The City of Phoenix conducted a variety of stormwater-related public awareness activities throughout the 2019/20 reporting year, including informing the general public about stormwater runoff issues and residential stormwater management practices, and outreach to restaurants about the proper management of non-stormwater discharges. Though the City participated in several public outreach events this reporting period, some events were canceled due to the coronavirus pandemic.

Major accomplishments include the following:

- Organized first Stormwater Awareness Week from January 20-26, 2020. Outreach included issuing a press release, updating of the website, playing 15 and 30 second radio spots on five valley stations, advertising on billboards in six locations, and coordinating with other area organizations.
- Developed an informational magnet with stormwater pollution prevention tips for restaurants. The magnets are being distributed by the Commercial Inspection Section during routine restaurant inspections.
- Participated in community education events at the Phoenix Food Day, Chinese Culture and Cuisine Festival, and Tres Rios Nature Festival, among other events.
- Finalized two videos about stormwater pollution prevention with the Water Services Department Community Education and Outreach (CEO) Division. One is a general stormwater awareness video, and one focuses on monsoon awareness.
- Started development of an activity book for grade school children starring Hopper, the Phoenix stormwater mascot.
- Distributed 600 construction stormwater guidance brochures through the Planning and Development Department (PDD).

A summary of the stormwater outreach activities for FY 2019/20 is included in Table 3-1.

Table 3-1 Stormwater Outreach Activities

Date(s)	Event / Activity	Audience	Message	Handouts
7/1/2019	Article in PHX at Your Service utility bill insert - July Edition.	General Public	General Stormwater Awareness and Reporting illegal discharges	None
7/1/2019	Drone video - identify stormwater pollutants around the home	General Public	General Stormwater Awareness	None
8/2/2019	Article about Pollution Awareness Markers in the WSD Water Cooler	City Staff	General Stormwater Awareness	None
8/29/2019	Neighborhood Block Watch Del Norte Place	Residential (50 Adults)	General Stormwater Awareness	20 Pet waste bags 20 cups 107 water bottles
11/27/2019	Stormwater Compliance Academy	Targeted Business (36 Adults)	Stormwater Compliance Chapter 32C	None
9/4/2019	Roosevelt Water Festival	School (700 Children)	General Stormwater Awareness	None
10/25-26/2019	Howl-O-Ween Phoenix Zoo	General Public (2000 Adults, 4000 Children)	General Stormwater Awareness	50 Hopper 50 Toilets 200 Stickers 60 Pencils
10/26/2019	Phoenix Food Day Cartwright Community Garden	General Public (300 Adults, 300 Children)	General Stormwater Awareness	100 Can Toppers 100 Pens 60 Canteens
11/2/2019	Palomino Neighborhood Association Family Fun Day	General Public (300 Adults, 100 Children)	General Stormwater Awareness	20 Pens 40 Can Toppers 100 Stickers 20 Canteens 20 Frisbees General Brochures
1/12/2020	Maricopa Home and Garden Show Arizona State Fair Grounds	General Public	General Stormwater Awareness	20 Post-Its 100 Stickers 50 Can Toppers
2/29-3/1/2020	Tres Rios Nature Festival	General Public (600 Adults, 600 Children)	General Stormwater Awareness	100 Stamps 150 Canteens 140 Pet waste bags 100 Stickers 100 Pens 60 Can Toppers
3/8/2020	Maricopa Home and Garden Show State Farm Stadium	General Public	General Stormwater Awareness	100 Straws



Stormwater Awareness Week Billboard

Internet and social media returned:

- 2,093 visits to the stormwater program webpage
- 28 Twitter posts (36,250 impressions with 374 engagements)
- 32 Facebook posts (17,256 impressions with 419 engagements).
- 36 Twitter posts regarding Fats, Oils and Grease (FOG) and rags (48,242 impressions with 1,109 engagements).
- 37 Facebook posts regarding FOG and rags (20,499 impressions with 1,277 engagements).

Social media posts regarding FOG and rags are included, as these are a cause of sanitary sewer overflows (SSO's) which have the ability to affect surface water quality.



Social Media Post Example

The City continues to participate in Stormwater Outreach for Regional Municipalities (STORM), which coordinates stormwater outreach throughout the Phoenix metropolitan area. STORM conducted an extensive Social media campaign and ABC15 media Campaign. Due to COVID-19, STORM only attended two outreach events.

B. Summarize public involvement activities including outreach

- **Identify activities, number of people involved, number and type of materials distributed if applicable.**

Household Hazardous Waste Collection

The Public Works Department (PWD) provided Phoenix residential customers with seven Household Hazardous Waste (HHW) collection events in FY 2019/20, as well as an alternative drop-off program from April to June in response to COVID-19 restrictions. There was a total of 5,947 customers that participated in the HHW events.

The following materials were collected, and recycled or reused, where feasible:

- Approximately 26,700 pounds of oil based paint and related materials
- 11,170 pounds of flammable liquids
- Over 2,059 gallons of used oil
- Nine (9) gallons of lead acid and 6,665 pounds and 1,369 pieces of rechargeable batteries.
- Approximately 21,083 gallons of latex paint.

Other items collected and properly disposed included: antifreeze, pesticides, herbicides, and other hazardous and toxic materials. Non-hazardous materials brought to HHW events were

sorted out and disposed of as Municipal Solid Waste, such as alkaline batteries and containers/bottles.

To ensure compliance with Center for Disease Control Guidelines, in response to the COVID-19 Pandemic, the City is evaluating options for public involvement in the Household Hazardous Waste events. Traditionally, drive through events were hosted at locations throughout Phoenix accepting material from several hundred to over one thousand residents. As a substitute for these events, Phoenix is currently offering resident drop-off five days a week with proof of a utility bill at contracted vendor locations. Options being evaluated for the remainder of the fiscal year will take into consideration the health and safety of employees and residents in addition to the availability of resources to provide those services. The objective of options selected will be to provide for resident convenience, while enhancing the amount of material collected. ADEQ will be updated once final determinations are made.

- **Describe MS4 system for public reporting of spills, dumping, discharges, and related stormwater issues.**
- The City continues to offer a Stormwater Hotline (602-256-3190) in English and Spanish, as well as an email address (ask.water@phoenix.gov) for anyone who wishes to report a complaint concerning illicit discharges or releases to the storm drain system. The contact information is distributed with outreach materials and is available on the stormwater website (www.phoenix.gov/stormwater). The City received 394 complaints and other stormwater related requests during the year.

C. Summarize Illicit Discharge, Detection and Elimination (IDDE) program activities. Include:

- **Illicit discharge prevention activities.**

The City discourages discharges to the storm drain system through the placement of Pollution Awareness Markers (PAMs) on existing catch basins. This year 628 PAMs were added to existing catch basins and more than 22,500 PAMs have been installed since the program started.

The City standard for managing hazardous waste and hazardous materials at municipal facilities is the Hazardous Materials Management Program (HMMP) Manual. The manual is available to City employees online through the City's intranet. HMMP procedures apply to all City departments unless stated otherwise and were developed to verify that City operations are in compliance with federal, state, and local environmental and safety regulations. The HMMP Manual directs personnel to locate storage areas as far away as possible from washes, drains, and drywells and requires that they be protected from weather. Requirements are provided for secondary containment, security, air quality permitting, safety and spill response equipment, proper signs, and labeling. Container storage requirements such as aisle spacing, limitations on drum stacking, segregation of incompatible materials, and types and condition of containers are also provided.

The HMMP Manual contains a comprehensive stormwater management procedure, which, also serves as the facility stormwater management plan required by Phoenix City Code Chapter 32C. The procedure applies to all city facilities with the potential to impact stormwater and addresses permit applicability including the Multi-Sector General Permit (MSGP) and De Minimis General Permit (DMGP), training and inspection requirements, and BMPs for solid waste/litter control, parking lots and building washing, scrap metal and equipment, bulk material piles, vehicle and equipment washing and fueling, and maintenance of stormwater management devices.

The HMMP Manual is maintained by the Office of Environmental Programs (OEP). Each HMMP procedure is reviewed at least once every two years and revised as necessary. Revisions may be made more frequently if regulatory requirements change.

During reporting year 2019/20, five of the ten HMMP procedures were reviewed by OEP. The HMMP Pesticide Management Program was updated based on input from 14 operating departments and staff with stormwater expertise. One HMMP for Management of Hazardous Building Materials at City of Phoenix Facilities had only minor updates. The HMMP Hazardous Materials Purchasing Program was reviewed but did not require any update. The HMMP for Stormwater Management was reviewed and revised by OEP, but update of this HMMP was delayed due to recent stormwater permit and regulatory updates, including the revised federal definition of Waters of the U.S. This HMMP has been sent to City departments for their review and is scheduled to be updated during reporting year 20/21. The HMMP Spill Prevention, Response and Reporting was reviewed by OEP, and is currently being updated. This HMMP is scheduled to be sent to City departments for their review during reporting year 20/21.

➤ **Training dates and topics:**

Stormwater training covering IDDE is accomplished through training offered by various departments, including Water Services Department (WSD), PWD, and OEP. Municipal employee stormwater training is coordinated by the OEP Pollution Prevention (P2) Program.

The Phoenix Municipal Separate Storm Sewer System (MS4) permit requires IDDE training for two major groups of employees: (1) field staff without direct stormwater program responsibilities; and (2) employees with direct stormwater program responsibilities (Stormwater Field Staff). In addition, the training is divided into three (3) frequencies:

- Annual (for select field staff with “no direct stormwater responsibility” only)
- New Employee Training (for Stormwater Field Staff – offered twice a year)
- Refresher Training (for Stormwater Field Staff – offered every two years).

Other specific training requirements include municipal, industrial, and construction site inspections, hazardous materials handling, spill management, street maintenance and repair and water/sewer maintenance and is limited to employees working in functions with the potential to impact stormwater. Affected employees are identified in the stormwater training plan in the City’s Stormwater Management Plan (SWMP). The training is offered by various departments and is divided into two frequencies:

- New Employee Training (conducted twice per year)
- Refresher Training (conducted once every two years).

For all training summarized below, the rosters showing the actual training are available upon request.

➤ **Annual Training**

Stormwater Awareness Training. Awareness training covering IDDE is provided to select field staff with no direct stormwater responsibilities. Topics taken from the City MS4 stormwater permit requirements include identification of harmful/prohibited practices (illegal dumping or spills) into the City’s stormwater system and proper management procedures (reporting to the Stormwater Management Section). Training for the PWD was delivered through a training brief developed by OEP and PWD. The PWD recorded in the City eCHRIS system on the dates of December 31,

2019, January 6, 2020 and February 12, 2020 that 290 employees reviewed the training brief, including 17 employees new to the City. Training for the WSD was delivered through a combination of a training course and training brief and included five employees new to the City. On-line training and a video were also offered to employees in the second quarter of 2020 due to training course limitations because of COVID-19. Nineteen training course sessions were held and 442 people were trained as noted in the table below. For the training brief, the WSD recorded in the City eCHRIS system on the dates of November 30, 2019 and March 31, 2020 that 185 employees reviewed the training brief. *Note that some WSD employees that received the Basic Awareness training also received the Spill Prevention and Management Practices training, and Hazardous Materials Handling training due to their job classification and duties.

Date	Number Attended
July 24, 2019	53
August 30, 2019	20
September 13, 2019	15
October 3, 2019	27
October 22, 2019	35
October 23, 2019	6
December 6, 2019	27
December 18, 2019	27
January 8, 2020	22
January 16, 2020	37
January 29, 2020	17
February 12, 2020	24
February 26, 2020	19
March 11, 2020	13
March 13, 2020	38
April 24, 2020	17
May 8, 2020	30
May 31, 2020	3 1*
June 30, 2020	9 2*

*Video

➤ **New Employee Training and Biennial Refreshers**

IDDE for Stormwater Inspection Staff. Topics covered include MS4 permit requirements, Phoenix City Code, detecting and identifying illicit discharges, De Minimis and other sources of non-stormwater discharges, outfall inspections, sampling, and field screening. Biennial refresher training was conducted this reporting year. Due to COVID-19, two on-line sessions were held, and a video was also offered to employees. Fifty-two employees were trained, including one WSD employee new to the City. In addition to WSD, one Aviation, one OEP, one PWD and three Streets Department (STR) employees attended.

Date	Number Attended
May 5, 2020	35
May 13, 2020	15
May 14, 2020	1*
May 29, 2020	1*

*Video

Street Repair and Road Improvement for Street Maintenance Staff. Training is provided to all field staff in the Street Maintenance Division of the Street Transportation Department (STR). Training covers IDDE awareness, pollution prevention, and BMPs to minimize discharges to storm drains. Specific topics include BMPs for hazardous material use and storage, street sweeping, painting and striping, sediment pile management, paving, vehicle maintenance and washing, handling spills, solid waste, and concrete washout areas. Biennial refresher training was not required this reporting year. Due to training course limitations because of COVID-19, STR provided an on-line training video for employees new to the STR department. Seventeen employees were trained, including 14 STR employees new to the City. This training was completed between June 5, 2020 to June 30, 2020.

Spill Prevention and Management Practices – non-Fire Department. Training covers site-specific spill prevention and response procedures/responsibilities and spill management practices to prevent or minimize discharges to the storm sewer system and drywells. Training for the PWD was delivered through a training brief developed by OEP and PWD. The PWD recorded in the City eCHRIS system on the date of January 2, 2020 that 119 employees reviewed the training brief, including eight employees new to the City. PRD biennial training was not due this reporting year. Because of cancellation of PRD Safety Meetings due to COVID-19, training for PRD new employees was delivered through training briefs developed by OEP and PRD, although some divisions elected to provide the training briefs to all employees. PRD recorded that 246 employees were trained between the dates of April 20, 2020 and June 30, 2020, including ten employees new to the City. As noted in the table below, the WSD held seven sessions and 88 people were trained, including one employee new to the City.

Date	Number Attended
October 8, 2019	14
November 12, 2019	11
December 10, 2019	15
February 11, 2020	13
February 25, 2020	15
March 17, 2020	13
May 5, 2020	7

Spill Prevention and Management Practices – Fire Department. Training is typically delivered through an online video and training module, which was created specifically for the Phoenix Fire Department. The training covers stormwater awareness, specific spill prevention and response procedures/responsibilities for use during emergency responses, including protection of storm drains and drywells, and BMPs for Fire Department facilities. Biennial refresher training was not due this reporting year. Due to COVID-19 scheduling difficulties, training for this reporting year was delivered through a training brief developed by OEP and the Fire Department. There were no employees new to the City required to complete this training, but the Phoenix Fire Department

required 44 promoted Fire Captains to review the training brief. This was completed between the dates of May 22, 2020 and May 28, 2020.

Hazardous Material Handling. Training covers responsibilities for spill prevention and reporting, compliance with regulatory and City hazardous materials management procedures (proper handling, storage, transportation, and disposal) to prevent contamination of stormwater runoff. Training for the PWD was delivered through a training brief developed by OEP and PWD. The PWD recorded in the City eCHRIS system on the date of January 2, 2020 that 119 employees reviewed the training brief, including eight employees new to the City. PRD biennial training was not due this reporting year. Because of cancellation of PRD Safety Meetings due to COVID-19, training for PRD new employees was delivered through training briefs developed by OEP and PRD, although some divisions elected to provide the training briefs to all employees. PRD recorded that 246 employees were trained between the dates of April 20, 2020 and June 30, 2020, including ten employees new to the City. As noted in the table below, the WSD held seven sessions and 88 people were trained, including one employee new to the City. OEP held two city-wide stormwater training classes which includes the Hazardous Materials Handling requirements. There were training courses were held on October 2, 2019 and February 12, 2020 and nine City employees attended.

Date	Number Attended
October 8, 2019	14
November 12, 2019	11
December 10, 2019	15
February 11, 2020	13
February 25, 2020	15
March 17, 2020	13
May 5, 2020	7

Water/Sewer Maintenance. Training is provided to field staff in Water Distribution and Wastewater Collection and includes protocols to minimize discharges including those found in the WSD Stormwater Pollution Prevention Plan, Emergency Response Plan and Field Incident Response Plan. The WSD held 11 sessions and 139 people were trained, including three employees new to the City.

Date	Number Attended
September 8, 2019	12
October 8, 2019	13
November 12, 2019	11
November 26, 2019	15
December 10, 2019	12
January 21, 2020	14
February 11, 2020	13
February 14, 2020	14
February 25, 2020	15
March 17, 2020	14
May 5, 2020	6

Municipal Stormwater Inspections. Training topics include federal and local regulatory requirements, applicable permits and codes, stormwater BMPs, municipal facility inspection procedures, illicit discharges and De Minimis discharges. Biennial inspector refresher training was not required to be completed this reporting period and there were no new OEP employees requiring this training.

Industrial Stormwater Inspections. Training is provided to all inspectors in the WSD Environmental Services Division. Topics include applicable permits and codes, stormwater pollution prevention policies, structural and non-structural BMPs, and inspection and enforcement procedures. Biennial refresher training was conducted this reporting year. Due to COVID-19, two on-line sessions were held, and a video was also offered to employees. Forty-nine employees were trained, including one WSD employee new to the City. In addition to WSD, one OEP, one PWD and three STR employees attended.

Date	Number Attended
May 5, 2020	35
May 13, 2020	13
May 29, 2020	1*

*Video

Construction Sites Plan Review and Inspection Training. PDD provided on-the-job training (OJT) for stormwater plan review and inspections. One new civil inspector and four new civil plan reviewers required and received the OJT. Biennial training was also conducted this reporting period during PDD staff meetings. PDD plan reviewers received this training on April 16, 2020 (14 attendees). PDD civil inspectors received this training on August 2, 2019 (21 attendees) and November 22, 2019 (27 attendees). OEP provides biennial training for OEP inspectors that conduct inspections of municipal stormwater projects. Training includes municipal ordinances related to stormwater and construction, erosion and sediment controls, and structural and non-structural BMPs. OEP biennial inspector training was not required this reporting period and there were no new OEP employees requiring this training. WSD conducted training on construction projects, which included three employees new to the City. On-line training and a video were also offered to employees in the second quarter of 2020 due to training course limitations because of COVID-19. Six training course sessions were held, and 78 people were trained as noted in the table below.

Date	Number Attended
September 5, 2019	17
October 30, 2019	38
April 21, 2020	13
May 19, 2020	7
May 31, 2020	1*
June 30, 2020	2*

*Video

Other training not included or counted in Part 4 of this Annual Report includes:

- One OEP Environmental Quality Specialist (EQS) attended the American Stormwater Institute LLC, Qualified Erosion & Sediment Control Inspector Training on January 15, 2020.

- Two WSD Stormwater Inspectors attended an online National Pollutant Discharge Elimination System (NPDES) Certification Training
- Six WSD Stormwater Inspectors attended the Arizona Water Quality Laws training by ASU Engineering Environmental and Resource Management on February 26, 2020.

➤ **IDDE screening program and investigations – including an overview of industrial facility inspections, identified sources, and any significant corrective or enforcement actions.**

The IDDE program continues to track non-stormwater flows discovered in the storm drain system to identify their sources. Dry-weather flows are investigated by opening manholes and following the flow upstream. Flow changes (typically volume) are observed by the IDDE crew when the manholes are opened. Once the suspected illicit tap is determined to be nearby, the video system is then inserted in the storm drain pipe to track the flow directly to its source. By using the video system the City can then determine where the illicit connection or tap is located and then conduct the appropriate inspection. Occasionally, dye testing or a similar procedure is used to verify the source of the connection.

IDDE investigations are also initiated as a result of complaints, reported spills (over 110), SSOs (over 50) or emergency response activities (4). During the report period, the following are some of the non-stormwater discharges that were investigated:

- City Hall: As reported in the FY 18/19 Annual Report, in March 2019, while investigating a dry-weather flow, Inspectors identified a potential cross-connection between a vent line to the underground stormwater holding tank and a vent line to the sanitary sewer. When the sewer line backed up, wastewater flowed into the vent line, and down into the stormwater holding tank. The stormwater tank automatically discharges to the storm drain when the contents reach a set level. The connection was eliminated in August 2019, resolving the overflow situation.
- July 2, 2019 – A private residence at 5418 W. Palm Lane was discharging automobile fluids to the street. Visible staining was present on the driveway as well as the street and gutter. A Notice of Violation (NOV) was issued with a requirement to clean up the street and gutter.
- July 22, 2019 – A private contractor working at 1805 E Sky Harbor Circle accidentally dumped approximately six cubic yards of concrete slurry in a storm drain, that was mistaken for an abandoned sanitary sewer. A contractor arrived on-site to remove some of the slurry. However, some slurry hardened and had to be jack-hammered out of the storm drain.
- August 8, 2019 - Cesar Correa Trucking, 3801 E Pioneer Street, was washing trucks and depositing mud and sediment into the street. The facility was issued a field NOV and required to clean up the sediment and debris.
- October 9, 2019 – The Hall of Flame Museum, 6101 E Van Buren Street had a broken sewer line that was discharging into a City of Phoenix retention basin. A field NOV was issued and the facility was required to repair the line and clean up residual waste.

- October 15, 2019 – A red/oily liquid discharge was observed, plus dried white residue from earlier discharges, at Cartz Partz, 14634 N. Cave Creek Road. A Civil Citation was issued with requirements to clean the alley.
- November 5, 2019 – A fuel truck caught fire at 3849 W Clarendon Avenue. This incident occurred in the drainage area of outfall PD009. IDDE staff inspected the catch basin located on 39th Avenue just south of the intersection of W. Clarendon and 39th Avenue, which is located immediate downstream of the fire suppression efforts. There were no petroleum or fuel odors noted.
- January 8, 2020 - A complaint of chalky liquid in the street from 1025 S 28th Avenue entering a storm drain. The inspector observed a hose releasing stone cutting wastewater into the street. A field NOV was issued with a cease and desist. The business removed the hose, stopped discharging, and cleaned the street.
- January 10, 2020 – A white milky substance from a stone cutting operation was observed coming from a pipe in a wall at 2724 W Palm Lane. A field NOV was issued with a requirement to remove the pipe and clean the gutter and median.
- January 14, 2020 - An accident caused diesel and some oil to spill onto the street and into the storm drain at 59th Avenue and Van Buren. The smell of gasoline was present at the first catch basin at the scene of the accident, but the basin was just damp. Inspectors opened and observed several manholes downstream of the accident. From the investigation, it does not appear any hydrocarbons reached the outfall.
- February 4, 2020 – A vacuum truck spilled a large amount of mud in the street at 2041 W. Adobe Drive. An NOV was issued to Pauley Construction and they were required to clean the area and implement preventive measures.
- February 24, 2020 – Processed milk wastewater tanks at Shamrock Foods, 2228 N Black Canyon Highway overflowed into a catch basin. A contractor cleaning-up the spill was observed washing residual into a catch basin. See Section E for additional information.
- March 2, 2020 – Phoenix Police reported a bus at Tufesa discharging a waste tank (possible grey water) into a catch basin at 1614 N 27th Avenue. Visual inspection revealed no sign of a discharge. A camera was set up in attempt to catch the discharge, but no discharge was observed.
- March 4, 2020 – A Commercial Inspector reported a restaurant tallow bin overflowing with oil into the city right-of-way at 6245 E Bell Road. A field NOV was issued and required implementation of BMPs to eliminate the ongoing problem.
- March 25, 2020 – A complaint was received about a company storing buckets of paint in the alley at 1538 E McDowell Road. A field NOV was issued to have the alley cleaned of all the waste and cover the buckets stored outdoors. The area was cleaned and a tarp was put over all buckets stored outdoors.

- April 6, 2020 – A car crashed into the saddle tank of a truck and spilled diesel fuel at Buckeye Road and I-10 Freeway. Approximately 55-gallons of diesel fuel spilled on the street entering a catch basin belonging to ADOT along Buckeye Road. ADOT was notified and the city contractor cleaned the spill and the catch basin.
- May 1, 2020 — Fire suppression incident occurred at a scrap yard located at 2037 W Ironwood Drive in the vicinity of 19th Avenue and Peoria. Staff checked the surrounding area to determine the impact on the MS4. Emergency firefighting water may have reached outfall AC150, two blocks to the south. Emergency firefighting water is an allowable non-stormwater discharge.
- June 22, 2020 – A train fire occurred at 719 W Harrison Street. Upon inspection of the outfall SR009 and inspection of the manhole immediately south of the incident location, there appeared to be minimal or no impact to the storm main or outfall. There was no staining at the catch basin, manhole, or at the outfall, which was dry.

In addition to the above referenced investigations, inspectors responded to numerous other complaints. Residential examples include residue leftover from home owner activities, over 20 water leaks (allowable non-stormwater discharge and reported to Water Distribution for repair), over 140 swimming pool discharges (provided information on proper way to drain pool), and excessive irrigation. Commercial/Industrial examples include washing of paint in the street at commercial properties, washing of mats at restaurants or dirty tallow bin areas, carpet cleaners dumping in street/drains, and general lack of BMP's at commercial/industrial facilities.

D. Municipal Facilities

➤ **Status of identification and inventory of these facilities.**

The Municipal Facility Inventory (MFI) is maintained in a facility assessment database that tracks inspection activities, compliance findings and pollution prevention recommendations. The inventory includes facilities owned and operated by City staff that store or use hazardous chemicals in containers greater than five (5) gallons, or which otherwise have the potential to pollute stormwater. Chemicals stored onsite at each facility are tracked through an online citywide Safety Data Sheet Management System. There were 290 municipal facilities on the inventory as of June 30, 2020. OEP's inspection facility assessment schedule targets 97 facilities each year. Due to COVID-19 scheduling restrictions in the fourth quarter of 2020, this target was not met for this reporting year. However, the 55 inspections conducted still meets the permit requirement.

Information maintained in the inventory includes address, latitude and longitude, chemicals stored or used and their safety data sheets, operational status (operational or closed), Standard Industrial Classification (SIC) codes, date of last assessment, brief description of operations, facility contact, as well as other compliance-related information. The number of facilities may change based on new facilities becoming operational or existing facilities undergoing a change/cessation of operations. Such changes to the MFI are tracked through the facility assessment database.

High-Risk Facilities Identification and Prioritization:

The high-risk facility identification and prioritization was completed on June 30, 2011. The high risk identification process considered each of the following: (1) quantity of chemicals stored onsite (based on Tier II Reports), (2) potential for exposure of such chemicals to stormwater based on

storage location, (3) likelihood of a spill or release to occur and discharge offsite based on structural BMPs and site drainage characteristics, (4) potential severity of impact on surface waters for a worst-case scenario release, and (5) MSGP coverage. Storage of and potential for release of other pollutants at the site were also considered as an additional risk factor.

Numeric ranking criteria are used to evaluate all city facilities that had submitted Tier II Reports. The criteria indicate which facilities are “higher risk” and also the overall risk of facilities relative to one another. Whenever these sites are physically assessed, the risk factors are reviewed and adjusted, if necessary. As of June 30, 2020 there were 43 facilities on the high-risk municipal facility inventory.

Of the 43 facilities categorized as high-risk, five facilities (service centers) were determined to be highest risk and were required to develop and implement facility-specific stormwater pollution prevention plans (SWPPP) and to conduct routine quarterly inspections by site staff and annual comprehensive stormwater inspections by OEP. For the 38 others currently classified as high-risk facilities—mainly unstaffed, remote locations associated with sanitary sewer system lift stations and odor control stations, or fire stations with double-walled (aboveground storage tank) ASTs containing diesel fuel—an increase in inspection frequency was not deemed necessary, but a comprehensive stormwater facility assessment is targeted at least once every three years.

➤ **Overview of inspection findings (i.e., number inspected, number with follow-up actions needed, significant findings).**

The OEP conducts Environmental Facility Assessments (EFAs) of City owned and operated facilities to acquire baseline information, verify compliance with select environmental compliance requirements, including spill preparedness and response procedures, hazardous materials storage, and identification of opportunities to reduce hazardous material use and hazardous waste generation. The EFA inspection checklist includes a section on stormwater BMPs, the facility’s SWMP, and a targeted review of high-risk facilities; this checklist is used to meet the Facility Assessment Measurable Goal at Appendix A Section III.B.(1) and the Municipal Facility Inspection Measurable Goal at Appendix A Section IV.C.(2).

OEP’s target schedule is to conduct EFA’s at 97 (of 290) facilities each year. Due to COVID-19 scheduling restrictions in the fourth quarter of 2020, this target was not met for this reporting year. However, the 55 inspections conducted still meets the permit requirement. The highest-risk facility service centers (5), which have facility specific SWPPPs, are scheduled for inspection by site staff quarterly and receive a comprehensive stormwater inspection by OEP at least annually. Thirty-eight other high-risk facilities are targeted to receive a comprehensive facility stormwater inspection at least once every three years.

In 2019/20, EFAs were completed at 55 of the facilities on the MFI. There were 26 facilities with zero corrective action findings as a result of the assessment. Twenty-nine facilities had a total of 54 findings; recommended corrective action items are summarized in the next section. The annual service center SWPPP inspections are not included in this finding count for this reporting year but are summarized below under high-risk. Beginning in reporting year 2016/17, “Safety Data Sheet (SDS)” database update findings are referred to Department and Human Resources Safety Division and are no longer specified as EFA findings.

In 2019/20, 16 of the 45 high-risk facilities were assessed, including annual SWPPP inspections at all five of the high-risk service centers with SWPPPs. These service centers are also scheduled for inspection quarterly by site staff. Seven facilities, including the five service centers, had

findings. The five service centers had some corrective actions related to stormwater which required improved stormwater BMPs. These are summarized in the following section.

➤ **Activities needed and performed in response to inspections (EFAs)**

The OEP records and tracks all activities needed as a result of an EFA until resolution. As applicable, facility status updates identifying any uncorrected findings are regularly provided to department contacts, and an annual memo is sent to Department Directors. The text below summarizes the primary stormwater-related corrective action activities performed and verified during 2019/20.

2019/20 Corrective Actions Implemented (EFAs)

- Spill response BMPs
 - Installed or updated emergency contact poster in areas where hazardous materials are used or stored, including pesticide storage sign requirements
 - Verified departments have updated and distributed Facility Spill Response Plans.

- Structural BMPs (to minimize exposure to stormwater and prevent spills)
 - Verified facilities only store containers of hazardous materials under weather-protective cover or inside; this includes review of storage of fuel containers used for small equipment fuel-oil mixtures at PRD facilities.
 - Verified secondary containment for hazardous material containers, pesticides, lead acid batteries, used oil, etc., are adequate and in good repair with minimal standing free liquids (maintained clean and dry)
 - Verified cleaning of existing secondary containment structures, including repair of pool chemical secondary containment structures at one PRD pool facility
 - Verified facilities provide sediment controls at on-site catch basins located near potential stormwater pollutants
 - Verified facilities do not store scrap metals, oily leaking equipment and waste materials, and other materials that may migrate into the MS4 or block stormwater drainage directly on the ground.
 - Verified original chemical storage containers are in good repair and kept closed with proper lids, and any spilled materials are cleaned and disposed of properly.

- Non-structural BMPs (practices and procedures)
 - Verified container closure and labeling standards are followed for chemical containers, pesticides, used oil and universal wastes.
 - Verified that logging, storage and signage requirements are followed for universal wastes
 - Improved housekeeping and general site, parking lot, and outdoor equipment and material storage practices, including review of parking lot and storage sweeping frequency
 - Verified that storage amounts are kept to a minimum
 - Verified that all hazardous waste and materials are handled properly, and waste determinations/profiles have been completed for materials
 - Verified hazardous waste logs and recordkeeping were completed, on-site and accurate
 - Verified analysis has been completed to confirm if a Spill Prevention Control and Countermeasure Plan (SPCC) is required at a facility.

2019/20 High-Risk Facilities – Improved Stormwater Controls and Practices Implemented

- Inspected and verified that spill kits are available in needed areas
- Verified all containers are labeled and with proper secondary containment.
- Verified compliance with HMMP storage practices for hazardous materials (including batteries)—store indoors, or under other weather protections, in properly closed containers in good repair, with appropriate secondary containment; verified prompt clean-up of small spills; verified that secondary containment was implemented for temporary fuel bowsers at one service center.
- Verified secondary containment structures are maintained clean and dry with minimal standing free liquids
- Verified proper storage practices for scrap metal as required by HMMP. Implemented clean-up of outside storage of scrap metal at one PWD Fleet facility
- Verified vehicle repair parts with greasy/oily fluid residue (e.g., engines, cylinders) are stored under tarps or other overhead protection with secondary containment if applicable.
- Facilitated coordination between three departments at one service center to provide tarped storage area for greasy/oily parts.
- Monitored maintenance of retention basins to verify they are maintained free of trash and debris
- Verified proper housekeeping/litter collection and general site, parking lot, and outdoor equipment and material storage practices, including refuse storage, solid waste bin collection areas, and monitoring parking lot sweeping frequency
- Facilitated parking lot sweeping for sediments/debris
- Monitored use of bulk bin storage areas at service centers to verify that materials remain within bins and areas outside bins are swept regularly
- Verified cleanup of small fluid releases from equipment and vehicle drips, verified that drip pans or other methods are used to control small fluid releases; and verified that absorbent used for spills is cleaned-up and disposed of properly to prevent material from migrating in parking lot
- Verified that vehicle washing areas are well maintained, including clean-up of sediments and maintenance of sewer interceptors

2019/20 Other Stormwater-Related Municipal Facility Activities

- Okemah Service Center – As noted in the 2018/19 annual report, in May of 2019 City staff observed a dumpster containing leaking vehicle repair parts staining the surrounding asphalt and leaking into a small area of a nearby detention basin and other areas of staining in the parking lot and at additional onsite basins. In June and July of 2019, the affected asphalt areas were surface cleaned and soil samples were collected verifying that no Soil Remediation Level regulatory clean-up levels were exceeded. Site staff moved the dumpster to a concrete pad and stated they will provide secondary containment. OEP followed up on the bin during the annual SWPPP inspection. Per site staff during the inspection, hydraulic cylinders are drained & capped prior to placing in the bins. On December 19, 2019, site staff created a secondary containment metal plate under the downslope side of the bin. After a pilot period, it was determined that the downslope secondary containment was insufficient to address the issue. In July 2020, a process was begun to tarp the bins. In reporting year 20/21, PWD is also working to implement a tilt to the bins with absorbent at the hinged door end to capture any leakage. The PWD will monitor this solution for effectiveness. Note that a similar finding was observed at the Union Hills Service

Center during the annual SWPPP inspection with leakage stains noted under the bins. On December 24, 2019, absorbent and pads were implemented under the Union Hills bin as a temporary BMP pending determination of the effectiveness of the secondary containment at the Okemah Service Center. The PWD will implement and monitor the same procedure (tarps, bin tilt and absorbent) at this service center.

2019/20 Other Stormwater-Related Improvement Projects

The following project was identified in response to WSD outfall inspection findings in 2017/18. OEP also noted minor erosion during annual SWPPP inspections:

- Okemah Service Center Erosion/Drainage Study – The Okemah service center is a 13.5-acre City service center property managed by the PWD Facilities Management Division, and includes operations by PWD Solid Waste Division, PWD Fleet Services Division, and STR Maintenance. Erosion was noted on the east, west, and north fence lines, including the three north outfalls. Funding was encumbered in reporting year 2017/2018 to conduct a drainage and grading study/hydraulic analysis report of the property. The study was completed in January 2019 and provided suggested resolution for the erosion and drainage issues. The PWD received approval to use stormwater funds to obtain final design plans to address the erosion, improve drainage around the bulk storage area, and regrade basins to retain first flush stormwater treatment as outlined in the study. Design was completed in reporting year 2019/20, and funds were encumbered for construction. Construction began in July 2020 and is anticipated to be completed reporting year 2020/21.

The following capital improvement project was identified in response to a public complaint in 2018/19:

- Encanto Golf Course Erosion – In November 2018, a citizen complaint was received concerning erosion from the Encanto Golf Course located between 16th and 17th Avenue at Virginia Avenue. The existing dirt flood irrigation berm on the south side of Virginia Avenue was causing sediment erosion onto the street and at one catch basin. The PRD received approval to use stormwater funds to install a sidewalk, pony wall, fence and two gates to address the erosion issue. The project was funded and completed in reporting year 2019/20, however the fence and gates were not installed after feedback from neighbors.



The following capital improvement project was identified in response to a public complaint in 2019/20:

- STR Detention Basin Project – In early 2020, a citizen complaint was received by STR concerning litter, debris, and feces in a detention basin which connects and discharges to the MS4. Much of the litter and debris was due to unauthorized access into this area. Fencing was installed at this Greenway Parkway and East Tierra Buena Lane detention basin to assist with preventing pollutants from entering the MS4 due to unauthorized use of the area.



In addition to improvements made in response to inspection findings and complaints, the following capital improvement projects which included stormwater improvements also had activity in 2019/20:

Aviation Department:

- The Sky Harbor Airport Terminal 4 North Apron Reconstruction project includes a complete redesign. Trench drains are being installed in place of the current manholes, which are limited in number. This project will take place over several fiscal years and was also noted in the last two annual reports.
- The Sky Harbor Airport Sky Train Stage 2 project that includes a large on-site retention basin with catch basins to drain on-site flows to the retention basin continued this reporting year. The project will have a 60% improvement in on-site stormwater storage capacity including the installation of multiple (eight) rain harvest basins for infiltration, and drainage swales to minimize pollutants before discharge to the Salt River. The project stormwater infrastructure was approximately 90-95% installed on June 30, 2020.

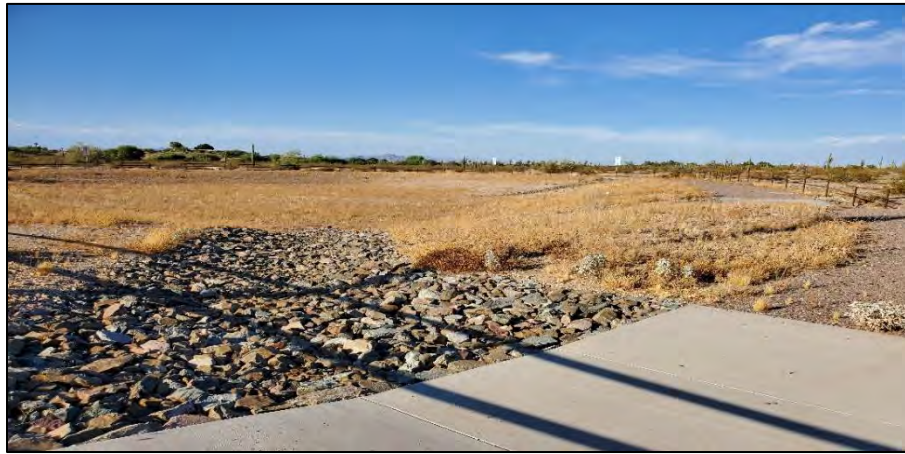
Street Transportation Department:

- The Grovers Avenue at 53rd Place and 55th Place drainage improvements project was completed this reporting year. This project included new storm drain lines and catch basins on Grovers Avenue and Michelle Drive, as well as increasing the size of one catch basin at 56th Street.

- The Monterosa Street drainage improvement project located on E Monterosa Street and N 22nd Street was completed this reporting year.

Public Works Department:

- The 23rd Avenue and Olney Detention Basins project was completed in the fourth quarter of 2019. The project included construction of three detention basins to assist with alleviation of local flooding. The basins include rock rip-rap, spillways, native desert vegetation and decomposed granite pathways around the perimeters. The design phase of this project was completed by the Flood Control District of Maricopa County.



- **Identification and tracking of municipal owned and operated facilities subject to permitting under the MSGP.**
 - Table 3-2 contains a listing of the eleven (11) City-owned and operated facilities subject to permitting under the MSGP, based on their industry sector and/or SIC code.

Table 3-2 City Owned/Operated Facilities Subject to MSGP

Department	Facility	Address	POC	Authorization #	Comments
Public Works	Skunk Creek Landfill	3165 W Happy Valley Road Phoenix, AZ 85027	Engineering Supervisor Doug Sawyer 602-534-1157	AZMS-81051	
	27th Avenue Solid Waste Management Facility	3060 S 27th Avenue Phoenix, AZ 85009		AZMS-81050	
	SR 85	28361 W Patterson Road Buckeye, AZ 85326		AZMS-81065	
	North Gateway Transfer Station	30205 N Black Canyon Hwy, Phoenix, AZ 85085		AZMS-81064	
Aviation	Sky Harbor International Airport	3400 E Sky Harbor Blvd, Ste 3300 Phoenix, AZ 85034	Project Manager Lisa Farinas 602-273-2787	AZMS-80274	
	Deer Valley Airport	702 W Deer Valley Road Phoenix, AZ 85027		AZMS-80278	
	Phoenix/Goodyear Airport	1658 S Litchfield Road Goodyear, AZ 85338		AZMS-80276	
Water Services	91st Avenue Wastewater Treatment Plant	5616 S 91st Avenue Tolleson, AZ 85353	Environmental Quality Specialist Doug Taylor 602-534-5081	AZMS-80181	
	23rd Avenue Wastewater Treatment Plant	2470 S 22nd Avenue Phoenix, AZ 85009		AZMS-80180	
	Cave Creek Water Reclamation Plant	22841 N Cave Creek Road Phoenix, AZ 85024		AZMS-80179	
City Clerk	Customer Service Center (Print Shop)	2640 S 22nd Avenue Phoenix, AZ	Environmental Quality Specialist Hilary Hartline 602-534-1778	AZNC-85446	No Exposure Certification September 2020

Note: The City previously submitted Sector L Closure Certifications for 15 city properties located on closed landfill sites (three of which were previously owned/operated by the City), which are not covered under the MSGP.

➤ **Status of all inventories, maps, and map studies required by the permit to be developed including completion dates.**

The stormwater GIS database conversion project has been completed. The Stormwater GIS team is reviewing the data in each quarter section and adding new infrastructure. The data is being shared as a web service that is hosted on the Enterprise ArcGIS Server and shared for all city staff to access.

The City considers the storm drains to be protected critical infrastructure. As such, the City has not provided a copy of the GIS maps as an attachment. However, the maps are available for review by ADEQ upon request.

➤ **For the Outfall inspection program, describe the status of:**

- Staff training
Outfall inspection training is described in Section H.
- Outfall inventory
The outfall inventory is described in Section H.
- Inspection tracking system
The outfall inspection tracking system is described in Section H.
- Overview of Inspection and screening procedures, and any significant findings
Inspection and screening procedures and findings are discussed in Section H.

E. Industrial Facilities

Status of identification and inventory of these facilities.

The City currently manages an inventory of almost 3,800 active stormwater facilities, which includes almost 1,500 industrial (potential MSGP) facilities. Inspectors also focus on facilities that submit federal Toxic Release Inventory reports, facilities that generate Resource Conservation and Recovery Act (RCRA) hazardous waste, treatment storage and disposal facilities (TSDFs), and non-municipal solid waste facilities throughout the City. WSD is attempting to put all active stormwater facilities on a five to six year inspection cycle, as staffing allows.

In addition to the industrial inspections, the City has incorporated a stormwater assessment into many of the inspections conducted by the Commercial Section. Stormwater assessments are conducted at commercial businesses including restaurants, car washes, and service stations. When significant stormwater issues are noted, the Commercial Inspector forwards the information to the Stormwater Section for follow-up. Stormwater assessments are also conducted by Industrial Pretreatment Program (IPP) inspectors when they do their annual inspection for permit compliance. Facilities are referred to the Stormwater Management Section for follow-up when necessary.

➤ **An overview of inspection findings and note significant findings.**

In reporting year 2019/20, the City conducted 453 industrial stormwater inspections, 654 commercial stormwater assessments, and 207 IPP screenings. A total of 169 informal (i.e., level one action, or inspection with requirements) and 18 formal enforcement letters were issued for stormwater-related violations.

The most common violations identified were the lack of training records, the lack of secondary containment and other container management issues, as well as the lack of a SWMP or SWPPP. Most stormwater issues noted during commercial (e.g., restaurant) inspections involved housekeeping related issues that were easily corrected (e.g., spills around tallow bins and open dumpsters).

➤ **Corrective and enforcement actions needed and taken in response to inspections.**

Informal enforcement actions included 169 inspection letters where requirements were made. Formal enforcement actions included NOVs (3) and Field NOVs (15). Most enforcement actions were resolved quickly, with 98 percent of all industrial inspections closed within one year of the initial inspection. The following cases went into escalated enforcement:

Cartz Partz, LLC: Ongoing compliance problems at this location (14634 North Cave Creek Road) resulted in escalated enforcement, including a Civil Citation for illegal discharge to the MS4. However, due to a problem with the way the citation was issued, it was subsequently revoked. IDDE staff conducted remote surveillance of the alley behind the facility for several months using a hidden camera, and were unable to document further illicit discharges. Therefore, no further action was taken.

Far West Supply: In October 2018 an inspection identified several compliance concerns at this facility (3337 W McDowell Road). During a follow-up inspection in March 2019, the inspector identified additional concerns and the facility was referred to ADEQ and Phoenix Fire. In November 2019, a follow-up inspection verified that the concerns identified in the 2018 inspection and 2019 follow-up inspection had been addressed.

R & L Automotive: The facility (4013 E University Drive) was issued a Civil Citation on August 22, 2019 for failing to respond to the requirements of a March 2018 facility inspection. However, the citation was rescinded due to a processing error. An inspector worked with the facility representative to achieve compliance. An onsite direct connection to the City's MS4 was identified and sealed by the City.

Pappadeaux Seafood Kitchen: In September 2019, an outfall inspection identified a dry weather flow from this facility, located at 1105 N Black Canyon Highway. After an investigation, it was determined the facility was washing cooking grease and food debris into the storm drain. The facility was required to cease the discharge, clean the storm drain, and take action to ensure the discharge does not reoccur.

Hall of Flame Fire Museum: In October 2019, a complaint identified an SSO from this facility (6101 E Van Buren Street) into a retention basin, caused by damage to the private sewer line. The facility was issued a field NOV and required to repair the sewer and clean the retention basin.

Shamrock Foods: On February 24, 2020, an inspector observed a non-stormwater discharge coming from this facility, located at 2228 N Black Canyon Highway. During the facility inspection, it was discovered that the facility's wastewater treatment system overflowed and discharged process wastewater to the city storm drain system via spillways and a direct connection. The facility was issued a field NOV and required to cease the discharge, clean the storm drain, and implement corrective actions to prevent future discharges. The facility disconnected a direct connection they had to the MS4 and installed gates to several spillways to further reduce the potential for a similar discharge in the future.

Upper Crust Bakery: On March 3, 2020, the facility (3655 W Washington Street) had an SSO that resulted in a discharge to the MS4. The overflow was caused by improper performance of the wastewater treatment system. The facility was issued a field NOV and required to cease the discharge, clean the storm drain, and take action to prevent future such discharges.

Primera New Home Interiors: In April 2020, while conducting outfall inspections, an inspector noticed a non-stormwater discharge from this facility located at 1035 E Riverview Drive. The facility was inspected and issued a field NOV, required to cease the discharge, and implement corrective actions to prevent future discharges.

Sunstate Equipment: The City has been working with Sunstate Equipment located at 5425 E Washington Street for several years to resolve a problem with a groundwater discharge to 54th Place that creates a nuisance for their neighbor to the south. Sunstate discharges stormwater

and groundwater via a connection to the MS4 that was approved by the City in the 1980s. Groundwater is an allowable non-stormwater discharge, if it is not significantly polluted. Though field screening of the dry-weather discharge showed it did not exceed any triggers, the City has decided to require Sunstate to cease the discharge; the connection to the MS4 will be eliminated by the City in the near future.

F. Construction Program Activities

The *City of Phoenix Stormwater Policies and Standards Manual* requires retention areas for buildings to account for drainage collected from the roof tops, parking lots, and other drainage areas. When the PDD reviews grading plans, staff ensure that the site retention volume is adequate to prevent runoff for the required storm event. If inspectors find that the plans are not being followed, they may stop work on the project. If the problem continues, court-ordered injunctions may be served or civil penalties assessed.

Chapter 32A, the City's Grading and Drainage Ordinance, establishes minimum requirements for regulating grading and drainage and establishes implementation and enforcement procedures. Grading and Drainage Permits are issued to applicants who fulfill the application requirements, including the submittal of a SWMP, when applicable. Activities regulated by the Grading and Drainage Ordinance are subject to inspection and enforcement action. Enforcement steps begin with a verbal warning, and may lead to a written warning, halting project inspections on the building, and/or a civil citation. The PDD Civil and Site Inspection team includes 28 members tasked with enforcing the ordinance.

Staff from PDD hold pre-construction meetings with private developers to discuss many issues, including on-site retention of stormwater, controlling erosion, and the installation of other BMPs. Communications with developers occur during periodic observations by inspection staff and during formal inspections.

An overview of the PDD process for stormwater related submittals is provided below:

- The customer submits grading/drainage and stormwater plans for review
- PDD provides red lines on plans
- The customer addresses the red lines
- Plans are approved for construction by PDD
- The customer applies for required permits
- Permits are created by PDD, including Civil Grading and Drainage and Civil Stormwater
- PDD office staff request a copy of the Arizona Pollutant Discharge Elimination System (AZPDES) Construction General Permit authorization number, which comes from submitting a Notice of Intent (NOI) before the customer can purchase permits
- The customer schedules a Pre-Construction Meeting prior to beginning work
- BMPs are implemented by the customer prior to the start of construction
- Inspector verifies that trackout and BMPs are properly maintained during each inspection
- The customer submits an Notice of Termination (NOT) when the project is completed
- Warranty inspection is performed by PDD, one-year after completion.

➤ **Status of inventory/plan review of these facilities.**

The PDD database contains a comprehensive inventory of developments for which permits have been issued, plans have been reviewed, and inspections have been conducted. The permits are categorized in the database according to the type of work requested to be performed. In reporting year 2019/20, 827 Construction/Grading Plans were reviewed.

➤ **An overview of Inspection findings and significant findings.**

Inspection findings are documented in the PDD database. During reporting year 2019/20, a total of 650 construction sites were inspected for stormwater. There were 54 permits with noted deficiencies where corrective action was requested at least one time, along with sixteen that required multiple requests to achieve compliance. The counts specific to the four types of deficiencies listed below are:

- 6 – Stormwater controls missing, not per plan, or started work without notification
- 40 – Trackout control not working
- 37 – Failure to maintain stormwater controls
- 9 – Paperwork or other administrative correction cleared.

Some linear and utility municipal construction projects are not subject to PDD's stormwater permitting process and are inspected by either OEP or WSD staff to ensure BMPs and compliance with the local stormwater ordinance. There were 11 documented deficiencies at six of the 16 municipal projects inspected, including:

- Chemical storage lacking cover and/or secondary containment
- Refuse/litter control/storage
- Improper storage of scrap metal
- Catch basin inlet protection not installed and/or properly maintained
- Missing, insufficient or inaccurately maintained sediment or erosion controls around perimeter of material stockpiles not actively being worked or at site perimeters
- Silt/sediment accumulation on street and in gutter.

➤ **Corrective and enforcement actions needed and taken in response to inspections.**

Most documented deficiencies were corrected by the next day. One written notice was issued. No other escalated enforcement was required to bring projects into compliance (i.e., suspension of work), and most violations were corrected upon first request.

For municipal projects, inspection reports showing the specific deficiencies are sent to project managers who work with the contractor to correct the problem and send follow-up documentation that deficiencies have been corrected. For all the municipal projects with findings in 2019/20, deficiencies were corrected promptly and additional enforcement steps were not necessary.

PDD requires that the developer provide a "letter of explanation" when they cannot obtain a NOT at the end of the project. These are forwarded to ADEQ twice a year. In reporting year 2019/20, PDD had zero projects that did not file with ADEQ.

Staff Training: The PDD Municipal Stormwater Inspection Training for Construction Inspectors trains plan review and inspection staff on administrative procedures (NOI and SWPPP), compliance, and appropriate BMPs to reduce pollution from construction activities.

PDD civil plan reviewers are trained on stormwater pollution prevention plans, Notice of Intent applications, and Maricopa County Flood Control District's Erosion Control Manual. Training occurs twice a year.

Details on training dates and number of attendees are included in Section C.

G. Post Construction Controls

➤ **Summary of any new post-construction controls for municipal projects.**

There were no new post-construction controls for municipal projects this reporting year.

Low Impact Development (LID) / Green Infrastructure (GI) Studies/Activities:

- The City of Phoenix worked with the Arizona State University Sustainable Cities Network, the City of Scottsdale, and other local Member Communities on the Greater Phoenix Metro Green Infrastructure Handbook. The handbook was released in January 2019.
- The City is participating in a study conducted in partnership with The Nature Conservancy, the Bureau of Reclamation, the Flood Control District of Maricopa County, and the Maricopa County Air Quality Department. The study's aim is to identify key areas in the City of Phoenix that would benefit most (be most suitable) for stormwater infiltration and retention with LID using GIS spatial analysis. Activities completed this reporting year (second year of the study) include selection of a catchment basin in the City of Phoenix to be used in a surface water model using the criteria of flooding, urban heat, stormwater quality, and air quality. The purpose of the surface water model is to analyze the impacts of theoretical LID installations. In addition, a literature review was conducted by Arizona State University as part of the study to identify existing data and research on LID in arid environments. The study is scheduled to be completed in the third quarter of 2021.
- The City of Phoenix, in partnership with EPA Region 9, the Flood Control District of Maricopa County, and City of Tempe, received an EPA Technical Assistance Grant in reporting year 2018/2019 to integrate GI and LID into the 2020 Maricopa County Multi-Jurisdictional Hazard Mitigation Plans update. Including GI/LID in these plan updates will expand the range of tools used to mitigate flood risk to include natural and nature-based solutions, institutionalize GI/LID into hazard mitigation and stormwater management planning, enhance opportunities for FEMA funds to be directed to GI/LID projects, and enable co-planning management of flooding, nonpoint source water quality, and protection of areas important to the hydrologic connectivity of the local watersheds. A 1.5-day workshop "Integrating GI/LID into Hazard Mitigation Plans" was held on December 10 and 11, 2019. The workshop included presentations by EPA and FEMA, and participation by regional and local government agencies, educational institutions and other interested stakeholders. A final report summarizing the workshop results was completed in March 2020 and is available on the City's Office of Environmental Programs website: <https://www.phoenix.gov/oep/Stormwater>.

➤ **An overview of the City's post-construction inspection program.**

PDD inspectors conduct a one-year warranty inspection on each construction project within their jurisdiction. This inspection provides an opportunity to identify corrective action to be implemented by the developer or responsible sub-contractor for a variety of items, including stormwater and grading and drainage controls.

For municipal projects not subject to PDD's stormwater permit program, OEP or WSD staff conducts post-construction stormwater inspections within one year of the project completion.

During reporting year 2019/2020, post-construction stormwater inspections were conducted by PDD at 234 private construction projects and by OEP or WSD at 9 municipal construction projects.

➤ **Corrective and enforcement actions needed and taken in response to post-construction inspections.**

The PDD database contains directives for items identified for follow-up during the warranty inspection. The PDD post-construction inspections had no findings. The municipal post-construction inspections had one finding for a BMP not removed from the construction site, which was promptly corrected by department staff.

➤ **Summary of any new or revised post-construction requirements related to permits the City issues.**

No new or revised post-construction requirements were identified by PDD personnel.

H. Outfall inspection program; describe the status of

➤ **Staff training.**

Stormwater staff members are trained on sampling procedures and techniques when they are assigned to the Outfall Inspection rotation, typically within the first year of employment. As part of this, they are required to familiarize themselves with the applicable Code of Federal Regulations at 40 CFR 122 and 40 CFR 136 and the Standard Operating Procedures (SOPs) concerning sampling and Quality Assurance/Quality Control (QA/QC). Refresher training is provided informally throughout the year and formally at least once every two years.

Details on training dates and number of attendees are included in Section C.

➤ **Outfall inventory.**

The City maintains a database to document stormwater outfalls. At the time of this report, the inventory includes 904 total outfalls with 413 of these designated as "Major" outfalls according to Environmental Protection Agency (EPA) guidelines. Seventeen outfalls are designated as "priority," either due to observed flow within the past five years, or because they received an illicit discharge in the past five years. The City no longer has outfalls that discharge to an impaired water, because the Salt River, from the 23rd Avenue Wastewater Treatment Plant to the Gila River has been delisted. Other priority outfalls have been removed because the source of an illicit discharge was found (and eliminated).

In 2018, the City began to re-evaluate each outfall's designation, using the drainage area from the recently completed GIS upgrade. This effort, which will continue for the next two years, has resulted in a decrease in the total number of major outfalls. The outfall inventory is included as an attachment to this report.

➤ **Inspection tracking system.**

Each outfall inspection is conducted by a trained team of inspectors who use a form specifically designed to capture the data as they are observed. Once the inspection is completed and the inspectors return to the office, all data are entered into a database. Entered data include the

documentation and tracking of all (both major and minor) outfall inspections. All items required in 40 CFR 122 are found on the form including both visual and field screening activities.

➤ **Inspection and screening procedures and significant findings.**

The inspection crew visits each “priority” outfall annually and the remaining major outfalls at least once every five years. The inspection begins with an overall visual observation of the outfall structure and surrounding area. Visual items are noted such as residue, staining, dead animals, and differences in plant life near the outfall. If a flow (greater than 0.03 gallons per minute) is observed, a sample is collected for field screening, which includes pH, temperature, total chlorine, sulfide, ammonia, phenol, detergent, lead, and copper. All observations are recorded on a standard inspection checklist and entered into a database.

In reporting year 2019/20, staff inspected major outfalls along the Cave Creek Wash, Arizona Canal, the Grand Canal, and the Salt River . All priority outfalls were inspected, regardless of location. Twenty-one outfalls had dry-weather flow, which triggered the field screening process at those locations. Sixteen IDDE investigations were initiated based upon two consecutive days of dry-weather flow at 16 outfalls.

I. Description of any new or revised ordinances, rules or policies related to stormwater management or control, if applicable.

- **Complete Streets Design Manual and Policy** – In alignment with the Complete Streets Policy and Design Guidelines, which includes a chapter providing guidance on use of green infrastructure and low-impact development principles in the right-of-way for stormwater management (primarily adopted from, with permission, Watershed Management Group’s *Green Infrastructure for Southwestern Neighborhoods (2012)*), standard details for common GI/LID features are being incorporated into the update of the overarching STR Design Manual. This effort was ongoing in reporting year 19/20.

J. Fiscal Expenditures; provide a brief report on expenditures related to implementation of the City’s stormwater program for the previous fiscal year.

The City collects a stormwater fee to defray the costs of operating the stormwater management program.

Stormwater program charges from STR, WSD, and OEP are paid out of the Stormwater Fund. The fee does not cover the costs for most maintenance of the drainage system or infrastructure improvements, nor does it cover ancillary stormwater activities, such as street sweeping or the HHW program. Stormwater program costs for PDD are funded by construction inspection fees.

Water Services Department

WSD coordinates the City’s Stormwater Program. In addition to overall program administration, WSD conducts stormwater outreach, complaint investigations, outfall inspections and IDDE investigations, industrial inspections, wet-weather monitoring, and reporting. Expenditures totaled over \$1.8M in reporting year 2019/20.

Street Transportation Department

STR conducts storm drain maintenance and inspections, wash maintenance, and is responsible for the stormwater GIS. The stormwater budget for STR was over \$3.4M in reporting year 2019/20. The budget included more than \$2.7M for wash maintenance and approximately \$700,000 for the stormwater GIS.

Office of Environmental Programs

OEP conducts environmental assessments of municipal facilities and operations and oversees the stormwater training plan. OEP also advises city departments on regulatory compliance issues. OEP also conducts stormwater inspections for those municipal construction and post-construction projects that did not go through the PDD permit process, with the exception of WSD projects. The stormwater operating expenditures for OEP was \$145,433 in reporting year 2019/20. An additional \$319,108 was spent on capital improvement program projects.

Planning and Development Department

PDD conducts grading and drainage plan reviews and inspections. PDD costs are covered by plan review fees and construction permit fees, and their budget may vary significantly depending on the number of permitted construction projects. The grading and draining budget for PDD in reporting year 2019/20 was over \$1.53M with stormwater expenditures at \$414,000.

Table 3-3 Stormwater Management Program Fiscal Expenditures

City of Phoenix Department	Reporting Year 2019/20 Actual	Reporting Year 2020/21 Projected
Water Services Department		
Stormwater Program Support	\$1,838,737	\$2,318,927
Street Transportation Department		
Wash Maintenance	\$2,722,933	\$2,402,914
Geographic Information System	726,494	\$771,496
Planning and Development Department		
Grading and Drainage – Plan Review	\$1,203,000	\$1,080,000
Grading and Drainage – Inspections	\$331,000	\$300,000
Office of Environmental Programs		
Stormwater Program Support	\$145,433	\$184,078
Capital Improvement Projects	\$319,108	\$250,000

PART 4: SUMMARY OF STORMWATER MANAGEMENT PROGRAM ACTIVITIES (NUMERIC)

Provide a summary of stormwater management practices and activities performed each year as indicated in the Table below.

STORMWATER MANAGEMENT PRACTICE OR ACTIVITY	REPORTING YEAR (July 1-June 30)						
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Illicit Discharge Detection and Elimination Program							
1. Municipal Employee Training							
Number of training sessions (on non-stormwater discharges and the IDDE program)	20	9	17	10	15	48	25
Number of employees attending training	515	302	527	357	287	976	969
2. Spill Prevention							
Number of municipal facilities identified with hazardous materials	307	303	301	298	313	294	290
Number of spills at municipal facilities with hazardous materials, that occurred in outside areas	2	2	1	1	1 ^c	2	2
Number of Facility Assessments completed* <i>(*identify any issues found requiring follow-up in narrative and summarize new practices to minimize exposure)</i>	120	107	112	111	143	119	55
Date of last review of HMMP* <i>(*Identify committee participant with stormwater expertise in narrative)</i>	06/2013	06/2014	05/2015	05/2016	06/2017	06/2018	06/2020
3. Outfall Inspections							
Total Number inspected* <i>(*attach or forward electronic copy of inventory or map of major out falls and priority outfalls)</i>	170	214	307	251	169	175	216
Number of 'Priority Outfalls' identified to date* <i>(*summarize findings and follow-up actions in narrative)</i>	31	27	31	13	13	17	17
Number of 'Priority outfalls' inspected* <i>(*summarize findings and follow-up actions in narrative)</i>	31	27	30	13	13	17	17
Number of dry weather flows detected	10	15	24	14	10	20	21
Number of dry weather flows investigated	10	15	24	14	9	20	16
Number of major outfalls sampled	10	15	24	14	9	20	20
Number of illicit discharges identified	1	6	7	5	8	14	4
Number of illicit discharges eliminated	1	2	7	5	7	10	4

STORMWATER MANAGEMENT PRACTICE OR ACTIVITY	REPORTING YEAR (July 1-June 30)						
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Amount of storm drain inspected (length)	.076 ^d	3.8 miles	4.04 miles	5.76 miles	0.41 miles	7.73 miles	0.83 miles
Number of storm drain cross connection investigations	1	1	0	5	1	1	0
Number of illicit connections detected	1	1	1	1	2	3	4
Number of illicit connections eliminated	1	0	1	1	2	1	4
Number of corrective or enforcement actions initiated within 60 days of identification	1	1	2	5	2	3	6
Percent of cases resolved within 1 calendar year of original Level One action*	90%	100%	100%	80%	100%	100%	98
Number of illicit discharge reports received from public	213	195	186	188	286	120	370 ^b
Percent of illicit discharge reports responded to	100%	100%	98%	100%	100%	99%	100%
Percent of responses initiated within 15 days of receipt	100%	98%	100%	100%	100%	98%	99%
Municipal Facilities							
1. Employee Training							
Number of training events* <i>(*dates and topics to be included in narrative)</i>	48	484	37	61	40	39	24
Number of staff trained	1208	1354	753	1989	1056	1568	662
2. Inventory/Map/Database of MS4 Owned and Operated Facilities							
Total number of facilities on inventory	303	301	298	313	294	287	290
Date identification of "high risk" facilities completed	6/30/201 1	6/30/201 1	6/30/201 1	6/30/201 1	6/30/201 1	6/30/201 1	6/30/201 1
Date prioritization of municipal facilities completed	6/30/201 1	6/30/201 1	6/30/201 1	6/30/201 1	6/30/201 1	6/30/201 1	6/30/201 1
3. Inspections							
Miles of MS4 drainage system prioritized for inspection	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a
Miles visually inspected	9.55	14.08	10.06	18.72	20.24	10.66	15.68
Number of 'high risk' municipal facilities inspected	12	24	18	19	24	18	16
Number of 'high risk' municipal facilities found needing improved stormwater controls	6	8	5	6	7	9	5
4. System Maintenance							
Linear miles of drainage system cleaned each year* <i>(*City to maintain records documenting specific street cleaning events)</i>	176,970	146,315	191,318	205,299	209,992	204,816	196,114
Record amount of waste collected from street and lot sweeping (reported in tons)	12,386	16,120	18,509	14,628	17,286	15,257	10,251

STORMWATER MANAGEMENT PRACTICE OR ACTIVITY	REPORTING YEAR (July 1-June 30)						
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Total number of catch basins	18,943	19,648	20,644	21,015	33,829	36,576	38,743
Number of catch basins cleaned	5,674	10,552	6,682	4,441	3,402	2,431	3,031
Industrial Sites Not Owned by the MS4							
Number of training events for MS4 staff	2	1	2	1	3	2	3
Number of municipal staff trained	46	13	45	9	55	5	49
Number of industrial facilities on Part V.B. Inventory inspected	540	780	636	567	688	551	453
Number of corrective or enforcement actions initiated on industrial facilities	281	171	101	97	223	199	169
Percent of cases resolved within 1 calendar year of original Level One action	95%	99%	99%	99%	96%	100%	98%
Construction Program Activities							
Number of training events for MS4 staff* (*include topics in narrative summary)	2	7	3	3	2	5	10
Number of municipal staff trained	20	28	41	15	26	46	145
Number of construction/grading plans submitted for review	164	335	634	481	735	1,070	827
Number of construction/grading plans reviewed	164	335	634	481	735	1,070	827
Number of construction sites inspected	344	353	390	533	354	688	650
	19 (municipal)	10 (municipal)	9 (municipal)	16 (municipal)	21 (municipal)	24 (municipal)	16 (municipal)
Number of corrective or enforcement actions initiated on construction facilities* (*identify the type of actions in narrative summary)	34 9 (municipal)	118 12 (municipal)	83 19 (municipal)	51 23 (municipal)	46 24 (municipal)	48 7 (municipal)	54 11 (municipal)
Post Construction Program Activities							
Number of post-construction inspections completed	91	130	121	176	168	199	234
	14 (municipal)	6 (municipal)	3 (municipal)	15 (municipal)	13 (municipal)	26 (municipal)	9 (municipal)
Number of corrective or enforcement actions initiated for post-construction activities * (*identify the type of actions in narrative summary)	0 2 (municipal)	0 0 (municipal)	0 0 (municipal)	0 1 (municipal)	0 6 (municipal)	0 0 (municipal)	0 1 (municipal)

- (a) The City does not measure linear miles of drainage system prioritized for inspection. Rather, these areas are listed by location. The lists are included in the SWMP and updated annually.
- (b) Due to changes in database functionality, starting in FY20 this number represents all complaints received, including complaints of illicit discharge.
- (c) This value was corrected from 13 to 1, to address a typo in the 2016/2017 report.
- (d) 400 feet of televised line was inspected under contract by Pro Pipe. The City did not have the ability to televise storm drain lines due to inoperative camera equipment.

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PART 5: EVALUATION OF THE STORMWATER MANAGEMENT PROGRAM

In accordance with Section 5.4 of the permit, provide an evaluation of the progress and success of the stormwater management program each year, including an assessment of the effectiveness of stormwater management practices in reducing the discharge of pollutants to and from the municipal storm sewer system.

Program Management

The Stormwater Working Group (Working Group), which includes representatives from WSD, STR, OEP, PDD, PWD, and Law, continues to meet on a monthly basis. The Working Group discusses ongoing issues, such as IDDE investigations, municipal stormwater projects, the GIS database, and stormwater training. An Executive Committee composed of Management from the five key departments meets quarterly to discuss the stormwater budget and any ongoing issues that require management decisions. Since April 2020, the Working Group and Executive Committee have been conducting virtual meetings online.

Public Education and Outreach

The City continues to include stormwater messaging to school-aged children and citizens at City-sponsored or attended events. The City continues to utilize multi-media efforts, such as print advertisement, mailers, surveys, as well as actively participating in AZSTORM on a monthly basis.

This reporting year nearly 400 storm drain awareness surveys were completed. This number of surveys completed was less than last year, likely due to an unexpected reduction in outreach events due to COVID-19. Also, the online survey was sent out right as COVID-19 was dominating the news. Most of the respondents answered the 14-question survey online via Survey Monkey distributed via NextDoor. The City uses Survey Monkey to track analytics over time and help determine whether awareness is increasing.

In summary:

This year 48% answered that runoff goes to a treatment plant or sewer system (less than 2% increase over last year), and 72% chose wash or river (a 4% decrease over last year.) This topic will be emphasized in FY 2020/21 outreach efforts.

Over 75% believe there is a problem in the Valley with pollution entering storm drains; a 5% decrease over last year.

Nearly all responses *deny* that they dispose of household chemicals, pesticides, automotive fluids, yard waste, and pet waste in storm drains; same as last year's measurements.

While most indicate that they would seek information on these topics by going to the City, ADEQ, or internet nearly 36% were not sure where to go when observing someone dumping pollutants into the storm drain; (statistic is unchanged from last year).

Demographic questions were added to the survey to assist in narrowing down information on the audience. These questions are:

- What is your gender: Female (62%), Male (36%), Prefer not to answer (2%)
- What is your age group: Under 21 (2%), 21-39 (17%), 40-59 (35%), 60+ (43%); generally, more mature audiences took this year's survey than last.

Last, we ask how they heard about us, which may be used in the future to direct our method of contact:

58% indicated NextDoor; 7% said email, 28% from events; a few said Facebook, Twitter, Website and Other.

The survey response summary is included in the attachments section of this annual report.

Pollutant Load

Annual and seasonal pollutant load estimates have been calculated for pollutants identified in Section 7.4 of the City's AZPDES Permit. Total pollutant load estimates for all watershed basins within the Phoenix MS4 are presented in Part 11 of this report.

As included in the 2013 MS4 Permit renewal application, City GIS staff acquired County land-use spatial data and combined them with sub-watershed boundaries developed by the Flood Control District of Maricopa County (FCDMC 2013). These sub-watershed boundaries are very similar to the Watershed Boundary Dataset 10-digit Hydrologic Unit Code (HUC), with exceptions made for local flood control and other man-made diversions (for example, White Tanks A Basin). Clipping these data to the City permit boundaries produced a watershed-based land-use map that was used to define 12 new areas, now sub-watersheds, used in the pollutant load estimate. Data from reporting years 2013/14 through 2018/2019 are presented for comparison to the reporting year 2019/20 pollutant load analysis.

Pollutant load analysis does not offer much insight to BMP effectiveness as there appears to be a direct correlation between pollutant loading and quantity of flow, not necessarily program implementation measures.

PART 6: STORMWATER MANAGEMENT PROGRAM MODIFICATIONS

In accordance with Section 5.5 of the permit, provide a description of modifications, if applicable, to the stormwater management program each year as follows:

1. **Addition of New BMPs: Summarize the development and implementation of any new stormwater management practices or pollution controls each year.**

No BMPs were added during this reporting year.

2. **Addition of Temporary BMPs: Specify the occasions when these controls were initiated and terminated, and the perceived success of these temporary BMPs.**

No temporary BMPs were added this reporting year.

3. **Increase of Existing BMPs: Summarize modifications to existing stormwater management practices that increase the number of activities, increase the frequency of activities, or other increases in the level of implementation.**

No existing BMPs were increased during this reporting year.

4. **Replacement of Existing BMPs: Briefly summarize any replacements made with prior approval of ADEQ per section 5.5(4) of the permit.**

See below for a discussion on HHW changes under Programmatic Changes.

Programmatic Changes

As a result of the coronavirus pandemic, the City made several programmatic changes to protect the health and safety of the public and our employees.

Outreach events scheduled for late March, April, and May 2020 were canceled. Until it is safe to congregate in large groups, the City does not intend to participate in any public outreach events. However, outreach will continue through other mechanisms, such as social media, videos, flyers, etc.

HHW events were cancelled for March, April, and May 2020. PWD provided information to the public on HHW alternatives via social media, the City services bill insert, and media interviews. This information is also available on the PWD website. At this point, it is unclear when the HHW events will resume. In the meantime, PWD continues to offer HHW disposal alternatives and evaluate additional options. If it is determined the City cannot resume HHW collection events, ADEQ will be contacted to request a permit modification.

Routine industrial facility inspections were briefly halted in April and May 2020, while most businesses were closed due to the State stay-at-home order. Complaint inspections continued, where feasible. In June, routine facility inspections resumed, with modifications to protect employees and the public. In addition to using proper personal protective equipment, such as face masks, inspectors were allowed to schedule inspections to ensure the business would be accessible for the inspection. In addition, inspectors were encouraged to conduct some of the pre-inspection interview over the phone to limit the amount of time needed to spend face-to-face with the facility representative, and to focus only on inspecting exterior locations. These modifications will continue until it is safe to resume normal inspection protocols.

Note: Modifications to reduce number of stormwater management practices or activities, frequencies, time frames, level of implementation, or any other program standard specified in Appendix A of the permit requires permit modification (refer to Section 5.6 of the permit).

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PART 7: MONITORING LOCATIONS

For the year one Annual Report, provide a brief description of each stormwater monitoring location (outfall), including the following information. For subsequent Annual Reports, advise if any of the information has changed or is updated.

The following monitoring locations were upgraded to 4G Technology for the autosamplers and rain gauges, SR003, SR030, SR045, SR049 and AC033.

The monitoring sites are described on the following pages. The information for each site corresponds to the requirements in Part 7 of Appendix B of the Permit. Latitude and longitude coordinates have been revised for some outfalls. Land-use data and catchment area information are approximate values based on a review of the available data and best engineering judgment. Maps of the drainage areas are included as an attachment to this report.

It should be noted that SR049 catchment area changed as a result of the 202 Connect Project. The revised catchment area map is included as an attachment to this report. Other catchment areas were also reviewed and updated as needed.

Note: Modifications to monitoring locations shall not be implemented without permit modification.

Name and Description of Receiving Water

New River, via the Arizona Canal Diversion Channel (ACDC)

Outfall Identification Number

AC033

Address/Physical Location of the Site

Dunlap and 7th Avenue just south of Hatcher

Latitude/Longitude

33° 34' 8.016 "

-112° 4' 58.348"

Discharge Structure

60-inch box outlet

Size (acres) of Drainage Area

1084 acres

Land Uses

Industrial	0.3%
Commercial	11.9%
Open Land	21.2%
Institutional	1.9%
Residential	47.9%
Heavy Residential	2.3%
Pavement	14%
Miscellaneous	0.5%



Type of Monitoring Equipment

Automated composite sampler (Isco Environmental model 6712), an Isco rain gauge, and an Isco flow meter for depth and flow measurement. Installed solar panels to augment battery performance.

Name and Description of Receiving Water

Indian Bend Wash

Outfall Identification Number

IB008

Address/Physical Location of the Site

12499 North 40th Street

Latitude/Longitude

33° 35' 58.218"

-111° 59' 44.292"

Discharge Structure

66-inch round inlet pipe (original)
discharging to two 30-inch outlet pipes

48-inch round inlet pipe (new in 2005)
discharging to one 48-inch outlet pipe

Size (acres) of Drainage Area

804.5 acres

Land Uses

Industrial	0.3%
Commercial	6.0%
Open Land	4.1%
Institutional	6.2%
Residential	64.5%
Heavy Residential	3.5%
Pavement	15.1%
Miscellaneous	0.3%



Type of Monitoring Equipment

Automated composite sampler (Isco Environmental model 6712), an Isco rain gauge, and an Isco flow meter for depth and flow measurement. Installed solar panels to augment battery performance. Adjusted flow meter device within the pipe, Winter 2018/19.

Name and Description of Receiving Water

Salt River

Outfall Identification Number

SR003

Address/Physical Location of the Site

3501 West Elwood Street

Latitude/Longitude

33° 24' 43.025"

-112° 8' 5.004"

Discharge Structure

75-inch round pipe

Size (acres) of Drainage Area

1886 acres

Land Uses

Industrial	10.3%
Commercial	13.8%
Transportation	0.8%
Open Land	11.5%
Institutional	20.1%
Residential	29.6%
Heavy Residential	3.0%
Utilities	0.7%
Pavement	10.2%



Type of Monitoring Equipment

Automated composite sampler (Isco Environmental model 6712), an Isco rain gauge, and an Isco flow meter for depth and flow measurement. Installed solar panels to augment battery performance.

Name and Description of Receiving Water

Salt River

Outfall Identification Number

SR030

Address/Physical Location of the Site

27th Avenue at the Salt River (south bank)

Latitude/Longitude

33° 24' 31.447"

-112° 06' 59.142"

Discharge Structure

108-inch round pipe

Size (acres) of Drainage Area

1620 acres

Land Uses

Industrial	14.1%
Commercial	4.5%
Open Land	33.4%
Institutional	2.8%
Residential	35.6%
Heavy Residential	0.3%
Pavement	9.2%
Miscellaneous	0.1%



Type of Monitoring Equipment

Automated composite sampler (Isco Environmental model 6712), an Isco rain gauge, and an Isco flow meter for depth and flow measurement. Installed solar panels to augment battery performance.

Name and Description of Receiving Water

Salt River

Outfall Identification Number

SR045

Address/Physical Location of the Site

2401 South 40th Street

Latitude/Longitude

33° 25' 34.082"

-111° 59' 44.274"

Discharge Structure

54-inch round pipe

Size (acres) of Drainage Area

879.7 acres

Land Uses

Industrial	27.1%
Commercial	43.0%
Open Land	5.7%
Institutional	4.3%
Residential	0.9%
Heavy Residential	0.0%
Pavement	19%



Type of Monitoring Equipment

Automated composite sampler (Isco Environmental model 6712), an Isco rain gauge, and an Isco flow meter for depth and flow measurement. Installed solar panels to augment battery performance.

Name and Description of Receiving Water

Salt River

Outfall Identification Number

SR049

Address/Physical Location of the Site

5400 South 67th Avenue

Latitude/Longitude

33° 24' 0.510"

-112° 12' 15.095"

Discharge Structure

96-inch round pipe

Size (acres) of Drainage Area

1974 acres

Land Uses

Industrial	16.6%
Commercial	6.8%
Transportation	0.1%
Open Land	26.3%
Institutional	3.2%
Residential	35.2%
Heavy Residential	1.1%
Utilities	0.1%
Pavement	8.8%
Miscellaneous	1.7%



Type of Monitoring Equipment

Automated composite sampler (Isco Environmental model 6712), an Isco rain gauge, and an Isco flow meter for depth and flow measurement. Installed solar panels to augment battery performance.

Note: The drainage area for this outfall changed significantly as part of the Connect 202 Project.

Name and Description of Receiving Water

Skunk Creek Wash (Tributary to New River)

Outfall Identification Number

SC046

Address/Physical Location of the Site

35206 North 27th Avenue

Latitude/Longitude

33° 48' 11.171"

-112° 7' 7.380"

Discharge Structure

Three 36-inch round pipes

Size (acres) of Drainage Area

46 acres

Land Uses

Industrial	0.0%
Commercial	0.0%
Transportation	0.0%
Open Land	24.7%
Residential	62.8%
Heavy Residential	0.0%
Pavement	12.4%



Type of Monitoring Equipment

Automated composite sampler (Isco Environmental model 6712), an Isco rain gauge, and an Isco flow meter for depth and flow measurement. Installed solar panels to augment battery performance.

PART 8: STORM EVENT RECORDS

For each outfall identified in Part 7.0, Table 1.0 of the permit, summarize all measurable storm events (greater than 0.1-inch rainfall) occurring in the drainage area of each outfall within the winter and summer wet seasons, respectively, until samples have been collected for the outfall. Include the date of each event, the amount of precipitation (inches) for each event, and whether a sample was collected, or if not collected, information on the conditions that prevented sampling. (Note: If unable to collect stormwater samples due to adverse climatic conditions, provide, in lieu of sampling data, a description of the conditions that prevented sampling. Adverse climatic conditions which may prevent the collection of samples include weather conditions that create dangerous conditions for personnel, such as local flooding, high winds, electrical storms, etc.).

In accordance with 40 CFR Part 122.21(g) (7), the City AZPDES Permit Section 7.3.1 defines a representative storm as rainfall in the amount of 0.2 inches or more. The section further directs that "Stormwater samples shall be collected from discharges resulting from a storm event producing 0.2 inches or more of rainfall and at least 72 hours after the previously measured storm event (greater than 0.1-inch rainfall)." Rainfall totals and sample collection information by outfall are provided in Table 8-1 in this section.

Summer Wet Season Sampling Summary

July 24, 2019: Grab and composite samples were collected from SC046.

August 28, 2019: Grab and composite samples were collected from IB008 and AC033.

Summer samples were not collected at SR003, SR030, SR045 and SR049 due to insufficient rainfall to trigger a flow event and equipment malfunction.

Winter Wet Season Sampling Summary

Samples were not collected during a November 19-21, 2019 storm event due to insufficient rainfall because of the slow development of the storm. The 6-hour threshold had not been met by the time rainfall increased.

November 29, 2019: Grab and composite samples were collected at SR003, SR030, SR045, SR049, AC033, and SC046.

December 8, 2019: Grab and composite samples were collected from IB008.

Reported data were validated by USGS to ensure data quality objectives of the AZPDES program were met. The data validation was reviewed by AECOM to evaluate whether data and associated quality assurance and quality control (QAQC) information appear to be complete. Based on the QAQC presented, analytical results appear to be generally usable for their intended purpose. The following procedures were used in validating the data:

- Analytical methods used in the monitoring program were reviewed to assess the appropriateness of sample collection, transport methods, and holding times.
- Original laboratory reports and the corresponding chain of custody forms were reviewed to determine if quality assurance/quality control requirements were met. Evaluation criteria including holding times, duplicate results, method blank results, matrix spike results, equipment calibration information, and sample collection and transport information (to the extent practical.)

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Table 8-1 Storm Event Data for Reporting Year 2019/20

Season	Date	Outfall IB008	Rainfall inches	Outfall SR049	Rainfall inches	Outfall SR045	Rainfall inches	Outfall SR003	Rainfall inches	Outfall SR030	Rainfall inches	Outfall AC033	Rainfall inches	Outfall SC046	Rainfall inches
Summer (Jun 1 – Oct 31)	7/24/19	-	-	-	-	-	-	-	-	-	-	-	-	SC	0.50
	7/31/19	NS	0.19	-	-	-	-	-	-	-	-	NS	0.18	-	-
	8/3/19	-	-	-	-	-	-	EM	0.25	-	-	-	-	-	-
	8/4/19	-	-	IF	0.32	-	-	-	-	-	-	-	-	-	-
	8/28/19	SC	1.06	NS	-	NS	-	NS	-	NS	-	SC	0.23	-	-
Winter (Nov 1 – May 31)	11/19-21/19	6HR	1.26	6HR	1.99	6HR	0.67	6HR	1.27	6HR	1.28	6HR	1.48	6HR	0.15
	11/29/19	EM	0.62	SC	0.71	SC	0.72	SC	0.73	SC	0.91	SC	0.70	SC	0.89
	12/8/2019	SC	0.20	-	-	-	-	-	-	-	-	-	-	-	-

SC – Sample Collected; EM – Equipment Malfunction; NS – No Sample Collected; IF – Insufficient Flow; 6HR – not enough rain in first 6 hours

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PART 9: SUMMARY OF MONITORING DATA (BY LOCATION)

Use a separate table for each outfall monitoring location. Provide the outfall identification number, the receiving water designated uses, and the lowest surface water quality standards applicable to the receiving water. Enter the analytical results for the stormwater samples collected for each season of the reporting period for each year. Enter subsequent monitoring data for each location on the same form. Include, as an attachment, the laboratory reports for stormwater samples.

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OUTFALL ID: IB008 RECEIVING WATER: Indian Bend Wash DESIGNATED USES: PBC and A&We	MONITORING SEASONS																													
	Summer: June 1 - October 31														Winter: November 1 - May 31															
	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16		Summer 2016		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019		Winter 2019/20			
SAMPLING DATE(S):	SWQS	7/19/2013	SWQS	11/22/2013	SWQS	8/2/2014	SWQS	12/4/2014	SWQS	6/29/2015	SWQS	1/4/2016	SWQS	8/5/2016	SWQS	12/22/2016	SWQS	7/16/2017	SWQS	12/17/2017	SWQS	7/9/2018	SWQS	11/29/2018	SWQS	8/28/2019	SWQS	12/8/2019		
MONITORING PARAMETERS ^{1,2}																														
Conventional Parameters																														
Flow ³ (cfs)	NS	1.223	NS	12.34	NS	9.4	NS	0.212	NS	5.341	NS	2.296	NS	19.83	NS	59.094	NS	156.6	NS	6.33	NS	3.734	NS	0.001	NS	0.16	NS	0.25		
pH	6.5-9	7.18	6.5-9	8.38	6.5-9	7.46	6.5-9	7.49	6.5-9	7.3	6.5-9	7.51	6.5-9	7.14	6.5-9	6.83	6.5-9	7.25	6.5-9	7.56	6.5-9	7.42	6.5-9	7.64	6.5-9	7.39	6.5-9	6.72		
Temperature (°C)	Varies	31	Varies	15.5	Varies	30.5	Varies	17	Varies	29	Varies	14.1	Varies	25	Varies	16.5	Varies	28.9	Varies	14.5	Varies	29.9	Varies	18.6	Varies	29.7	Varies	17.9		
Hardness (mg/L)	400	224	400	60.8	400	39.9	400	16.6	400	91.2	400	25.1	400	27.6	400	27.3	400	82.1	400	71.4	400	76.5	400	54.5	400	38.5	400	24.5		
Total Dissolved Solids (TDS) (mg/L) ²	NS	674	NS	182	NS	92	NS	56	NS	274	NS	60	NS	86	NS	60	NS	320	NS	216	NS	270	NS	154	NS	116	NS	1,760		
Total Suspended Solids (TSS) (mg/L) ²	NS	279	NS	192	NS	212	NS	71	NS	252	NS	76	NS	458	NS	55	NS	804	NS	40	NS	376	NS	242	NS	452	NS	39		
Biochemical Oxygen Demand (BOD) (mg/L) ²	NS	123	NS	41	NS	17	NS	7	NS	67	NS	10	NS	23	NS	7	NS	108	NS	46	NS	76	NS	33	NS	26	NS	12		
Chemical Oxygen Demand (COD) (mg/L) ²	NS	600	NS	250	NS	110	NS	<50	NS	300	NS	90	NS	190	NS	<50	NS	560	NS	200	NS	390	NS	190	NS	280	NS	63		
IB008																														
SAMPLING DATE(S):																														
Inorganics																														
Cyanide, total (µg/L) ²	84	<50	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5
Nutrients (mg/L) ²																														
Nitrate + Nitrite as N	NS	6.9	NS	1.3	NS	1.4	NS	0.4	NS	2.1	NS	0.5	NS	1.1	NS	0.4	NS	2.3	NS	1.8	NS	1.6	NS	1.3	NS	0.9	NS	0.4		
Ammonia as N	NS	3.7	NS	1.7	NS	1.7	NS	0.61	NS	2.7	NS	0.45	NS	1.5	NS	0.35	NS	3.1	NS	1.9	NS	2.4	NS	1.9	NS	1.7	NS	0.49		
Total Kjeldahl Nitrogen (TKN)	NS	15	NS	4.5	NS	3.1	NS	1.4	NS	7.7	NS	1.4	NS	4.7	NS	1.3	NS	11	NS	5.8	NS	11	NS	6.0	NS	4.5	NS	1.6		
Total Phosphorus as P	NS	0.83	NS	0.64	NS	0.44	NS	0.35	NS	0.82	NS	0.44	NS	3.3	NS	0.24	NS	0.48	NS	0.64	NS	1.8	NS	0.66	NS	0.67	NS	0.19		
Ortho-Phosphorus as P	NS	0.9	NS	0.3	NS	0.1	NS	0.1	NS	0.3	NS	0.1	NS	0.2	NS	0.1	NS	0.7	NS	0.4	NS	0.6	NS	0.1	NS	0.2	NS	<0.1		
Microbiological																														
<i>Escherichia coli</i> (<i>E. coli</i>) (CFU/100 mg or MPN/100 mL) ²	575	>2,419.6	575	>2,419.6	575	>2,419.6	575	>2,419.6	575	2,419.60	575	2,650.00	575	1,986.30	575	2,419.60	575	1,986.30	575	20,350	575	456.9	575	24,810	575	26,130	575	3,840		
Total Metals (µg/L) ²																														
Antimony	747 T	3.7 T 1.9 D	747 T	1.7 T 0.8 D	747 T	1.5 T 1.1 D	747 T	1.2 T 0.4 D	747 T	2 T <5 D	747 T	1.4 T <5.0 D	747 T	2.3 T >5 D	747 T	0.69T <5 D	747 T	4.3 T <5 D	747 T	2.1 T <5 D	747 T	3.3 T <5.0 D	747 T	2.4 T <5.0 D	747 T	2.3 <5.0 D	747 T	0.76 <5.0 D		
Arsenic	280 T 440 D	5.9 T 2.8 D	280 T 440 D	2.0 T 1.0 D	280 T 440 D	2.5 T 1.2 D	280 T 440 D	1.6 T 0.5 D	280 T 440 D	3.3 T <5 D	280 T 440 D	2.0 T <5.0 D	280 T 440 D	6.2 T <5 D	280 T 440 D	1.7 T <5 D	280 T 440 D	7.8 T <5 D	280 T 440 D	2.3 T <5 D	280 T 440 D	6.7 T <5.0 D	280 T 440 D	3.5 T <5.0 D	280 T 440 D	4.3 <5.0 D	280 T 440 D	1.2 <5.0 D		
Barium	98,000 T	225 T 90 D	98,000 T	86 T 26 D	98,000 T	55 T 22 D	98,000 T	40 T 8 D	98,000 T	106 T 50 D	98,000 T	58 T 12 D	98,000 T	176 T 19 D	98,000 T	42 T 12 D	98,000 T	271 T 58 D	98,000 T	74 T 33 D	98,000 T	260 T 49 D	98,000 T	121 T 26 D	98,000 T	157 26 D	98,000 T	26 10 D		
Beryllium	1,867 T	0.46 T <0.15 D	1,867 T	<0.15 T <0.06 D	1,867 T	<0.15 T <0.06 D	1,867 T	0.12 T <0.06 D	1,867 T	0.22 T <5 D	1,867 T	0.10 T <5.0 D	1,867 T	0.53 T <5 D	1,867 T	<0.25 T <5 D	1,867 T	0.73 T <5 D	1,867 T	<0.15 T <5 D	1,867 T	0.69 T <5.0 D	1,867 T	0.29 T <5.0 D	1,867 T	0.41 <5.0 D	1,867 T	<0.15 <5.0 D		
Cadmium	700 T 49.92 D	0.6 T <0.25 D	700 T 14.05 D	0.3 T <0.10 D	700 T 9.33 D	<0.30 T <0.12 D	700 T 3.67 D	<0.12 T <0.12 D	700 T 20.85 D	0.2 T <5 D	700 T 5.93 D	0.2 T <5.0 D	700 T 15.98 D	0.3 T <0.25 D	700 T 15.79 D	0.8 T <0.25 D	700 T 52.16 D	0.7 T <0.2 D	700 T 44.83 D	<0.2 T <0.2	700 T 48.31	0.7 T <0.2 D	700 T 33.44	0.3 T <0.25 D	700 T 22.94	<0.25 <5.0 D	700 T 14.04	<0.25 <5.0 D		
Chromium	NS	20.1 T 3.3 D	NS	5.9 T 1.0 D	NS	5 T 1 D	NS	3.7 T 0.4 D	NS	6.8 T <5 D	NS	5.1 T <5.0 D	NS	17.2 T <5 D	NS	3.8 T <5 D	NS	20.7 T <5 D	NS	5 T <5 D	NS	18.9 T <5.0 D	NS	8.4 T <5.0 D	NS	12.1 <5.0 D	NS	4.7 <5.0 D		
Copper	1,300 T 49.73 D	147 T 75.5 D	1,300 T 14.55 D	51.2 T 20.8 D	1,300 T 9.79 D	25.2 T 13.7 D	1,300 T 4.28 D	16.0 T 5.8 D	1,300 T 21.32 D	62.5 T 40.6 D	1,300 T 6.32 D	40.0 T 14.8 D	1,300 T 2.98 D	61.3 T 12.8 D	1,300 T 6.85 D	12 T 5.5 D	1,300 T 19.32 D	156 T 34.5 D	1,300 T 16.93 D	46.5 T 28.4 D	1,300 T 18.07	116 T 35.2 D	1,300 T 13.13	53.7 T 16.2 D	1,300 T 9.46	70.8 15.7	1,300 T 6.18	11.8 11.7		
Lead	15 T 323.97 D	27.8 T 2.4 D	15 T 78.97 D	11.0 T 0.5 D	15 T 49.48 D	7.3 T 0.7 D	15 T 18.45 D	7.6 T 0.3 D	15 T 123.27 D	10.4 T <5 D	15 T 29.43 D	10.7 T <5.0 D	15 T 32.75 D	15 T 0.7 D	15 T 32.35 D	15 T <0.55 D	15 T 109.89 D	15 T 3.4 D	15 T 94.27 D	15 T 0.7 D	15 T 101.70	15 T 2.8 D	15 T 69.98	15 T 0.3 D	15 T 47.55	15 T <5.0 D	15 T 28.64	15 T <5.0 D		
Mercury	280 T 5 D	0.06 T 0.037 D	280 T 5 D	<0.020 T <0.020 D	280 T 5 D	<0.092 T <0.2 D	280 T 5 D	<0.092 T <0.2 D	280 T 5 D	<0.2 T <0.2 D	280 T 5 D	<0.062 T <0.2 D	280 T 5 D	<0.068 T <0.068 D	280 T 5 D	<0.068 T <0.2 D	280 T 5 D	0.132 T <0.2 D	280 T 5 D	<0.066 T <0.2 D	280 T 5 D	<0.080 T <0.080 D	280 T 5 D	0.043 T <0.2 D	280 T 5 D	<0.042 <0.2 D	280 T 5 D	<0.042 <0.2 D		
Nickel	28,000 T 8,227 D	34.0 T 18.0 D	28,000 T 2,729.4 D	10.0 T 4.6 D	28,000 T 1,911 D	5.7 T 2.7 D	28,000 T 910.2 D	3.5 T 0.7 D	28,000 T 3,846 D	11.7 T 6.3 D	28,000 T 1,291 D	5.1 T <5.0 D	28,000 T 1,399 D	16.6 T <5 D	28,000 T 1,386 D	3.6 T <5 D	28,000 T 3519.29 D	25.7 T 8.4 D	28,000 T 3127.15 D	7 T <5 D	28,000 T 3,315.11	25.8 T 8.1 D	28,000 T 2,488.35	9.4 T <5.0 D	28,000 T 1,854.47	13.2 <5.0 D	28,000 T 1,265.19	2.4 <5.0 D		
Selenium	33 T	1.5 T 1.3 D	33 T	<0.60 T 0.3 D	33 T	0.64 T 0.4 D	33 T	0.25 T 0.1 D	33 T	0.99 T <5 D	33 T	<0.40 T <5.0 D	33 T	1.6 T <5 D	33 T	0.51 T <5 D	33 T	1.2 T <5.0 D	33 T	0.71 T <5 D	33 T	0.86 T <5.0 D	33 T	0.69 T <5.0 D	33 T	<0.55 <5.0 D	33 T	<0.55 <5.0 D		
Silver	4,667 T 12.88 D	0.4 T <0.15 D	4,667 T 1.364 D	<0.15 T <0.15 D	4,667 T 0.667 D	<0.20 T <0.20 D	4,667 T 0.146 D	<0.08 T <0.08 D	4,667 T 2.75 D	<0.25 T <5 D	4,667 T 0.30 D	<0.25 T <5.0 D	4,667 T 0.35 D	<0.45 T <5 D	4,667 T 0.34 D	<0.45 T <5 D	4,667 T 2.29 D	0.5 T <5.0 D	4,667 T 1.80 D	<0.10 T <5.0 D	4,667 T 2.03	0.3 T <5.0 D	4,667 T 1.13	0.2 T <5.0 D	4,667 T 0.62	<0.2 <5.0 D	4,667 T 0.29	0.4 <5.0 D		
Thallium	75 T	<0.20 T <0.20 D	75 T	<0.20 T <0.08 D	75 T	0.12 T <0.04 D	75 T	0.07 T <0.04 D	75 T	0.4 T <5 D	75 T	<0.15 T <5.0 D	75 T	0.26 T <5 D	75 T	0.34 T <5 D	75 T	0.35 T <5 D	75 T	<0.10 T <5.0 D	75 T	0.19 T <5.0 D	75 T	<0.15 T <5.0 D	75 T	0.15 <5.0 D	75 T	<0.15 <5.0 D		
Zinc	280,000 T 2,202 D	362 T 109 D	280,000 T 729.8 D	211 T 61.6 D	280,000 T 510.9 D	77 T 19.2 D	280,000 T 242.8 D	63.3 T 8.4 D	280,000 T 1,029 D	209 T 70 D	280,000 T 345 D	141 T 12.0 D	280,000 T 374 D	261 T 15.4 D	280,000 T 370 D	42.5 T <8	280,000 T 940.87 D	476 T 90.5 D	280,000 T 835.88 D	151 T 53.2 D	280,000 T 886.20	464 T 68.5 D	280,000 T 664.90	271 T 34.1 D	280,000 T 495.30	279 <50D	280,000 T 337.71	52 <50D		

IB008	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16		Summer 2016		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019		Winter 2019/20	
SAMPLING DATE(S):	SWQS	7/19/2013	SWQS	11/22/2013	SWQS	8/2/2014	SWQS	12/2/2014	SWQS	6/29/2015	SWQS	1/4/2016	SWQS	8/5/2016	SWQS	12/22/2016	SWQS	7/16/2017	SWQS	12/17/2017	SWQS	7/9/2018	SWQS	11/29/2018	SWQS	8/29/2019	SWQS	12/8/2019
Organic Toxic Pollutants																												
Total Petroleum Hydrocarbons (TPH) (mg/L) ²	NS	<11	NS	<11	NS	<10	NS	<12	NS	<11	NS	<5.7	NS	<5.6	NS	<4.5	NS	<7.1	NS	<7.0	NS	<6.8	NS	<6.0	NS	N/A*	NS	<5.8
Total Oil and Grease (mg/L) ²	NS	<5.6	NS	<5.7	NS	<5.0	NS	<6.0	NS	<5.6	NS	<5.7	NS	<5.6	NS	<4.5	NS	<5.9	NS	<5.9	NS	<5.6	NS	<6.0	NS	<5.8	NS	<5.8
VOCs, Semi-VOCs, and Pesticides (µg/L) ²																												
Acrolein	467	<2.0	467	<0.20	467	<2.00	467	<0.40	467	<3.90	467	<0.78	467	<0.41	467	<0.41	467	<3.95	467	<0.79	467	<5.0	467	0.67	467	<0.55	467	<0.55
Acrylonitrile	37,333	<1.6	37,333	<0.16	37,333	<0.70	37,333	<0.14	37,333	<2.65	37,333	<0.53	37,333	<0.42	37,333	<0.42	37,333	<2.95	37,333	<0.59	37,333	<5.0	37,333	<0.57	37,333	<0.57	37,333	<0.57
Benzene	3,733	<1.20	3,733	<0.24	3,733	<1.20	3,733	<0.13	3,733	<0.65	3,733	<0.46	3,733	<0.29	3,733	<0.29	3,733	<1.30	3,733	<0.26	3,733	<1.30	3,733	<0.33	3,733	<3.3	3,733	<0.33
Bromoform	18,667	<2.35	18,667	<0.47	18,667	<2.35	18,667	<0.28	18,667	<1.40	18,667	<0.68	18,667	<0.33	18,667	<0.33	18,667	<1.05	18,667	<0.21	18,667	<1.05	18,667	<0.81	18,667	<8.1	18,667	<0.81
Carbon tetrachloride	1,307	<1.30	1,307	<0.26	1,307	<1.30	1,307	<0.23	1,307	<1.15	1,307	<0.31	1,307	<0.20	1,307	<0.20	1,307	<1.50	1,307	<0.30	980	<1.50	980	<0.27	980	<2.7	980	<0.27
Chlorobenzene	18,667	<0.80	18,667	<0.16	18,667	<0.80	18,667	<0.13	18,667	<0.65	18,667	<0.50	18,667	<0.33	18,667	<0.33	18,667	<1.15	18,667	<0.23	18,667	<1.15	18,667	<0.70	18,667	<7.0	18,667	<0.70
Chlorodibromomethane	18,667	<0.90	18,667	<0.18	18,667	<0.90	18,667	<0.24	18,667	<1.20	18,667	<0.61	18,667	<0.32	18,667	<0.32	18,667	<1.20	18,667	<0.24	18,667	<1.20	18,667	<0.70	18,667	<7.0	18,667	<0.70
Chloroethane (ethyl chloride)	NS	<1.10	NS	<0.22	NS	<1.10	NS	<0.19	NS	<0.95	NS	<0.40	NS	<0.33	NS	<0.33	NS	<1.40	NS	<0.28	NS	<1.40	NS	<0.33	NS	<3.3	NS	<0.33
2-Chloroethylvinyl ether	NS	<2.2	NS	<0.22	NS	<0.95	NS	<0.19	NS	<2.65	NS	<0.53	NS	<0.43	NS	<0.43	NS	<3.25	NS	<0.65	NS	<5.0	NS	<0.52	NS	<0.52	NS	<0.52
Chloroform	9,333	<1.15	9,333	<0.23	9,333	<1.15	9,333	<0.14	9,333	<0.70	9,333	<0.49	9,333	<0.32	9,333	<0.32	9,333	<1.20	9,333	<0.24	9,333	<1.20	9,333	<0.31	9,333	<3.1	9,333	<0.31
Dichlorobromomethane	18,667	<1.15	18,667	<0.23	18,667	<1.15	18,667	<0.15	18,667	<0.75	18,667	<0.49	18,667	<0.29	18,667	<0.29	18,667	<1.30	18,667	<0.26	18,667	<1.30	18,667	<0.52	18,667	<5.2	18,667	<0.52
1,1-Dichloroethane	NS	<1.30	NS	<0.26	NS	<1.30	NS	<0.19	NS	<0.95	NS	<0.42	NS	<0.29	NS	<0.29	NS	<1.35	NS	<0.27	NS	<1.35	NS	<0.32	NS	<3.2	NS	<0.32
1,2-Dichloroethane	186,667	<1.25	186,667	<0.25	186,667	<1.25	186,667	<0.11	186,667	<0.55	186,667	<0.51	186,667	<0.35	186,667	<0.35	186,667	<1.35	186,667	<0.27	186,667	<1.30	186,667	<0.28	186,667	<2.8	186,667	<0.28
1,1-Dichloroethylene	46,667	<1.40	46,667	<0.28	46,667	<1.40	46,667	<0.27	46,667	<1.35	46,667	<0.34	46,667	<0.19	46,667	<0.19	46,667	<1.60	46,667	<0.32	46,667	<1.60	46,667	<0.40	46,667	<4.0	46,667	<0.40
1,2-Dichloropropane	84,000	<1.25	84,000	<0.25	84,000	<1.25	84,000	<0.18	84,000	<0.90	84,000	<0.49	84,000	<0.32	84,000	<0.32	84,000	<1.60	84,000	<0.32	84,000	<1.60	84,000	<0.93	84,000	<9.3	84,000	<0.93
1,3-Dichloropropylene ⁵	28,000	cis <1.20 trans <1.10	28,000	cis <0.24 trans <0.22	28,000	cis <1.20 trans <1.10	28,000	cis <0.13 trans <0.13	28,000	cis <0.65 trans <0.65	28,000	cis <0.51 trans <0.50	28,000	<0.28	28,000	<0.28	28,000	<1.05	28,000	<0.21	28,000	<1.05	28,000	<0.43	28,000	<4.3	28,000	<0.43
Ethylbenzene	93,333	<0.65	93,333	<0.13	93,333	<0.65	93,333	<0.15	93,333	<0.75	93,333	<0.46	93,333	<0.29	93,333	<0.29	93,333	<1.15	93,333	<0.23	93,333	<1.15	93,333	<0.61	93,333	<6.1	93,333	<0.61
Methyl bromide	1,307	<0.95	1,307	<0.19	1,307	<0.95	1,307	<0.18	1,307	<0.90	1,307	<0.46	1,307	<0.28	1,307	<0.28	1,307	<1.15	1,307	<0.23	1,307	<1.15	1,307	<0.33	1,307	<3.3	1,307	<0.33
Methyl chloride	NS	<1.40	NS	<0.28	NS	<0.140	NS	<0.23	NS	<1.15	NS	<0.46	NS	<0.28	NS	<0.28	NS	<1.85	NS	<0.37	NS	<1.85	NS	<0.33	NS	<3.3	NS	<0.33
Methylene chloride	56,000	<1.00	56,000	<0.20	56,000	<1.00	56,000	<0.20	56,000	<1.00	56,000	<0.81	56,000	<0.31	56,000	<0.31	56,000	<4.00	56,000	<0.80	56,000	<4.00	56,000	<0.44	56,000	14	56,000	<0.44
1,1,2,2-Tetrachloroethane	93,333	<2.00	93,333	<0.40	93,333	<2.00	93,333	<0.35	93,333	<1.75	93,333	<0.80	93,333	<0.33	93,333	<0.33	93,333	<1.55	93,333	<0.31	56,000	<1.55	56,000	<0.83	56,000	<8.3	56,000	<0.83
Tetrachloroethylene	9,333	<1.05	9,333	<0.21	9,333	<1.05	9,333	<0.13	9,333	<0.65	9,333	<0.35	9,333	<0.23	9,333	<0.23	9,333	<1.45	9,333	<0.29	9,333	<1.45	9,333	<0.38	9,333	<3.8	9,333	<0.38
Toluene	373,333	<0.95	373,333	<0.19	373,333	<0.95	373,333	<0.11	373,333	<0.55	373,333	<0.43	373,333	<0.28	373,333	<0.28	373,333	<1.25	373,333	<0.25	280,000	<1.25	280,000	<0.38	280,000	<3.8	280,000	<0.38
trans-1,2-Dichloroethylene	18,667	<1.25	18,667	<0.25	18,667	<1.25	18,667	<0.18	18,667	<0.90	18,667	<0.38	18,667	<0.24	18,667	<0.24	18,667	<1.25	18,667	<0.25	18,667	<1.25	18,667	<0.32	18,667	<3.2	18,667	<0.32
1,1,1-Trichloroethane	1.867x10 ⁶	<1.00	1.867x10 ⁶	<0.20	1.867x10 ⁶	<1.00	1.867x10 ⁶	<0.14	1.867x10 ⁶	<0.70	1.867x10 ⁶	<0.34	1.867x10 ⁶	<0.23	1.867x10 ⁶	<0.23	1.867x10 ⁶	<1.40	1.867x10 ⁶	<0.28	1.867x10 ⁶	<1.40	1.867x10 ⁶	<0.31	1.867x10 ⁶	<3.1	1.867x10 ⁶	<0.31
1,1,2-Trichloroethane	3,733	<0.75	3,733	<0.15	3,733	<0.75	3,733	<0.13	3,733	<0.65	3,733	<0.60	3,733	<0.29	3,733	<0.29	3,733	<1.50	3,733	<0.30	3,733	<1.50	3,733	<0.68	3,733	<6.8	3,733	<0.68
Trichloroethylene	280	<0.75	280	<0.15	280	<0.75	280	<0.22	280	<1.10	280	<0.48	280	<0.28	280	0.28	280	<1.80	280	<0.36	280	<1.80	280	<0.46	280	<4.6	280	<0.46
1,2,4-Trimethylbenzene	NS	<5.0	NS	<1.0	NS	<5.0	NS	<1.0	NS	<5.0	NS	<1.0	NS	<1.0	NS	<1.0	NS	<5.0	NS	<1.0	NS	<5.0	NS	<1.0	NS	<10	NS	<1.0
1,3,5-Trimethylbenzene	NS	<5.0	NS	<1.0	NS	<5.0	NS	<1.0	NS	<5.0	NS	<1.0	NS	<1.0	NS	<1.0	NS	<5.0	NS	<1.0	NS	<5.0	NS	<1.0	NS	<10	NS	<1.0
Vinyl chloride	2,800	<1.00	2,800	<0.20	2,800	<1.00	2,800	<0.22	2,800	<1.10	2,800	<0.35	2,800	<0.24	2,800	<0.24	2,800	<2.10	2,800	<0.42	2,800	<2.10	2,800	<0.35	2,800	<3.5	2,800	<0.35
Xylenes, Total	186,667	<1.50	186,667	<0.30	186,667	<1.50	186,667	<0.13	186,667	<0.65	186,667	<0.52	186,667	<0.32	186,667	<0.32	186,667	<1.15	186,667	<0.23	186,667	<1.15	186,667	<0.70	186,667	<7.0	186,667	<0.70
Acid Compounds (µg/L) ²																												
2-Chlorophenol	4,667	<214.5	4,667	<90.1	4,667	<29.6	4,667	<1.48	4,667	<3.13	4,667	<3.10	4,667	<2.92	4,667	<2.92	4,667	<42.3	4,667	<84.6	4,667	<4.52	4,667	<4.52	4,667	<4.52	4,667	<4.52
2,4-Dichlorophenol	2,800	<211.0	2,800	<88.6	2,800	<33.0	2,800	<																				

IB008	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16		Summer 2016		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019		Winter 2019/20			
	SAMPLING DATE(S):		SWQS	7/19/2013	SWQS	11/22/2013	SWQS	8/2/2014	SWQS	12/2/2014	SWQS	6/29/2015	SWQS	1/4/2016	SWQS	8/5/2016	SWQS	12/22/2016	SWQS	7/16/2017	SWQS	12/17/2017	SWQS	7/9/2018	SWQS	11/29/2018	SWQS	8/29/2019	SWQS	12/8/2019
Bases/Neutrals (µg/L) ²																														
Acenaphthene	56,000	<67.0	56,000	<28.1	56,000	<20.6	56,000	<1.03	56,000	<0.35	56,000	<0.35	56,000	<1.02	56,000	<1.02	56,000	<18.8	56,000	<37.6	56,000	<1.19	56,000	<1.19	56,000	<1.19	56,000	<1.19	56,000	<1.19
Acenaphthylene	NS	<86.5	NS	<36.3	NS	<20.0	NS	<1.00	NS	<1.24	NS	<1.23	NS	<6.10	NS	<6.10	NS	<17.5	NS	<35.0	NS	<1.41	NS	<1.41	NS	<1.41	NS	<1.41	NS	<1.41
Anthracene	280,000	<86.5	280,000	<36.3	280,000	<57.6	280,000	<2.88	280,000	<0.44	280,000	<0.44	280,000	<1.96	280,000	<1.96	280,000	<26.2	280,000	<52.4	280,000	<1.20	280,000	<1.20	280,000	<1.20	280,000	<1.20	280,000	<1.20
Benzo(a)anthracene	0.2	<86.5	0.2	<36.3	0.2	<21.6	0.2	<1.08	0.2	<0.38	0.2	<0.38	0.2	<1.57	0.2	<1.57	0.2	<19.6	0.2	<39.2	0.2	<1.02	0.2	<1.02	0.2	<1.02	0.2	<1.02	0.2	<1.02
Benzo(a)pyrene	0.2	<93.5	0.2	<39.3	0.2	<75.4	0.2	<3.77	0.2	<1.42	0.2	<1.41	0.2	<3.12	0.2	<3.12	0.2	<37.7	0.2	<75.4	0.2	<1.08	0.2	<1.08	0.2	<1.08	0.2	<1.08	0.2	<1.08
Benzo(b)fluoranthene	NS	<121.5	NS	<51.0	NS	<29.2	NS	<1.46	NS	<1.07	NS	<1.06	NS	<1.28	NS	<1.28	NS	<21.7	NS	<43.4	NS	<0.38	NS	<0.38	NS	<0.38	NS	<0.38	NS	<0.38
Benzo(g,h,i)perylene	NS	<86.5	NS	<36.3	NS	<25.8	NS	<1.29	NS	<0.73	NS	<0.72	NS	<2.83	NS	<2.83	NS	<25.1	NS	<50.2	NS	<1.14	NS	<1.14	NS	<1.14	NS	<1.14	NS	<1.14
Benzo(k)fluoranthene	1.9	<70.0	1.9	<29.4	1.9	<20.8	1.9	<1.04	1.9	<0.35	1.9	<0.35	1.9	<1.76	1.9	<1.76	1.9	<23.3	1.9	<46.6	1.9	<1.03	1.9	<1.03	1.9	<1.03	1.9	<1.03	1.9	<1.03
Chrysene	19	<74.0	19	<31.1	19	<28.2	19	<1.41	19	<0.46	19	<0.46	19	<1.08	19	<1.08	19	<19.6	19	<39.2	19	<1.16	19	<1.16	19	<1.16	19	<1.16	19	<1.16
Dibenz(a,h)anthracene	1.9	<99.0	1.9	<41.6	1.9	<24.8	1.9	<1.24	1.9	<0.47	1.9	<0.47	1.9	<1.93	1.9	<1.93	1.9	<60.4	1.9	<120.8	1.9	<1.02	1.9	<1.02	1.9	<1.02	1.9	<1.02	1.9	<1.02
1,2-Dichlorobenzene	5,900	<13.5	5,900	<5.7	5,900	<35.2	5,900	<1.76	5,900	<1.05	5,900	<1.04	5,900	<0.58	5,900	<0.58	5,900	<1.50	5,900	<0.30	5,900	<1.43	5,900	<1.43	5,900	<1.43	5,900	<1.43	5,900	<1.43
1,3-Dichlorobenzene	NS	<56.5	NS	<23.7	NS	<34.8	NS	<1.74	NS	<0.47	NS	<0.47	NS	<0.52	NS	<0.52	NS	<1.25	NS	<0.25	NS	<1.39	NS	<1.39	NS	<1.39	NS	<1.39	NS	<1.39
1,4-Dichlorobenzene	6,500	<52.5	6,500	<22.0	6,500	<31.2	6,500	<1.56	6,500	<1.29	6,500	<1.28	6,500	<0.50	6,500	<0.50	6,500	<1.45	6,500	<0.29	6,500	<1.48	6,500	<1.48	6,500	<1.48	6,500	<1.48	6,500	<1.48
3,3-Dichlorobenzidine	3	<1363.5	3	<572.7	3	<121.2	3	<6.06	3	<11.72	3	<11.60	3	<23.45	3	<23.45	3	<254.3	3	<508.6	3	<6.99	3	<6.99	3	<6.99	3	<6.99	3	<6.99
Diethyl phthalate	746,667	<95.0	746,667	<39.9	746,667	<47.4	746,667	<2.37	746,667	<0.36	746,667	<0.36	746,667	<1.07	746,667	<1.07	746,667	<19.9	746,667	<39.8	746,667	<1.08	746,667	<1.08	746,667	<1.08	746,667	<1.08	746,667	<1.08
Dimethyl phthalate	NS	<89.5	NS	<37.6	NS	<48.4	NS	<2.42	NS	<0.47	NS	<0.47	NS	<0.58	NS	<0.58	NS	<19.1	NS	<38.2	NS	<1.17	NS	<1.17	NS	<1.17	NS	<1.17	NS	<1.17
Di-n-butyl phthalate	1,100	<111.5	1,100	<46.8	1,100	<37.0	1,100	<1.85	1,100	<0.31	1,100	<0.31	1,100	<1.37	1,100	<1.37	1,100	<23.5	1,100	<47.0	1,100	<1.12	1,100	<1.12	1,100	<1.12	1,100	<1.12	1,100	<1.12
2,4-Dinitrotoluene	1,867	<102.5	1,867	<43.0	1,867	<42.4	1,867	<2.12	1,867	<0.26	1,867	<0.26	1,867	<1.30	1,867	<1.30	1,867	<31.0	1,867	<62.0	1,867	<1.17	1,867	<1.17	1,867	<1.17	1,867	<1.17	1,867	<1.17
2,6-Dinitrotoluene	3,733	<126.0	3,733	<52.9	3,733	<22.4	3,733	<1.12	3,733	<0.38	3,733	<0.38	3,733	<1.39	3,733	<1.39	3,733	<28.9	3,733	<57.8	3,733	<1.13	3,733	<1.13	3,733	<1.13	3,733	<1.13	3,733	<1.13
Di-n-octyl phthalate	373,333	<144.0	373,333	<60.5	373,333	<22.0	373,333	<1.10	373,333	<1.29	373,333	<1.28	373,333	<1.67	373,333	<1.67	373,333	<55.0	373,333	<110.0	373,333	<2.05	373,333	<2.05	373,333	<2.05	373,333	<2.05	373,333	<2.05
1,2-Diphenylhydrazine (as azobenzene)	NS	<116.5	NS	<48.9	NS	<134.0	NS	<6.70	NS	<1.07	NS	<1.06	NS	<7.46	NS	<7.46	NS	<21.5	NS	<43.0	1.8	<1.11	1.8	<1.11	1.8	<1.11	1.8	<1.11	1.8	<1.11
Fluoranthene	37,333	<89.5	37,333	<37.6	37,333	<27.0	37,333	<1.35	37,333	<0.27	37,333	<0.27	37,333	<1.06	37,333	<1.06	37,333	<30.8	37,333	<61.6	37,333	<1.27	37,333	<1.27	37,333	<1.27	37,333	<1.27	37,333	<1.27
Fluorene	37,333	<77.0	37,333	<32.3	37,333	<96.2	37,333	<4.81	37,333	<0.29	37,333	<0.29	37,333	<0.51	37,333	<0.51	37,333	<28.7	37,333	<57.4	37,333	<1.18	37,333	<1.18	37,333	<1.18	37,333	<1.18	37,333	<1.18
Hexachlorobenzene	747	<69.5	747	<29.2	747	<24.6	747	<1.23	747	<0.34	747	<0.34	747	<0.47	747	<0.47	747	<15.7	747	<31.4	747	<1.01	747	<1.01	747	<1.01	747	<1.01	747	<1.01
Hexachlorobutadiene	187	<16.5	187	<6.9	187	<36.4	187	<1.82	187	<1.69	187	<1.67	187	<0.41	187	<0.41	187	<10.0	187	<20.0	187	<1.20	187	<1.20	187	<1.20	187	<1.20	187	<1.20
Hexachlorocyclopentadiene	11,200	<113.5	11,200	<47.7	11,200	<24.6	11,200	<1.23	11,200	<1.55	11,200	<1.53	11,200	<2.16	11,200	<2.16	11,200	<61.0	11,200	<122.0	9,800	<3.07	9,800	<3.07	9,800	<3.07	9,800	<3.07	9,800	<3.07
Hexachloroethane	850	<20.0	850	<8.4	850	<32.4	850	<1.62	850	<1.24	850	<1.23	850	<0.54	850	<0.54	850	<14.9	850	<29.8	850	<1.35	850	<1.35	850	<1.35	850	<1.35	850	<1.35
Indeno(1,2,3-cd)pyrene	1.9	<101.5	1.9	<42.6	1.9	<27.8	1.9	<1.39	1.9	<0.63	1.9	<0.62	1.9	<2.38	1.9	<2.38	1.9	<61.1	1.9	<122.2	1.9	<1.07	1.9	<1.07	1.9	<1.07	1.9	<1.07	1.9	<1.07
Isophorone	186,667	<70.5	186,667	<29.6	186,667	<42.8	186,667	<2.14	186,667	<0.37	186,667	<0.37	186,667	<0.51	186,667	<0.51	186,667	<17.7	186,667	<35.4	186,667	<1.32	186,667	<1.32	186,667	<1.32	186,667	<1.32	186,667	<1.32
Naphthalene	18,667	<60.0	18,667	<25.2	18,667	<36.6	18,667	<1.83	18,667	<0.36	18,667	<0.36	18,667	<0.49	18,667	<0.49	18,667	<15.4	18,667	<30.8	18,667	<1.48	18,667	<1.48	18,667	<1.48	18,667	<1.48	18,667	<1.48
Nitrobenzene	467	<61.5	467	<25.8	467	<42.0	467	<2.10	467	<1.27	467	<1.26	467	<0.44	467	<0.44	467	<18.0	467	<36.0	467	<1.55	467	<1.55	467	<1.55	467	<1.55	467	<1.55
n-Nitrosodimethylamine	0.03	<60.0	0.03	<25.2	0.03	<20.0	0.03	<1.00	0.03	<1.14	0.03	<1.13	0.03	<0.54	0.03	<0.54	0.03	<16.2	0.03	<32.4	0.03	<1.67	0.03	<1.67	0.03	<1.67	0.03	<1.67	0.03	<1.67
n-Nitrosodi-n-propylamine	88,667	<75.5	88,667	<31.7	88,667	<23.0	88,667	<1.15	88,667	<1.18	88,667	<1.17	88,667	<1.02	88,667	<1.02	88,667	<16.5	88,667	<33.0	88,667	<1.65	88,667	<1.65	88,667	<1.65	88,667	<1.65	88,667	<1.65
n-Nitrosodiphenylamine	290	<152.0	290	<63.8	290	<71.4	290	<3.57																						

IB008	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16		Summer 2016		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019		Winter 2019/20			
	SAMPLING DATE(S):	SWQS	7/19/2013	SWQS	11/22/2013	SWQS	8/2/2014	SWQS	12/2/2014	SWQS	6/29/2015	SWQS	1/4/2016	SWQS	8/5/2016	SWQS	12/22/2016	SWQS	7/16/2017	SWQS	12/17/2017	SWQS	7/9/2018	SWQS	11/29/2018	SWQS	8/29/2019	SWQS	12/8/2019	
PCB-1242	4	<0.42	4	<0.55	4	<0.37	4	<0.37	4	<0.14	4	<0.14	4	<0.72	4	<0.72	4	<0.33	4	<0.33	4	<0.28	4	<0.28	4	<0.28	4	<0.28	4	<0.26
PCB-1254	4	<0.21	4	<0.28	4	<0.23	4	<0.23	4	<0.20	4	<0.20	4	<0.22	4	<0.22	4	<0.17	4	<0.17	4	<0.21	4	<0.21	4	<0.21	4	<0.21	4	<0.26
PCB-1221	4	<0.70	4	<0.85	4	<0.22	4	<0.22	4	<0.64	4	<0.64	4	<0.46	4	<0.46	4	<0.36	4	<0.36	4	<0.50	4	<0.50	4	<0.50	4	<0.50	4	<0.26
PCB-1232	4	<0.68	4	<0.34	4	<0.55	4	<0.55	4	<0.37	4	<0.37	4	<0.90	4	<0.90	4	<0.40	4	<0.40	4	<0.48	4	<0.48	4	<0.48	4	<0.48	4	<0.26
PCB-1248	4	<0.80	4	<0.27	4	<0.19	4	<0.19	4	<0.22	4	<0.22	4	<0.24	4	<0.24	4	<0.21	4	<0.21	4	<0.35	4	<0.35	4	<0.35	4	<0.35	4	<0.26
PCB-1260	4	<0.22	4	<0.23	4	<0.32	4	<0.32	4	<0.59	4	<0.59	4	<0.26	4	<0.26	4	<0.34	4	<0.34	4	<0.28	4	<0.28	4	<0.28	4	<0.28	4	<0.26
PCB-1016	4	<0.37	4	<0.33	4	<0.18	4	<0.18	4	<0.55	4	<0.55	4	<0.29	4	<0.29	4	<0.33	4	<0.33	4	<0.40	4	<0.40	4	<0.40	4	<0.40	4	<0.26
Toxaphene	11	<0.55	11	<0.34	11	<0.22	11	<0.22	11	<0.60	11	<0.60	11	<0.48	11	<0.48	11	<0.47	11	<0.47	11	<0.482	11	<0.482	11	<0.482	11	<0.482	11	<0.52

Notes:

NS = no standard applicable to the designated use

T = total

D = dissolved

Bold text indicates a sample result greater than the WQS

Italicized text indicates a laboratory detection limit higher than the WQS

* = Silica Gel treatment (SGT) not run if Hexane Extraction Method (HEM) is Non-Detect

Footnotes:

¹The Permittee shall report on any additional parameters that were monitored for seasonal stormwater sampling as required by Section 6.0 of this permit (Special Conditions).

²Analytical results shall be reported in the units specified for each category or parameter.

³Report the average flow rate for the sampling period (no more than 6 hours).

⁴Standard for total PCBs of 11 µg/L A&We and 19 µg/L PBC.

⁵Beginning with the Summer 2016 reporting, total 1,3-dichloropropylene is reported (prior reporting periods included cis and trans isomers).

OUTFALL ID: SC046 RECEIVING WATER: Skunk Creek Wash DESIGNATED USES: A&We and PBC	MONITORING SEASONS																													
	Summer: June 1 - October 31														Winter: November 1 - May 31															
	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16		Summer 2016		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019		Winter 2019/20 ⁷			
SAMPLING DATE(S):		SWQS	8/24/2013	SWQS	11/22/2013	SWQS	8/2/2014	SWQS	12/4/2014	SWQS	10/6/2015	SWQS	4/8/2016	SWQS	8/23/2016	SWQS	11/3/2016	SWQS	7/16/2017	SWQS	1/9/2018	SWQS	7/11/2018	SWQS	2/14/2019	SWQS	7/24/2019	SWQS	11/29/2019	
MONITORING PARAMETERS ^{1,2}																														
Conventional Parameters																														
Flow ³ (cfs)	NS	0.996	NS	0.16	NS	0.245	NS	0.088	NS	4.852	NS	3.363	NS	6.367	NS	2.519	NS	10.266	NS	8.01	NS	2.566	NS	4.62	NS	0.001	NS	5.73		
pH	6.5-9	8	6.5-9	8.01	6.5-9	7.06	6.5-9	7.26	6.5-9	7.51	6.5-9	6.87	6.5-9	6.96	6.5-9	7.54	6.5-9	6.8	6.5-9	6.5	6.5-9	6.22	6.5-9	6.67	6.5-9	6.96	6.5-9	5.7		
Temperature (°C)	Varies	27.5	Varies	14.5	Varies	28.5	Varies	16	Varies	20.5	Varies	19.2	Varies	25.5	Varies	19.5	Varies	29.1	Varies	13.7	Varies	27.5	Varies	13.5	Varies	28.9	Varies	10.8		
Hardness (mg/L)	400	23.7	400	17.4	400	176	400	24.6	400	23.8	400	43	400	29.6	400	35.3	400	63.2	400	81.4	400	24.8	400	22.1	400	31.0	400	16.6		
Total Dissolved Solids (TDS) (mg/L) ²	NS	88	NS	48	NS	534	NS	56	NS	118	NS	178	NS	50	NS	96	NS	262	NS	190	NS	-	NS	32	NS	114	NS	30		
Total Suspended Solids (TSS) (mg/L) ²	NS	291	NS	57.2	NS	72	NS	14.7	NS	2,490	NS	133	NS	77	NS	226	NS	168	NS	324	NS	127	NS	14.0	NS	208	NS	224		
Biochemical Oxygen Demand (BOD) (mg/L) ²	NS	21	NS	8	NS	167	NS	8	NS	15	NS	100	NS	16	NS	29	NS	115	NS	42	NS	26	NS	<17	NS	38	NS	<17		
Chemical Oxygen Demand (COD) (mg/L) ²	NS	150	NS	<50	NS	620	NS	<50	NS	310	NS	300	NS	90	NS	190	NS	420	NS	270	NS	130	NS	<50	NS	170	NS	54		
SC046																														
SAMPLING DATE(S):		SWQS	8/24/2013	SWQS	11/22/2013	SWQS	8/2/2014	SWQS	12/4/2014	SWQS	10/6/2015	SWQS	4/8/2016	SWQS	8/23/2016	SWQS	11/3/2016	SWQS	7/16/2017	SWQS	1/9/2018	SWQS	7/11/2018	SWQS	2/14/2019	SWQS	7/24/2019	SWQS	11/29/2019	
Inorganics																														
Cyanide, total (µg/L) ²	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5
Nutrients (mg/L)²																														
Nitrate + Nitrite as N	NS	1.2	NS	0.5	NS	<0.1	NS	0.6	NS	1.1	NS	0.7	NS	0.7	NS	0.8	NS	2.2	NS	1	NS	0.8	NS	0.3	NS	0.7	NS	0.2		
Ammonia as N	NS	1.3	NS	0.3	NS	3.7	NS	0.29	NS	0.5	NS	1.2	NS	0.77	NS	0.96	NS	2.7	NS	1.7	NS	1.5	NS	<0.20	NS	1.4	NS	0.28		
Total Kjeldahl Nitrogen (TKN)	NS	3.1	NS	0.98	NS	17	NS	0.75	NS	5.6	NS	10	NS	1.8	NS	3.1	NS	9.9	NS	4.2	NS	4.2	NS	0.76	NS	5.0	NS	1.2		
Total Phosphorus as P	NS	0.9	NS	0.26	NS	1.5	NS	0.19	NS	5.3	NS	0.86	NS	0.34	NS	0.42	NS	0.56	NS	0.33	NS	0.57	NS	0.21	NS	0.67	NS	0.56		
Ortho-Phosphorus as P	NS	0.2	NS	0.1	NS	0.5	NS	<0.1	NS	0.2	NS	0.7	NS	0.2	NS	0.2	NS	0.7	NS	0.2	NS	0.3	NS	<0.1	NS	0.3	NS	<0.1		
Microbiological																														
<i>Escherichia coli</i> (<i>E. coli</i>) (CFU/100 mg or MPN/100 mL) ²	575	61.6	575	>2,419.6	575	>2,419.6	575	1,413.60	575	1,046.20	575	1,732.90	575	27.5	575	1,986.30	575	1,553.10	575	461.1	575	248.9	575	111.9	575	90.8	575	410		
Total Metals (µg/L)²																														
Antimony	747 T	0.71 T 0.3 D	747 T	0.27 T 0.2 D	747 T	2.8 T 1 D	747 T	0.24 T 0.2 D	747 T	0.38 T <5.0 D	747 T	0.70 T <5.0 D	747 T	0.3 T <5 D	747 T	1.1 T <5 D	747 T	1.2 T <5 D	747 T	1.2 T <5 D	747 T	3.4 T <5.0 D	747 T	0.37 T <5.0 D	747 T	0.85 T <5.0 D	747 T	0.46 T <5.0 D		
Arsenic	280 T 440 D	3.2 T 0.8 D	280 T 440 D	<1.0 T 0.5 T	280 T 440 D	4.4 T 3.6 D	280 T 440 D	1.0 T 0.6 D	280 T 440 D	13.4 T <5.0 D	280 T 440 D	2.8 T <5.0 D	280 T 440 D	2.2 T <5 D	280 T 440 D	3.3 T <5 D	280 T 440 D	3.4 T <5 D	280 T 440 D	3.9 T <5 D	280 T 440 D	2.6 T <5.0 D	280 T 440 D	0.97 T <5.0 D	280 T 440 D	3.3 T <5.0 D	280 T 440 D	2.9 T <5.0 D		
Barium	98,000 T	119 T 12 D	98,000 T	21 T 5 T	98,000 T	113 T 94 D	98,000 T	12 T 7 D	98,000 T	831 T 14 D	98,000 T	64 T 19 D	98,000 T	34 T 13 D	98,000 T	113 T 14 D	98,000 T	102 T 36 D	98,000 T	140 T 28 D	98,000 T	67 T 16 D	98,000 T	13 T 7 D	98,000 T	109 T 22 D	98,000 T	94 T 5 D		
Beryllium	1,867 T	0.36 T <0.06 D	1,867 T	<0.15 T <0.06 D	1,867 T	<0.15 T <0.06 D	1,867 T	<0.06 T <0.06 D	1,867 T	3.5 T <5.0 D	1,867 T	0.15 T <5.0 D	1,867 T	<0.25 T <5 D	1,867 T	0.33 T <5 D	1,867 T	0.3 T <5.0 D	1,867 T	0.43 T <5.0 D	1,867 T	0.16 T <5.0 D	1,867 T	<0.15 T <5.0 D	1,867 T	0.31 T <5.0 D	1,867 T	0.38 T <5.0 D		
Cadmium	700 T 5.61 D	<0.25 T <0.10 D	700 T 4.15 D	<0.25 T <0.10 D	700 T 39.50 D	<0.30 T <0.12 D	700 T 5.82 D	0.2 T <0.12 D	700 T 5.63 D	1.2 T <5.0 D	700 T 10.03 D	<0.15 T <5.0 D	700 T 17.24 D	<0.25 T <5 D	700 T 20.87 D	<0.25 T <0.25 D	700 T 39.27 D	<0.20 T <0.2 D	700 T 51.67 D	<0.20 T <0.5 D	700 T 14.23	<0.20 T <0.2 D	700 T 12.55	<0.25 T <0.25 D	700 T 18.13	<0.25 T <0.25 D	700 T 9.20	<0.25 T <5.0 D		
Chromium	NS	9.4 T <0.80 D	NS	<2.00 T <0.80 D	NS	3.2 T 1 D	NS	1.2 T <0.36 D	NS	36.4 T <5.0 D	NS	6.0 T <5.0 D	NS	2.6 T <5 D	NS	9.2 T <5 D	NS	7.8 T <5.0 D	NS	11.2 T <5.0 D	NS	5.1 T <5.0 D	NS	1.9 T <5.0 D	NS	7.4 T <5.0 D	NS	6.9 T <5.0 D		
Copper	1,300 T 5.99 D	35.7 T 7.1 D	1,300 T 4.48 D	14.0 T 5.6 D	1,300 T 39.62 D	33.3 T 24.1 D	1,300 T 6.20 D	6.6 T 5.2 D	1,300 T 6.01 D	88.5 T 8.9 D	1,300 T 10.50 D	33.5 T 32.1 D	1,300 T 7.39 D	11.3 T 21.3 D	1,300 T 8.72 D	39.8 T 10 D	1,300 T 15.10 D	44.0 T 31.6 D	1,300 T 19.16 D	38.9 T 9 D	1,300 T 6.25	22.3 T 12.9 D	1,300 T 5.61	7.2 T 8.6 D	1,300 T 7.72	58.0 T 41.4 D	1,300 T 4.28	15.5 T 6.2 D		
Lead	15 T 27.59 D	9.4 T 0.2 D	15 T 19.45 D	1.8 T <0.18 D	15 T 250.76 D	4.1 T 1.7 D	15 T 27.77 D	0.7 T 0.1 D	15 T 27.72 D	140 T <5.0 D	15 T 53.78 D	14.1 T <5.0 D	15 T 35.42 D	3.1 T <5 D	15 T 43.15 D	11 T 0.55 D	15 T 82.42 D	8.3 T 1.3 D	15 T 108.86 D	15 T 0.2 D	15 T 29.03	8.0 T 0.9 D	15 T 25.49	0.74 T 0.1 D	15 T 37.31	10.6 T 0.5 D	15 T 18.44	22 T <5.0 D		
Mercury	280 T 5 D	0.09 T 0.047 D	280 T 5 D	<0.020 T <0.020 D	280 T 5 D	<0.092 T <0.2 D	280 T 5 D	<0.092 T <0.2 D	280 T 5 D	0.12 T <0.2 D	280 T 5 D	<0.062 T <0.2 D	280 T 5 D	<0.068 T <0.2 D	280 T 5 D	<0.068 T <0.2 D	280 T 5 D	0.116 T <0.2 D	280 T 5 D	<0.066 T <0.2 D	280 T 5 D	<0.080 T <0.080 D	280 T 5 D	<0.042 T <0.2 D	280 T 5 D	0.065 T <0.2 D	280 T 5 D	<0.042 T <0.2 D		
Nickel	28,000 T 1,229.8 D	11.3 T 1.4 D	28,000 T 947.4 D	2.0 T 0.7 D	28,000 T 6,708 D	7.5 T 6.1 D	28,000 T 1,269.4 D	1.2 T 0.7 D	28,000 T 1,234.2 D	42.9 T <5.0 D	28,000 T 2,036 D	6.4 T <5.0 D	28,000 T 14.85 D	3.1 T <5 D	28,000 T 1723 D	10.8 T <5 D	28,000 T 2820.51 D	11.6 T 5.4 D	28,000 T 3493.88 D	12.2 T <5.0 D	28,000 T 1,278.28	7.4 T <5.0 D	28,000 T 1,159.51	1.5 T <5.0 D	28,000 T 1,543.88	9.3 T <5.0 D	28,000 T 910.19	6.6 T <5.0 D		
Selenium	33 T	<0.60 T 0.3 D	33 T	<0.60 T <0.24 D	33 T	1 T 0.7 D	33 T	0.19 T 0.1 D	33 T	2.2 T <5.0 D	33 T	0.45 T <5.0 D	33 T	2.5 T <5 D	33 T	<0.4 T <5 D	33 T	0.97 T <5.0 D	33 T	0.56 T <5.0 D	33 T	0.29 T <5.0 D	33 T	<0.55 T <5.0 D	33 T	<0.55 T <5.0 D	33 T	<0.55 T <5.0 D		
Silver	4,667 T 0.274 D	<0.15 T <0.15 D	4,667 T 0.158 D	<0.15 T <0.15 D	4,667 T 8.51 D	<0.20 T <0.20 D	4,667 T 0.292 D	0.2 T <0.08 D	4,667 T 0.28 D	0.4 T <5.0 D	4,667 T 0.75 D	<0.25 T <5.0 D	4,667 T 0.40 D	<0.45 T <5 D	4,667 T 0.54 D	<0.45 T <5 D	4,667 T 1.46 D	<0.1 T <5.0 D	4,667 T 2.26 D	<0.1 T <5.0 D	4,667 T 0.29	<0.10 T <5.0 D	4,667 T 0.24	<0.15 T <5.0 D	4,667 T 0.43	<0.15 T <5.0 D	4,667 T 0.15	0.8 T <5.0 D		
Thallium	75 T	<0.20 T <0.08 D	75 T	<0.20 T <0.08 D	75 T	<0.10 T <0.04 D	75 T	<0.04 T <0.04 D	75 T	0.46 T <5.0 D	75 T	0.19 T <5.0 D	75 T	<0.2 T <5 D	75 T	<0.2 T <5 D	75 T	<0.10 T <5.0 D	75 T	<0.10 T <5.0 D	75 T	<0.10 T <5.0 D	75 T	<0.15 T <5.0 D	75 T	<0.15 T <5.0 D	75 T	<0.15 T <5.0 D		
Zinc	280,000 T 328.4 D	193 T 31.7 D	280,000 T 252.8 D	50.1 T 17.1 D	280,000 T 1,795 D	174 T 128 D	280,000 T 339.2 D	30.5 T 17.6 D	280,000 T 329.6 D	566 T 7.3 D	280,000 T 544 D	178 T 93.6 D	280,000 T 396.4 D	73.5 T <50 D	280,000 T 460.2 D	176 T 33.8 D	280,000 T 753.79 D	195 T 104 D	280,000 T 934.06 D	179 T 29.3 D	280,000 T 341.21	213 T 113 D	280,000 T 309.46	62.8 T 41.2 D	280,000 T 412.23	198 T 69.4 D	280,000 T 242.83	97.6 T <50 D		

SC046	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16		Summer 2016		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019		Winter 2019/20	
SAMPLING DATE(S):	SWQS	8/24/2013	SWQS	11/22/2013	SWQS	8/2/2014	SWQS	12/4/2014	SWQS	10/6/2015	SWQS	4/8/2016	SWQS	8/23/2016	SWQS	11/3/2016	SWQS	7/16/2017	SWQS	1/9/2018	SWQS	7/11/2018	SWQS	2/14/2019	SWQS	7/24/2019	SWQS	11/29/2019
Organic Toxic Pollutants																												
Total Petroleum Hydrocarbons (TPH) (mg/L) ²	NS	<11	NS	<11	NS	<10	NS	<10	NS	<5.4	NS	<5.9	NS	<5.7	NS	<4.5	NS	<6.7	NS	<7.1	NS	<7.0	NS	4.4	NS	<5.9	NS	<5.8
Total Oil and Grease (mg/L) ²	NS	<5.4	NS	<5.7	NS	<5.0	NS	<5.0	NS	<5.4	NS	<5.9	NS	<5.7	NS	<4.5	NS	<5.6	NS	<5.9	NS	<5.8	NS	4.4	NS	<5.9	NS	<5.8
VOCs, Semi-VOCs, and Pesticides (µg/L) ²																												
Acrolein	467	<0.20	467	<0.20	467	<2.00	467	<0.40	467	<0.78	467	<0.41	467	<0.41	467	<0.41	467	<3.95	467	<0.79	467	<1.0	467	-	467	1.6	467	<0.55
Acrylonitrile	37,333	<0.16	37,333	<0.16	37,333	<0.70	37,333	<0.14	37,333	<0.53	37,333	<0.42	37,333	<0.42	37,333	<0.42	37,333	<2.95	37,333	<0.59	37,333	<1.0	37,333	<0.57	37,333	<0.57	37,333	<0.57
Benzene	3,733	<1.20	3,733	<0.24	3,733	<1.20	3,733	<0.13	3,733	<2.30	3,733	<2.30	3,733	<0.29	3,733	<0.29	3,733	<1.30	3,733	<0.26	3,733	<1.30	3,733	<0.33	3,733	<0.33	3,733	<0.33
Bromoform	18,667	<2.35	18,667	<0.47	18,667	<2.35	18,667	<0.28	18,667	<3.40	18,667	<3.40	18,667	<0.33	18,667	<0.33	18,667	<1.05	18,667	<0.21	18,667	<1.05	18,667	<0.81	18,667	<0.81	18,667	<0.81
Carbon tetrachloride	1,307	<1.30	1,307	<0.26	1,307	<1.30	1,307	<0.23	1,307	<1.55	1,307	<1.55	1,307	<0.20	1,307	<0.20	1,307	<1.50	1,307	<0.30	980	<1.50	980	<0.27	980	<0.27	980	<0.27
Chlorobenzene	18,667	<0.80	18,667	<0.16	18,667	<0.80	18,667	<0.13	18,667	<2.50	18,667	<2.50	18,667	<0.33	18,667	<0.33	18,667	<1.15	18,667	<0.23	18,667	<1.15	18,667	<0.70	18,667	<0.70	18,667	<0.70
Chlorodibromomethane	18,667	<0.90	18,667	<0.18	18,667	<0.90	18,667	<0.24	18,667	<3.05	18,667	<3.05	18,667	<0.32	18,667	<0.32	18,667	<1.20	18,667	<0.24	18,667	<1.20	18,667	<0.70	18,667	<0.70	18,667	<0.70
Chloroethane (ethyl chloride)	NS	<1.10	NS	<0.22	NS	<1.10	NS	<0.19	NS	<2.00	NS	<2.00	NS	<0.33	NS	<0.33	NS	<1.40	NS	<0.28	NS	<1.40	NS	<0.33	NS	<0.33	NS	<0.33
2-Chloroethylvinyl ether	NS	<0.22	NS	<0.22	NS	<0.95	NS	<0.19	NS	<0.53	NS	<0.43	NS	<0.43	NS	<0.43	NS	<3.25	NS	<0.65	NS	<1.0	NS	<0.52	NS	<0.52	NS	<0.52
Chloroform	9,333	<1.15	9,333	<0.23	9,333	<1.15	9,333	<0.14	9,333	<2.45	9,333	<2.45	9,333	<0.32	9,333	<0.32	9,333	<1.20	9,333	<0.24	9,333	<1.20	9,333	<0.31	9,333	<0.31	9,333	<0.31
Dichlorobromomethane	18,667	<1.15	18,667	<0.23	18,667	<1.15	18,667	<0.15	18,667	<2.45	18,667	<2.45	18,667	<0.29	18,667	<0.29	18,667	<1.30	18,667	<0.26	18,667	<1.30	18,667	<0.52	18,667	<0.52	18,667	<0.52
1,1-Dichloroethane	NS	<1.30	NS	<0.26	NS	<1.30	NS	<0.19	NS	<2.10	NS	<2.10	NS	<0.29	NS	<0.29	NS	<1.35	NS	<0.27	NS	<1.35	NS	<0.32	NS	<0.32	NS	<0.32
1,2-Dichloroethane	186,667	<1.25	186,667	<0.25	186,667	<1.25	186,667	<0.11	186,667	<2.55	186,667	<2.55	186,667	<0.35	186,667	<0.35	186,667	<1.30	186,667	<0.26	186,667	<1.30	186,667	<0.28	186,667	<0.28	186,667	<0.28
1,1-Dichloroethylene	46,667	<1.40	46,667	<0.28	46,667	<1.40	46,667	<0.27	46,667	<1.70	46,667	<1.70	46,667	<0.19	46,667	<0.19	46,667	<1.60	46,667	<0.32	46,667	<1.60	46,667	<0.40	46,667	<0.40	46,667	<0.40
1,2-Dichloropropane	84,000	<1.25	84,000	<0.25	84,000	<1.25	84,000	<0.18	84,000	<2.45	84,000	<2.45	84,000	<0.32	84,000	<0.32	84,000	<1.60	84,000	<0.32	84,000	<1.60	84,000	<0.93	84,000	<0.93	84,000	<0.93
1,3-Dichloropropylene ⁵	28,000	<1.20	28,000	<0.24	28,000	<1.20	28,000	<0.13	28,000	cis <2.55 trans <2.50	28,000	cis <2.55 trans <2.50	28,000	<0.28	28,000	<0.28	28,000	<1.05	28,000	<0.21	28,000	<1.05	28,000	<0.43	28,000	<0.43	28,000	<0.43
Ethylbenzene	93,333	<0.65	93,333	<0.13	93,333	<0.65	93,333	<0.15	93,333	<2.30	93,333	<2.30	93,333	<0.29	93,333	<0.29	93,333	<1.15	93,333	<0.23	93,333	<1.15	93,333	<0.61	93,333	<0.61	93,333	<0.61
Methyl bromide	1,307	<0.95	1,307	<0.19	1,307	<0.95	1,307	<0.18	1,307	<2.30	1,307	<2.30	1,307	<0.28	1,307	<0.28	1,307	<1.15	1,307	<0.23	1,307	<1.15	1,307	<0.33	1,307	<0.33	1,307	<0.33
Methyl chloride	NS	<1.40	NS	<0.28	NS	<1.40	NS	<0.23	NS	<2.30	NS	<2.30	NS	<0.28	NS	<0.28	NS	<1.85	NS	<0.37	NS	<1.85	NS	<0.33	NS	<0.33	NS	<0.33
Methylene chloride	56,000	<1.00	56,000	<0.20	56,000	<1.00	56,000	<0.20	56,000	<4.05	56,000	<4.05	56,000	<0.31	56,000	<0.31	56,000	<4.00	56,000	<0.80	56,000	<4.00	56,000	<0.44	56,000	<0.44	56,000	<0.44
1,1,2,2-Tetrachloroethane	93,333	<2.00	93,333	<0.40	93,333	<2.00	93,333	<0.35	93,333	<4.00	93,333	<4.00	93,333	<0.33	93,333	<0.33	93,333	<1.55	93,333	<0.31	56,000	<1.55	56,000	<0.83	56,000	<0.83	56,000	<0.83
Tetrachloroethylene	9,333	<1.05	9,333	<0.21	9,333	<1.05	9,333	<0.13	9,333	<1.75	9,333	<1.75	9,333	<0.23	9,333	<0.23	9,333	<1.45	9,333	<0.29	9,333	<1.45	9,333	<0.38	9,333	<0.38	9,333	<0.38
Toluene	373,333	<0.95	373,333	<0.19	373,333	<0.95	373,333	<0.11	373,333	<2.15	373,333	<2.15	373,333	<0.28	373,333	<0.28	373,333	<1.25	373,333	<0.25	280,000	<1.25	280,000	<0.38	280,000	<0.38	280,000	<0.38
trans-1,2-Dichloroethylene	18,667	<1.25	18,667	<0.25	18,667	<1.25	18,667	<0.18	18,667	<1.90	18,667	<1.90	18,667	<0.24	18,667	<0.24	18,667	<1.25	18,667	<0.25	18,667	<1.25	18,667	<0.32	18,667	<0.32	18,667	<0.32
1,1,1-Trichloroethane	1.867x10 ⁶	<1.00	1.867x10 ⁶	<0.20	1.867x10 ⁶	<1.00	1.867x10 ⁶	<0.14	1.867x10 ⁶	<1.70	1.867x10 ⁶	<1.70	1.867x10 ⁶	<0.23	1.867x10 ⁶	<0.23	1.867x10 ⁶	<1.40	1.867x10 ⁶	<0.28	1.867x10 ⁶	<1.40	1.867x10 ⁶	<0.31	1.867x10 ⁶	<0.31	1.867x10 ⁶	<0.31
1,1,2-Trichloroethane	3,733	<0.75	3,733	<0.15	3,733	<0.75	3,733	<0.13	3,733	<3.00	3,733	<3.00	3,733	<0.29	3,733	<0.29	3,733	<1.50	3,733	<0.30	3,733	<1.50	3,733	<0.68	3,733	<0.68	3,733	<0.68
Trichloroethylene	280	<0.75	280	<0.15	280	<0.75	280	<0.22	280	<2.40	280	<2.40	280	<0.28	280	<0.28	280	<1.80	280	<0.36	280	<1.80	280	<0.46	280	<0.46	280	<0.46
1,2,4-Trimethylbenzene	NS	<5.0	NS	<1.0	NS	<5.0	NS	<1.0	NS	<5.0	NS	<5.0	NS	<1.0	NS	<1.0	NS	<5.0	NS	<5.0	NS	<5.0	NS	<1.0	NS	<1.0	NS	<1.0
1,3,5-Trimethylbenzene	NS	<5.0	NS	<1.0	NS	<5.0	NS	<1.0	NS	<5.0	NS	<5.0	NS	<1.0	NS	<1.0	NS	<5.0	NS	<5.0	NS	<5.0	NS	<1.0	NS	<1.0	NS	<1.0
Vinyl chloride	2,800	<1.00	2,800	<0.20	2,800	<1.00	2,800	<0.22	2,800	<1.75	2,800	<1.75	2,800	<0.24	2,800	<0.24	2,800	<2.10	2,800	<0.42	2,800	<2.10	2,800	<0.35	2,800	<0.35	2,800	<0.35
Xylenes, Total	186,667	<1.50	186,667	<0.30	186,667	<1.50	186,667	<0.13	186,667	<2.60	186,667	<2.60	186,667	<0.32	186,667	<0.32	186,667	<1.15	186,667	<0.23	186,667	<1.15	186,667	<0.70	186,667	<0.70	186,667	<0.70
Acid Compounds (µg/L) ²																												
2-Chlorophenol	4,667	<85.8	4,667	<42.9	4,667	<14.8	4,667	<1.48	4,667	<3.10	4,667	<3.26	4,667	<2.92	4,667	<2.92	4,667	<42.3	4,667	<211.5	4,667	<4.52	4,667	<4.52	4,667	<45.2	4,667	<4.52
2,4-Dichlorophenol	2,800	<84.4	2,800	<42.2	2,800	<16.5	2,800	<1.65	2,800																			

SC046	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16		Summer 2016		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019		Winter 2019/20	
SAMPLING DATE(S):	SWQS	8/24/2013	SWQS	11/22/2013	SWQS	8/2/2014	SWQS	12/4/2014	SWQS	10/6/2015	SWQS	4/8/2016	SWQS	8/23/2016	SWQS	11/3/2016	SWQS	7/16/2017	SWQS	1/9/2018	SWQS	7/11/2018	SWQS	2/14/2019	SWQS	7/24/2019	SWQS	11/29/2019
Bases/Neutrals (µg/L) ²																												
Acenaphthene	56,000	<26.8	56,000	<13.4	56,000	<10.3	56,000	<1.03	56,000	<0.35	56,000	<0.37	56,000	<1.02	56,000	<1.02	56,000	<18.8	56,000	<94.0	56,000	<1.19	56,000	<1.19	56,000	<11.9	56,000	<1.19
Acenaphthylene	NS	<34.6	NS	<17.3	NS	<10.0	NS	<1.00	NS	<1.23	NS	<1.29	NS	<6.10	NS	<6.10	NS	<17.5	NS	<87.5	NS	<1.41	NS	<1.41	NS	<14.1	NS	<1.41
Anthracene	280,000	<34.6	280,000	<17.3	280,000	<28.8	280,000	<2.88	280,000	<0.44	280,000	<0.46	280,000	<1.96	280,000	<1.96	280,000	<26.2	280,000	<131.0	280,000	<1.20	280,000	<1.20	280,000	<12.0	280,000	<1.20
Benzo(a)anthracene	0.2	<34.6	0.2	<17.3	0.2	<10.8	0.2	<1.08	0.2	<0.38	0.2	<0.40	0.2	<1.57	0.2	<1.57	0.2	<19.6	0.2	<98.0	0.2	<1.02	0.2	<1.02	0.2	<10.2	0.2	<1.02
Benzo(a)pyrene	0.2	<37.4	0.2	<18.7	0.2	<37.7	0.2	<3.77	0.2	<1.41	0.2	<1.48	0.2	<3.12	0.2	<3.12	0.2	<37.7	0.2	<188.5	0.2	<1.08	0.2	<1.08	0.2	<10.8	0.2	3.6
Benzo(b)fluoranthene	NS	<48.6	NS	<24.3	NS	<14.6	NS	<1.46	NS	<1.06	NS	<1.11	NS	<1.28	NS	<1.28	NS	<21.7	NS	<108.5	NS	<0.38	NS	<0.38	NS	<3.8	NS	<0.38
Benzo(g,h,i)perylene	NS	<34.6	NS	<17.3	NS	<12.9	NS	<1.29	NS	<0.72	NS	<0.76	NS	<2.83	NS	<2.83	NS	<25.1	NS	<125.5	NS	<1.14	NS	<1.14	NS	<11.4	NS	<1.14
Benzo(k)fluoranthene	1.9	<28.0	1.9	<14.0	1.9	<10.4	1.9	<1.04	1.9	<0.35	1.9	<0.37	1.9	<1.76	1.9	<1.76	1.9	<23.3	1.9	<116.5	1.9	<1.03	1.9	<1.03	1.9	<10.3	1.9	<1.03
Chrysene	19	<29.6	19	<14.8	19	<14.1	19	<1.41	19	<0.46	19	<0.48	19	<1.08	19	<1.08	19	<19.6	19	<98.0	19	<1.16	19	<1.16	19	<11.6	19	<1.16
Dibenz(a,h)anthracene	1.9	<39.6	1.9	<19.8	1.9	<12.4	1.9	<1.24	1.9	<0.47	1.9	<0.49	1.9	<1.93	1.9	<1.93	1.9	<60.4	1.9	<302.0	1.9	<1.02	1.9	<1.02	1.9	<10.2	1.9	<1.02
1,2-Dichlorobenzene	5,900	<5.4	5,900	<2.7	5,900	<17.6	5,900	<1.76	5,900	<1.04	5,900	<1.09	5,900	<0.58	5,900	<0.58	5,900	<1.50	5,900	<0.30	5,900	<1.43	5,900	<1.43	5,900	<14.3	5,900	<1.43
1,3-Dichlorobenzene	NS	<22.6	NS	<11.3	NS	<17.4	NS	<1.74	NS	<0.47	NS	<0.49	NS	<0.52	NS	<0.52	NS	<1.25	NS	<0.25	NS	<1.39	NS	<1.39	NS	<13.9	NS	<1.39
1,4-Dichlorobenzene	6,500	<21.0	6,500	<10.5	6,500	<15.6	6,500	<1.56	6,500	<1.28	6,500	<1.34	6,500	<0.50	6,500	<0.50	6,500	<1.45	6,500	<0.29	6,500	<1.48	6,500	<1.48	6,500	<14.8	6,500	<1.48
3,3-Dichlorobenzidine	3	<545.4	3	<272.7	3	<60.6	3	<6.06	3	<11.60	3	<12.18	3	<23.45	3	<23.45	3	<254.3	3	<1271.5	3	<6.99	3	<6.99	3	<69.9	3	<6.99
Diethyl phthalate	746,667	<38.0	746,667	<19.0	746,667	<23.7	746,667	<2.37	746,667	<0.36	746,667	<0.38	746,667	<1.07	746,667	<1.07	746,667	<19.9	746,667	<99.5	746,667	<1.08	746,667	<1.08	746,667	<10.8	746,667	<1.08
Dimethyl phthalate	NS	<35.8	NS	<17.9	NS	<24.2	NS	<2.42	NS	<0.47	NS	<0.49	NS	<0.58	NS	<0.58	NS	<19.1	NS	<95.5	NS	<1.17	NS	<1.17	NS	<11.7	NS	<1.17
Di-n-butyl phthalate	1,100	<44.6	1,100	<22.3	1,100	<18.5	1,100	<1.85	1,100	<0.31	1,100	<0.33	1,100	<1.37	1,100	<1.37	1,100	<23.5	1,100	<117.5	1,100	<1.12	1,100	<1.12	1,100	<11.2	1,100	<1.12
2,4-Dinitrotoluene	1,867	<41.0	1,867	<20.5	1,867	<21.2	1,867	<2.12	1,867	<0.26	1,867	<0.27	1,867	<1.30	1,867	<1.30	1,867	<31.0	1,867	<155.0	1,867	<1.17	1,867	<1.17	1,867	<11.7	1,867	<1.17
2,6-Dinitrotoluene	3,733	<50.4	3,733	<25.2	3,733	<11.2	3,733	<1.12	3,733	<0.38	3,733	<0.40	3,733	<1.39	3,733	<1.39	3,733	<28.9	3,733	<144.5	3,733	<1.13	3,733	<1.13	3,733	<11.3	3,733	<1.13
Di-n-octyl phthalate	373,333	<57.6	373,333	<28.8	373,333	<11.0	373,333	<1.10	373,333	<1.28	373,333	<1.34	373,333	<1.67	373,333	<1.67	373,333	<55.0	373,333	<275.0	373,333	<2.05	373,333	<2.05	373,333	<20.5	373,333	<2.05
1,2-Diphenylhydrazine (as azobenzene)	NS	<46.6	NS	<23.3	NS	<67.0	NS	<6.70	NS	<1.06	NS	<1.11	NS	<7.46	NS	<7.46	NS	<21.5	NS	<107.5	1.8	<1.11	1.8	<1.11	1.8	<11.1	1.8	<1.11
Fluoranthene	37,333	<35.8	37,333	<17.9	37,333	<13.5	37,333	<1.35	37,333	<0.27	37,333	<0.28	37,333	<1.06	37,333	<1.06	37,333	<30.8	37,333	<154.0	37,333	<1.27	37,333	<1.27	37,333	<12.7	37,333	<1.27
Fluorene	37,333	<30.8	37,333	<15.4	37,333	<48.1	37,333	<4.81	37,333	<0.29	37,333	<0.30	37,333	<0.51	37,333	<0.51	37,333	<28.7	37,333	<143.5	37,333	<1.18	37,333	<1.18	37,333	<11.8	37,333	<1.18
Hexachlorobenzene	747	<27.8	747	<13.9	747	<12.3	747	<1.23	747	<0.34	747	<0.36	747	<0.47	747	<0.47	747	<15.7	747	<78.5	747	<1.01	747	<1.01	747	<10.1	747	<1.01
Hexachlorobutadiene	187	<6.6	187	<3.3	187	<18.2	187	<1.82	187	<1.67	187	<1.75	187	<0.41	187	<0.41	187	<10.0	187	<50.0	187	<1.20	187	<1.20	187	<12.0	187	<1.20
Hexachlorocyclopentadiene	11,200	<45.4	11,200	<22.7	11,200	<12.3	11,200	<1.23	11,200	<1.53	11,200	<1.61	11,200	<2.16	11,200	<2.16	11,200	<61.0	11,200	<305.0	9,800	<3.07	9,800	<3.07	9,800	<30.7	9,800	<3.07
Hexachloroethane	850	<8.0	850	<4.0	850	<16.2	850	<1.62	850	<1.23	850	<1.29	850	<0.54	850	<0.54	850	<14.9	850	<74.5	850	<1.35	850	<1.35	850	<13.5	850	<1.35
Indeno(1,2,3-cd)pyrene	1.9	<40.6	1.9	<20.3	1.9	<13.9	1.9	<1.39	1.9	<0.62	1.9	<0.65	1.9	<2.38	1.9	<2.38	1.9	<61.1	1.9	<305.5	1.9	<1.07	1.9	<1.07	1.9	<10.7	1.9	4.6
Isophorone	186,667	<28.2	186,667	<14.1	186,667	<21.4	186,667	<2.14	186,667	<0.37	186,667	<0.39	186,667	<0.51	186,667	<0.51	186,667	<17.7	186,667	<88.5	186,667	<1.32	186,667	<1.32	186,667	<13.2	186,667	<1.32
Naphthalene	18,667	<24.0	18,667	<12.0	18,667	<18.3	18,667	<1.83	18,667	<0.36	18,667	<0.38	18,667	<0.49	18,667	<0.49	18,667	<15.4	18,667	<77.0	18,667	<1.48	18,667	<1.48	18,667	<14.8	18,667	<1.48
Nitrobenzene	467	<24.6	467	<12.3	467	<21.0	467	<2.10	467	<1.26	467	<1.32	467	<0.44	467	<0.44	467	<18.0	467	<90.0	467	<1.55	467	<1.55	467	<15.5	467	<1.55
n-Nitrosodimethylamine	0.03	<24.0	0.03	<12.0	0.03	<10.0	0.03	<1.00	0.03	<1.13	0.03	<1.19	0.03	<0.54	0.03	<0.54	0.03	<16.2	0.03	<81.0	0.03	<1.67	0.03	<1.67	0.03	<16.7	0.03	<1.67
n-Nitrosodi-n-propylamine	88,667	<30.2	88,667	<15.1	88,667	<11.5	88,667	<1.15	88,667	<1.17	88,667	<1.23	88,667	<1.02	88,667	<1.02	88,667	<16.5	88,667	<82.5	88,667	<1.65	88,667	<1.65	88,667	<16.5	88,667	<1.65
n-Nitrosodiphenylamine	290	<60.8	290	<30.4	290	<35.7	290	<3.57	290	<1.15	290	<1.21	290	<1.67	290	<1.67	290	<31.3	290	<156.5	290	<1.07	290	<1.07	290	<10.7	290	<1.07
Phenanthrene	NS	<32.6	NS	<16.3	NS	<13.9	NS	<1.39	NS	<0.31	NS	<0.33	NS	<0.49	NS	<0.49	NS	<30.2	NS	<151.0	NS	<1.33	NS	<1.33	NS	<13.3	NS	<1.33
Pyrene	28,000	<32.8	28,000	<16.4	28,000	<38.6	28,000	<3.86	28,000	<0.67	28,000	<0.70	28,000	<3.21	28,000	<3.21	28,000	<33.8	28,000	<								

SC046	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16		Summer 2016		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019		Winter 2019/20			
	SAMPLING DATE(S):	SWQS	8/24/2013	SWQS	11/22/2013	SWQS	8/2/2014	SWQS	12/4/2014	SWQS	10/6/2015	SWQS	4/8/2016	SWQS	8/23/2016	SWQS	11/3/2016	SWQS	7/16/2017	SWQS	1/9/2018	SWQS	7/11/2018	SWQS	2/14/2019	SWQS	7/24/2019	SWQS	11/29/2019	
PCB-1242	4	<0.41	4	<0.53	4	<0.37	4	<0.37	4	<0.14	4	<0.14	4	<0.72	4	<0.72	4	<0.33	4	<0.33	4	<0.28	4	<0.28	4	<0.28	4	<0.28	4	<0.26
PCB-1254	4	<0.20	4	<0.28	4	<0.23	4	<0.23	4	<0.20	4	<0.20	4	<0.22	4	<0.22	4	<0.17	4	<0.17	4	<0.21	4	<0.21	4	<0.21	4	<0.21	4	<0.25
PCB-1221	4	<0.68	4	<0.83	4	<0.22	4	<0.22	4	<0.64	4	<0.64	4	<0.46	4	<0.46	4	<0.36	4	<0.36	4	<0.50	4	<0.50	4	<0.50	4	<0.50	4	<0.25
PCB-1232	4	<0.66	4	<0.33	4	<0.55	4	<0.55	4	<0.37	4	<0.37	4	<0.90	4	<0.90	4	<0.40	4	<0.40	4	<0.48	4	<0.48	4	<0.48	4	<0.48	4	<0.28
PCB-1248	4	<0.78	4	<0.27	4	<0.19	4	<0.19	4	<0.22	4	<0.22	4	<0.24	4	<0.24	4	<0.21	4	<0.21	4	<0.35	4	<0.35	4	<0.35	4	<0.35	4	<0.21
PCB-1260	4	<0.21	4	<0.22	4	<0.32	4	<0.32	4	<0.59	4	<0.59	4	<0.26	4	<0.26	4	<0.34	4	<0.34	4	<0.28	4	<0.28	4	<0.28	4	<0.28	4	<0.21
PCB-1016	4	<0.36	4	<0.32	4	<0.18	4	<0.18	4	<0.55	4	<0.55	4	<0.29	4	<0.29	4	<0.33	4	<0.33	4	<0.40	4	<0.40	4	<0.40	4	<0.40	4	<0.23
Toxaphene	11	<0.53	11	<0.33	11	<0.22	11	<0.22	11	<0.60	11	<0.60	11	<0.48	11	<0.48	11	<0.47	11	<0.47	11	<0.482	11	<0.482	11	<0.482	11	<0.482	11	<0.40

Notes:

NS = no standard applicable to the designated use
 T = total
 D = dissolved
Bold text indicates a sample result greater than the WQS
Italicized text indicates a laboratory detection limit higher than the WQS

Footnotes:

- ¹ The Permittee shall report on any additional parameters that were monitored for seasonal stormwater sampling as required by Section 6.0 of this permit (Special Conditions).
- ² Analytical results shall be reported in the units specified for each category or parameter.
- ³ Report the average flow rate for the sampling period (no more than 6 hours).
- ⁴ Standard for total PCBs of 11 µg/L A&We and 19 µg/L PBC.
- ⁵ Beginning with the Summer 2016 reporting, total 1,3-dichloropropylene is reported (prior reporting periods included cis and trans isomers).
- ⁶ No sample collected. See Table 8.1 for storm event data.
- ⁷ Lab reported as <16.6 mg/L - used 16.6 to calculate applicable dissolved value metals standards

AC033 SAMPLING DATE(S):	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16		Summer 2016		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019		Winter 2019/20	
	SWQS	7/20/2013	SWQS	11/22/2013	SWQS	8/12/2014	SWQS	12/4/2014	SWQS	10/6/2015	SWQS	1/4/2016	SWQS	8/22/2016	SWQS	11/3/2016	SWQS	7/16/2017	SWQS	1/9/2018	SWQS	7/9/2018	SWQS	11/29/2018	SWQS	8/28/2019	SWQS	11/29/2019
PCB-1242	0.001	<0.43	0.001	<0.56	0.001	<0.37	0.001	<0.37	0.001	<0.14	0.001	<0.14	0.001	<0.72	0.001	<0.72	⁴	<0.33	⁴	<0.33	⁴	<0.28	⁴	<0.28	⁴	<0.28	⁴	<0.26
PCB-1254	0.001	<0.21	0.001	<0.29	0.001	<0.23	0.001	<0.23	0.001	<0.20	0.001	<0.20	0.001	<0.22	0.001	<0.22	⁴	<0.17	⁴	<0.17	⁴	<0.21	⁴	<0.21	⁴	<0.21	⁴	<0.25
PCB-1221	0.001	<0.71	0.001	<0.87	0.001	<0.22	0.001	<0.22	0.001	<0.64	0.001	<0.64	0.001	<0.46	0.001	<0.46	⁴	<0.36	⁴	<0.36	⁴	<0.50	⁴	<0.50	⁴	<0.50	⁴	<0.25
PCB-1232	0.001	<0.69	0.001	<0.34	0.001	<0.55	0.001	<0.55	0.001	<0.37	0.001	<0.37	0.001	<0.90	0.001	<0.90	⁴	<0.40	⁴	<0.40	⁴	<0.48	⁴	<0.48	⁴	<0.48	⁴	<0.28
PCB-1248	0.001	<0.81	0.001	<0.28	0.001	<0.19	0.001	<0.19	0.001	<0.22	0.001	<0.22	0.001	<0.24	0.001	<0.24	⁴	<0.21	⁴	<0.21	⁴	<0.35	⁴	<0.35	⁴	<0.35	⁴	<0.21
PCB-1260	0.001	<0.22	0.001	<0.24	0.001	<0.32	0.001	<0.32	0.001	<0.59	0.001	<0.59	0.001	<0.26	0.001	<0.26	⁴	<0.34	⁴	<0.34	⁴	<0.28	⁴	<0.28	⁴	<0.28	⁴	<0.21
PCB-1016	0.001	<0.37	0.001	<0.33	0.001	<0.18	0.001	<0.18	0.001	<0.55	0.001	<0.55	0.001	<0.29	0.001	<0.29	⁴	<0.33	⁴	<0.33	⁴	<0.40	⁴	<0.40	⁴	<0.40	⁴	<0.23
Toxaphene	0.005	<0.55	0.005	<0.34	0.005	<0.22	0.005	<0.22	0.005	<0.60	0.005	<0.60	0.005	<0.48	0.005	<0.48	11	<0.47	11	<0.47	11	<0.482	11	<0.482	11	<0.482	11	<0.40

Notes:

NS = no standard applicable to the designated use
T = total
D = dissolved
bold text indicates a sample result greater than the WQS
italicized text indicates a laboratory detection limit higher than the WQS
* = Silica Gel treatment (SGT) not run if Hexane Extraction Method (HEM) is Non-Detect

Footnotes:

- ¹The Permittee shall report on any additional parameters that were monitored for seasonal stormwater sampling as required by Section 6.0 of this permit (Special Conditions).
- ²Analytical results shall be reported in the units specified for each category or parameter.
- ³Report the average flow rate for the sampling period (no more than 6 hours).
- ⁴Standard for total PCBs of 11 µg/L A&We and 19 µg/L PBC.
- ⁵Beginning with the Summer 2016 reporting, total 1,3-dichloropropylene is reported (prior reporting periods included cis and trans isomers).
- ⁶Data flagged due to contamination in the lab reagent blank; therefore, these are not true detections or exceedances.
- ⁷Site was reclassified as PBC and A&We beginning Summer 2018 sampling season.
- ⁸Lab reported as <16.6 mg/L - used 16.6 to allow for formulas in spreadsheet to calculate dissolved values

SR003	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16		Summer 2016		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019 ⁶		Winter 2019/20	
	SAMPLING DATE(S):	SWQS	7/21/2013	SWQS	11/23/2013	SWQS	8/12/2014	SWQS	12/4/2014	SWQS	7/31/2015	SWQS	1/4/2016	SWQS	7/29/2016	SWQS	11/3/2016	SWQS	7/24/2017	SWQS	1/9/2018	SWQS	7/9/2018	SWQS	2/21/2019	SWQS		SWQS
PCB-1242	4	<0.41	4	6	4	<0.37	4	<0.37	4	<0.14	4	<0.14	4	<0.72	4	<0.72	4	<0.33	4	<0.33	4	<0.28	4	<0.28	-	-	4	<0.26
PCB-1254	4	<0.20	4	6	4	<0.23	4	<0.23	4	<0.20	4	<0.20	4	<0.22	4	<0.22	4	<0.17	4	<0.17	4	<0.21	4	<0.21	-	-	4	<0.25
PCB-1221	4	<0.68	4	6	4	<0.22	4	<0.22	4	<0.64	4	<0.64	4	<0.46	4	<0.46	4	<0.36	4	<0.36	4	<0.50	4	<0.50	-	-	4	<0.25
PCB-1232	4	<0.66	4	6	4	<0.55	4	<0.55	4	<0.37	4	<0.37	4	<0.90	4	<0.90	4	<0.40	4	<0.40	4	<0.48	4	<0.48	-	-	4	<0.28
PCB-1248	4	<0.78	4	6	4	<0.19	4	<0.19	4	<0.22	4	<0.22	4	<0.24	4	<0.24	4	<0.21	4	<0.21	4	<0.35	4	<0.35	-	-	4	<0.21
PCB-1260	4	<0.21	4	6	4	<0.32	4	<0.32	4	<0.59	4	<0.59	4	<0.26	4	<0.26	4	<0.34	4	<0.34	4	<0.28	4	<0.28	-	-	4	<0.21
PCB-1016	4	<0.36	4	6	4	<0.18	4	<0.18	4	<0.55	4	<0.55	4	<0.29	4	<0.29	4	<0.33	4	<0.33	4	<0.40	4	<0.40	-	-	4	<0.23
Toxaphene	0.0003	<0.53	0.0003	6	0.0003	<0.22	0.0003	<0.22	0.0003	<0.60	0.0003	<0.60	0.0003	<0.48	0.0003	<0.48	0.0003	<0.47	0.0003	<0.47	0.0003	<0.482	0.0003	<0.482	-	-	0.0003	<0.40

Notes:

NS = no standard applicable to the designated use
 T = total
 D = dissolved
Bold text indicates a sample result greater than the WQS
Italicized text indicates a laboratory detection limit higher than the WQS

Footnotes:

- ¹ The Permittee shall report on any additional parameters that were monitored for seasonal stormwater sampling as required by Section 6.0 of this permit (Special Conditions).
- ² Analytical results shall be reported in the units specified for each category or parameter.
- ³ Report the average flow rate for the sampling period (no more than 6 hours).
- ⁴ Standard for total PCBs of 0.00006 µg/L FC, 19 µg/L PBC, 2 µg/L A&Wedw, and 0.001 µg/L Agl and AgL.
- ⁵ Beginning with the Summer 2016 reporting, total 1,3-dichloropropylene is reported (prior reporting periods included cis and trans isomers).
- ⁶ The sample was lost during extraction at the laboratory due to the glassware breaking.
- ⁷ No sample collected. See Table 8.1 for storm event data.

SR030	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16		Summer 2016 ⁶		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019 ⁶		Winter 2019/20		
	SAMPLING DATE(S):	SWQS	7/21/2013	SWQS	11/22/2013	SWQS	8/12/2014	SWQS	12/4/2014	SWQS	7/31/2015	SWQS	1/31/2016	-	-	SWQS	11/27/2016	SWQS	7/24/2017	SWQS	1/9/2018	SWQS	7/9/2018	SWQS	2/21/2019	SWQS	-	-	SWQS
PCB-1242	4	<0.41	4	<0.55	4	<0.37	4	<0.37	4	<0.14	4	<0.14	-	-	4	<0.72	4	<0.33	4	<0.33	4	<0.28	4	<0.28	-	-	4	<0.26	
PCB-1254	4	<0.20	4	<0.28	4	<0.23	4	<0.23	4	<0.20	4	<0.20	-	-	4	<0.22	4	<0.17	4	<0.17	4	<0.21	4	<0.21	-	-	4	<0.25	
PCB-1221	4	<0.68	4	<0.85	4	<0.22	4	<0.22	4	<0.64	4	<0.64	-	-	4	<0.46	4	<0.36	4	<0.36	4	<0.50	4	<0.50	-	-	4	<0.25	
PCB-1232	4	<0.66	4	<0.34	4	<0.55	4	<0.55	4	<0.37	4	<0.37	-	-	4	<0.90	4	<0.40	4	<0.40	4	<0.48	4	<0.48	-	-	4	<0.28	
PCB-1248	4	<0.78	4	<0.27	4	<0.19	4	<0.19	4	<0.22	4	<0.22	-	-	4	<0.24	4	<0.21	4	<0.21	4	<0.35	4	<0.35	-	-	4	<0.21	
PCB-1260	4	<0.21	4	<0.23	4	<0.32	4	<0.32	4	<0.59	4	<0.59	-	-	4	<0.26	4	<0.34	4	<0.34	4	<0.28	4	<0.28	-	-	4	<0.21	
PCB-1016	4	<0.36	4	<0.33	4	<0.18	4	<0.18	4	<0.55	4	<0.55	-	-	4	<0.29	4	<0.33	4	<0.33	4	<0.40	4	<0.40	-	-	4	<0.23	
Toxaphene	0.0003	<0.53	0.0003	<0.34	0.0003	<0.22	0.0003	<0.22	0.0003	<0.60	0.0003	<0.60	-	-	0.0003	<0.48	0.0003	<0.47	0.0003	<0.47	0.0003	<0.482	0.0003	<0.482	-	-	0.0003	<0.40	

Notes:

NS = no standard applicable to the designated use

T = total

D = dissolved

Bold text indicates a sample result greater than the WQS

Italicized text indicates a laboratory detection limit higher than the WQS

Footnotes:

¹ The Permittee shall report on any additional parameters that were monitored for seasonal stormwater sampling as required by Section 6.0 of this permit (Special Conditions).

² Analytical results shall be reported in the units specified for each category or parameter.

³ Report the average flow rate for the sampling period (no more than 6 hours).

⁴ Standard for total PCBs of 0.00006 µg/L FC, 19 µg/L PBC, 2 µg/L A&Wedw, and 0.001 µg/L Agl and AgL.

⁵ Beginning with the Summer 2016 reporting, total 1,3-dichloropropylene is reported (prior reporting periods included cis and trans isomers).

⁶ No sample collected. See Table 8.1 for storm event data.

OUTFALL ID: SR045	MONITORING SEASONS																											
	Summer: June 1 - October 31													Winter: November 1 - May 31														
	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16 ⁶		Summer 2016		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019 ⁶		Winter 2019/20	
RECEIVING WATER: Salt River																												
DESIGNATED USES: A&We and PBC																												
SAMPLING DATE(S):	SWQS	7/21/2013	SWQS	11/22/2013	SWQS	8/12/2014	SWQS	12/4/2014	SWQS	7/31/2015	-	-	SWQS	7/29/2016	SWQS	11/3/2016	SWQS	7/16/2017	SWQS	2/14/2018	SWQS	8/7/2019	SWQS	11/29/2019	-	-	SWQS	11/29/2019
MONITORING PARAMETERS ^{1,2}																												
Conventional Parameters																												
Flow ³ (cfs)	NS	8.88	NS	1.01	NS	0.725	NS	1.371	NS	1.898	-	-	NS	7.105	NS	1.251	NS	11.503	NS	1.38	NS	0.648	NS	Trickle	-	-	NS	3.64
pH	6.5-9	8.24	6.5-9	8.3	6.5-9	7.94	6.5-9	7.73	6.5-9	7.62	-	-	6.5-9	7.09	6.5-9	6.34	6.5-9	7.36	6.5-9	7.82	6.5-9	7.89	6.5-9	7.41	-	-	6.5-9	6.91
Temperature (°C)	Varies	28	Varies	19.5	Varies	30.1	Varies	19	Varies	30.5	-	-	Varies	30	Varies	21	Varies	30.3	Varies	17.8	Varies	31.2	Varies	16.9	-	-	Varies	13.0
Hardness (mg/L)	400	40.1	400	31.2	400	96.1	400	42.2	400	42.4	-	-	400	45.4	400	87.8	400	102	400	152	400	63.9	400	81.5	-	-	400	262
Total Dissolved Solids (TDS) (mg/L) ²	NS	98	NS	82	NS	340	NS	124	NS	126	-	-	NS	166	NS	302	NS	408	NS	514	NS	228	NS	250	-	-	NS	824
Total Suspended Solids (TSS) (mg/L) ²	NS	60	NS	420	NS	192	NS	1070	NS	126	-	-	NS	80	NS	162	NS	668	NS	486	NS	133	NS	110	-	-	NS	388
Biochemical Oxygen Demand (BOD) (mg/L) ²	NS	13	NS	56	NS	45	NS	175	NS	25	-	-	NS	35	NS	127	NS	141	NS	388	NS	<120	NS	104	-	-	NS	>224
Chemical Oxygen Demand (COD) (mg/L) ²	NS	100	NS	540	NS	280	NS	950	NS	160	-	-	NS	150	NS	410	NS	700	NS	1,100	NS	220	NS	290	-	-	NS	980

SR045	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16 ⁶		Summer 2016		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019 ⁶		Winter 2019/20	
SAMPLING DATE(S):	SWQS	7/21/2013	SWQS	11/22/2013	SWQS	8/12/2014	SWQS	12/4/2014	SWQS	7/31/2015	-	-	SWQS	7/29/2016	SWQS	11/3/2016	SWQS	7/16/2017	SWQS	2/14/2018	SWQS	8/7/2018	SWQS	11/30/2019	SWQS		SWQS	11/29/2019
Inorganics																												
Cyanide, total (µg/L) ²	84	<50	84	<5	84	<5	84	<5	84	<5	-	-	84	<5	84	<5	84	<5	84	<5	84	<5	84	<5	-	-	84	<5
Nutrients (mg/L) ²																												
Nitrate + Nitrite as N	NS	0.8	NS	0.6	NS	1.7	NS	0.5	NS	1.2	-	-	NS	1.4	NS	1.4	NS	1.9	NS	1.6	NS	1.7	NS	1.2	-	-	NS	0.9
Ammonia as N	NS	0.64	NS	0.42	NS	1.4	NS	0.51	NS	1.4	-	-	NS	1.3	NS	1.1	NS	1.4	NS	1.6	NS	1.3	NS	1.6	-	-	NS	1.7
Total Kjeldahl Nitrogen (TKN)	NS	3.3	NS	6.9	NS	4.5	NS	14	NS	2.9	-	-	NS	3.9	NS	6.8	NS	9.3	NS	15	NS	4.9	NS	6.7	-	-	NS	16
Total Phosphorus as P	NS	0.41	NS	1.5	NS	0.91	NS	0.58	NS	0.55	-	-	NS	1.3	NS	0.89	NS	0.46	NS	1.1	NS	0.49	NS	0.70	-	-	NS	2.4
Ortho-Phosphorus as P	NS	<0.1	NS	0.2	NS	0.2	NS	0.1	NS	<0.1	-	-	NS	0.2	NS	0.3	NS	0.2	NS	0.7	NS	0.3	NS	0.3	-	-	NS	0.6
Microbiological																												
<i>Escherichia coli</i> (<i>E. coli</i>) (CFU/100 mg or MPN/100 mL) ²	575	2,419.60	575	>2,419.6	575	>2,419.6	575	>2,419.6	575	34,480	-	-	575	5,040	575	2,419.60	575	17,230	575	14,390	575	4,480	575	3,930	-	-	575	64,880
Total Metals (µg/L) ²																												
Antimony	747 T	1.8 T	747 T	2.6 T	747 T	3.5 T	747 T	4.8 T	747 T	3.2 T	-	-	747 T	1.8 T	747 T	3.7 T	747 T	4.7 T	747 T	7.1 T	747 T	2.7 T	747 T	3.0 T	-	-	747 T	5.2 T
Arsenic	280 T	2.6 T	280 T	8.1 T	280 T	5.0 T	280 T	10.5 T	280 T	3.5 T	-	-	280 T	2.5 T	280 T	3.8 T	280 T	7.2 T	280 T	8.1 T	280 T	3.1 T	280 T	2.4 T	-	-	280 T	6.2 T
Barium	98,000 T	86 T	98,000 T	344 T	98,000 T	98 T	98,000 T	599 T	98,000 T	120 T	-	-	98,000 T	62 T	98,000 T	160 T	98,000 T	241 T	98,000 T	255 T	98,000 T	89 T	98,000 T	88 T	-	-	98,000 T	275 T
Beryllium	1,867 T	0.22 T	1,867 T	0.53 T	1,867 T	<0.15 T	1,867 T	0.75 T	1,867 T	0.21 T	-	-	1,867 T	<0.25 T	1,867 T	<0.25 T	1,867 T	0.53 T	1,867 T	0.44 T	1,867 T	0.26 T	1,867 T	<0.15 T	-	-	1,867 T	0.29 T
Cadmium	700 T	0.4 T	700 T	2.1 T	700 T	<0.30 T	700 T	2.2 T	700 T	0.4 T	-	-	700 T	0.3 T	700 T	0.4 T	700 T	0.9 T	700 T	1.3 T	700 T	0.3 T	700 T	0.4 T	-	-	700 T	1.3 T
Chromium	NS	7.3 T	NS	23.8 T	NS	7.7 T	NS	34.6 T	NS	10.4 T	-	-	NS	6.5 T	NS	10.4 T	NS	21.1 T	NS	26.4 T	NS	8.3 T	NS	7.2 T	-	-	NS	23.6 T
Copper	1,300 T	72.0 T	1,300 T	206 T	1,300 T	60.6 T	1,300 T	263 T	1,300 T	66.6 T	-	-	1,300 T	44.4 T	1,300 T	76.2 T	1,300 T	150 T	1,300 T	178 T	1,300 T	56.8 T	1,300 T	51.2 T	-	-	1,300 T	157 T
Lead	15 T	21.4 T	15 T	75.3 T	15 T	14.3 T	15 T	97.9 T	15 T	19.4 T	-	-	15 T	10.9 T	15 T	17.3 T	15 T	50.4 T	15 T	50 T	15 T	11.7 T	15 T	13.8 T	-	-	15 T	45.8 T
Mercury	280 T	0.02 T	280 T	0.20 T	280 T	<0.092 T	280 T	0.30 T	280 T	0.08 T	-	-	280 T	0.094 T	280 T	0.095 T	280 T	0.134 T	280 T	0.26 T	280 T	<0.080 T	280 T	<0.042 T	-	-	280 T	0.163 T
Nickel	28,000 T	10.3 T	28,000 T	32.3 T	28,000 T	14.6 T	28,000 T	37.9 T	28,000 T	11.2 T	-	-	28,000 T	7.9 T	28,000 T	13.4 T	28,000 T	28.1 T	28,000 T	29 T	28,000 T	11.4 T	28,000 T	9.1 T	-	-	28,000 T	34.2 T
Selenium	33 T	<0.60 T	33 T	0.69 T	33 T	0.76 T	33 T	0.87 T	33 T	0.51 T	-	-	33 T	0.96 T	33 T	0.87 T	33 T	1.3 T	33 T	1.3 T	33 T	1.1 T	33 T	0.71 T	-	-	33 T	0.86 T
Silver	4,667 T	0.2 T	4,667 T	0.5 T	4,667 T	<0.20 T	4,667 T	0.8 T	4,667 T	0.3 T	-	-	4,667 T	<0.45 T	4,667 T	<0.45 T	4,667 T	0.4 T	4,667 T	0.8 T	4,667 T	<0.15 T	4,667 T	0.2 T	-	-	4,667 T	2.6 T
Thallium	75 T	<0.20 T	75 T	<0.20 T	75 T	<0.10 T	75 T	0.25 T	75 T	<0.15 T	-	-	75 T	0.32 T	75 T	<0.2 T	75 T	0.23 T	75 T	0.18 T	75 T	<0.15 T	75 T	<0.15 T	-	-	75 T	<0.15 T
Zinc	280,000 T	207 T	280,000 T	1020 T	280,000 T	192 T	280,000 T	1,410 T	280,000 T	288 T	-	-	280,000 T	202 T	280,000 T	274 T	280,000 T	633 T	280,000 T	662 T	280,000 T	218 T	280,000 T	269 T	-	-	280,000 T	588 T
	513 D	63.2 D	414 D	23.0 D	1075 D	66.4 D	535.2 D	32.8 D	537 D	50.9 D			570 D	58.2 D	996 D	82.4 D	1,131 D	22.3 D	1,586 D	109 D	760.86	58.8 D	935.04	90.7 D	-	-	2,514.96	242 D

SR045	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16 ⁶		Summer 2016		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019 ⁶		Winter 2019/20		
SAMPLING DATE(S):	SWQS	7/21/2013	SWQS	11/22/2013	SWQS	8/12/2014	SWQS	12/4/2014	SWQS	7/31/2015	-	-	SWQS	7/29/2016	SWQS	11/3/2016	SWQS	7/16/2017	SWQS	2/14/2018	SWQS	8/7/2018	SWQS	11/30/2019	SWQS	-	-	SWQS	11/29/2019
4,4'-DDT	1.1	<0.030	1.1	<0.015	1.1	<0.025	1.1	<0.025	1.1	<0.017	-	-	1.1	<0.011	1.1	<0.011	1.1	<0.020	1.1	<0.021	1.1	<0.009	1.1	<0.009	-	-	1.1	<0.032	
4,4'-DDE	1.1	<0.036	1.1	<0.017	1.1	<0.010	1.1	<0.010	1.1	<0.013	-	-	1.1	<0.020	1.1	<0.020	1.1	<0.019	1.1	<0.020	1.1	<0.015	1.1	<0.015	-	-	1.1	<0.043	
4,4'-DDD	1.1	<0.024	1.1	<0.013	1.1	<0.031	1.1	<0.031	1.1	<0.021	-	-	1.1	<0.021	1.1	<0.021	1.1	<0.023	1.1	<0.024	1.1	<0.017	1.1	<0.017	-	-	1.1	<0.039	
Dieldrin	4	<0.029	4	0.07	4	<0.030	4	<0.030	4	<0.060	-	-	4	<0.019	4	<0.019	4	<0.015	4	<0.041	4	<0.012	4	<0.012	-	-	4	<0.031	
Alpha-endosulfan	3 T	0.089	3 T	<0.017	3 T	<0.018	3 T	<0.018	3 T	<0.072	-	-	3 T	<0.018	3 T	<0.018	3 T	<0.015	3 T	<0.016	3 T	<0.020	3 T	<0.020	-	-	3 T	0.3	
Beta-endosulfan	3 T	<0.036	3 T	<0.012	3 T	<0.032	3 T	<0.032	3 T	<0.019	-	-	3 T	<0.021	3 T	<0.021	3 T	<0.014	3 T	<0.015	3 T	<0.014	3 T	<0.014	-	-	3 T	<0.035	
Endosulfan sulfate	3	<0.026	3	<0.013	3	<0.008	3	<0.008	3	0.028	-	-	3	<0.022	3	<0.022	3	<0.019	3	<0.020	3	<0.017	3	<0.017	-	-	3	<0.035	
Endrin	0.7	<0.037	0.7	<0.015	0.7	<0.017	0.7	<0.017	0.7	<0.023	-	-	0.7	<0.042	0.7	<0.042	0.7	<0.040	0.7	<0.042	0.7	<0.042	0.7	<0.042	-	-	0.7	<0.033	
Endrin aldehyde	0.7	<0.040	0.7	<0.022	0.7	<0.032	0.7	<0.032	0.7	<0.026	-	-	0.7	<0.024	0.7	<0.024	0.7	<0.034	0.7	<0.035	0.7	<0.068	0.7	<0.068	-	-	0.7	<0.090	
Heptachlor	0.9	<0.037	0.9	<0.017	0.9	<0.027	0.9	0.045	0.9	<0.035	-	-	0.9	<0.023	0.9	<0.023	0.9	<0.019	0.9	<0.020	0.9	0.095	0.9	<0.011	-	-	0.9	<0.069	
Heptachlor epoxide	0.9	<0.034	0.9	<0.019	0.9	<0.008	0.9	<0.008	0.9	<0.062	-	-	0.9	<0.020	0.9	<0.020	0.9	<0.016	0.9	<0.017	0.9	<0.012	0.9	<0.012	-	-	0.9	<0.035	
PCB-1242	4	<0.43	4	<0.52	4	<0.37	4	<0.37	4	<0.14	-	-	4	<0.72	4	<0.72	4	<0.33	4	<0.34	4	<0.28	4	<0.28	-	-	4	<0.26	
PCB-1254	4	<0.21	4	<0.27	4	<0.23	4	<0.23	4	<0.20	-	-	4	<0.22	4	<0.22	4	<0.17	4	<0.18	4	<0.21	4	<0.21	-	-	4	<0.25	
PCB-1221	4	<0.71	4	<0.81	4	<0.22	4	<0.22	4	<0.64	-	-	4	<0.46	4	<0.46	4	<0.36	4	<0.37	4	<0.50	4	<0.50	-	-	4	<0.25	
PCB-1232	4	<0.69	4	<0.32	4	<0.55	4	<0.55	4	<0.37	-	-	4	<0.90	4	<0.90	4	<0.40	4	<0.42	4	<0.48	4	<0.48	-	-	4	<0.28	
PCB-1248	4	<0.82	4	<0.26	4	<0.19	4	<0.19	4	<0.22	-	-	4	<0.24	4	<0.24	4	<0.21	4	<0.22	4	<0.35	4	<0.35	-	-	4	<0.21	
PCB-1260	4	<0.22	4	<0.22	4	<0.32	4	<0.32	4	<0.59	-	-	4	<0.26	4	<0.26	4	<0.34	4	<0.35	4	<0.28	4	<0.28	-	-	4	<0.21	
PCB-1016	4	<0.38	4	<0.31	4	<0.18	4	<0.18	4	<0.55	-	-	4	<0.29	4	<0.29	4	<0.33	4	<0.34	4	<0.40	4	<0.40	-	-	4	<0.23	
Toxaphene	11	<0.56	11	<0.32	11	<0.22	11	<0.22	11	<0.60	-	-	11	<0.48	11	<0.48	11	<0.47	11	<0.49	11	<0.482	11	<0.482	-	-	11	<0.40	

Notes:

NS = no standard applicable to the designated use

T = total

D = dissolved

Bold text indicates a sample result greater than the WQS

Italicized text indicates a laboratory detection limit higher than the WQS

Footnotes:

¹The Permittee shall report on any additional parameters that were monitored for seasonal stormwater sampling as required by Section 6.0 of this permit (Special Conditions).

²Analytical results shall be reported in the units specified for each category or parameter.

³Report the average flow rate for the sampling period (no more than 6 hours).

⁴Standard for total PCBs of 11 µg/L A&We and 19 µg/L PBC.

⁵Beginning with the Summer 2016 reporting, total 1,3-dichloropropylene is reported (prior reporting periods included cis and trans isomers).

⁶No sample collected. See Table 8.1 for storm event data.

⁷Data flagged due to contamination in the lab reagent blank; therefore, these are not true detections or exceedances.

SR049	Summer 2013		Winter 2013/14		Summer 2014		Winter 2014/15		Summer 2015		Winter 2015/16		Summer 2016 ⁵		Winter 2016/17		Summer 2017		Winter 2017/18		Summer 2018		Winter 2018/19		Summer 2019 ⁶		Winter 2019/20	
	SAMPLING DATE(S):	SWQS	7/21/2013	SWQS	11/22/2013	SWQS	8/1/2014	SWQS	12/4/2014	SWQS	7/31/2015	SWQS	1/4/2016	-	-	SWQS	11/3/2016	SWQS	7/14/2017	SWQS	1/9/2018	SWQS	8/11/2018	SWQS	3/12/2019	-	-	SWQS
PCB-1242	4	<0.41	4	<0.55	4	<0.37	4	<0.37	4	<0.14	4	<0.14	-	-	4	<0.72	4	<0.33	4	<0.33	4	<0.28	4	<0.28	-	-	4	<0.26
PCB-1254	4	<0.20	4	<0.29	4	<0.23	4	<0.23	4	<0.20	4	<0.20	-	-	4	<0.22	4	<0.17	4	<0.17	4	<0.21	4	<0.21	-	-	4	<0.25
PCB-1221	4	<0.68	4	<0.86	4	<0.22	4	<0.22	4	<0.64	4	<0.64	-	-	4	<0.46	4	<0.36	4	<0.36	4	<0.50	4	<0.50	-	-	4	<0.25
PCB-1232	4	<0.66	4	<0.34	4	<0.55	4	<0.55	4	<0.37	4	<0.37	-	-	4	<0.90	4	<0.40	4	<0.40	4	<0.48	4	<0.48	-	-	4	<0.28
PCB-1248	4	<0.78	4	<0.28	4	<0.19	4	<0.19	4	<0.22	4	<0.22	-	-	4	<0.24	4	<0.21	4	<0.21	4	<0.35	4	<0.35	-	-	4	<0.21
PCB-1260	4	<0.21	4	<0.23	4	<0.32	4	<0.32	4	<0.59	4	<0.59	-	-	4	<0.26	4	<0.34	4	<0.34	4	<0.28	4	<0.28	-	-	4	<0.21
PCB-1016	4	<0.36	4	<0.33	4	<0.18	4	<0.18	4	<0.55	4	<0.55	-	-	4	<0.29	4	<0.33	4	<0.33	4	<0.40	4	<0.40	-	-	4	<0.23
Toxaphene	0.0003	<0.53	0.0003	<0.34	0.0003	<0.22	0.0003	<0.22	0.0003	<0.60	0.0003	<0.60	-	-	0.0003	<0.48	0.0003	<0.47	0.0003	<0.47	0.0003	<0.482	0.0003	<0.482	-	-	0.0003	<0.40

Notes:

NS = no standard applicable to the designated use

T = total

D = dissolved

Bold text indicates a sample result greater than the WQS

Italicized text indicates a laboratory detection limit higher than the WQS

Footnotes:

¹ The Permittee shall report on any additional parameters that were monitored for seasonal stormwater sampling as required by Section 6.0 of this permit (Special Conditions).

² Analytical results shall be reported in the units specified for each category or parameter.

³ Report the average flow rate for the sampling period (no more than 6 hours).

⁴ Standard for total PCBs of 0.00006 µg/L FC, 19 µg/L PBC, 2 µg/L A&Wedw, and 0.001 µg/L Agl and AgL.

⁵ Beginning with the Summer 2016 reporting, total 1,3-dichloropropylene is reported (prior reporting periods included cis and trans isomers).

⁶ No sample collected. See Table 8.1 for storm event data.

PART 10: ASSESSMENT OF MONITORING DATA

- A. Stormwater Quality: Provide an evaluation of the sampling results for each outfall monitoring location, including an assessment of any improvements or degradation of stormwater quality from each drainage area. In the year 4, Annual Report, discuss possible explanations for stormwater quality trends, including the implementation of stormwater management practices to reduce the discharge of pollutants to and from the storm sewer system.

Escherichia Coli (*E. coli*) has been detected at concentrations greater than the applicable Surface Water Quality Standards (SWQS) at all monitored outfalls throughout the permit term.

Total lead and dissolved copper have been observed in elevated concentrations at all monitored outfalls. A few of the monitored outfalls occasionally have elevated detections of pesticides including 4,4' DDE, 4,4' DDT, heptachlor, Alpha-BHC, and Aldrin.

A discussion of the historical exceedances by outfall is provided below. (Note: the data in the tables in Part 9 of this report begin in Summer 2013, so exceedances that occurred early in the permit term included below are no longer present in Part 9.)

AC033

The primary land uses are open land and residential. The designated uses for the receiving water for this outfall, the ACDC, were modified this reporting year. Prior to 2018, the City was viewing AC033 as discharging to a Phoenix Area Canal. However, upon further review of the City's sampling locations during the ADEQ Triennial Review, it was decided that, since the ACDC is a diversion channel and not a canal, the standard for a tributary to New River, below Interstate 17 to confluence with Agua Fria River applies. As a result, the applicable uses for AC033 have been updated to include only aquatic and wildlife ephemeral (A&We) and partial body contact (PBC). Over the last decade, we had compared laboratory results to the SWQSs for designated uses that include agricultural irrigation (AgI) and agricultural livestock watering (AgL), which resulted in a different set of parameters being above the standard. Elevated concentrations of dissolved copper, total lead and *E. coli* have been detected. During the past season, elevated concentrations of Indeno(123-cd)pyrene were detected in low concentrations. A low pH was measured during the winter sampling.

IB008

Stormwater runoff from this outfall discharges to the Indian Bend Wash. Applicable designated uses are A&We and PBC. The dominant land use category in this area is residential. Elevated concentrations of dissolved copper, total lead and *E. coli* have been detected. Endrin Aldehyde was detected once (2009).

SR003

The receiving water for SR003 is the Salt River. Designated uses include aquatic and wildlife effluent dependent water (A&Wedw), PBC, Fish Consumption (FC), AgI and AgL. Land use for this outfall is divided amongst residential, institutional, commercial, and open land. Elevated concentrations of dissolved copper, total lead, *E. coli* and occasional pesticides, including heptachlor, alpha-BHC, beta-BHC and 4,4'-DDT have been detected in this outfall.

SR030

This outfall discharges to the Salt River. Designated uses are the same as those listed for SR003. Primary land use categories are open land, residential, and industrial. Elevated concentrations of dissolved copper, total lead, *E. coli*, ammonia (2010), hardness (2009/2010) and occasional pesticides including heptachlor, Aldrin, alpha-BHC and 4,4' DDE have been detected in this outfall.

SR045

This outfall discharges stormwater to the Salt River. The designated uses for this segment of the Salt River are A&We and PBC. The properties in this area are primarily commercial, industrial, and institutional. Elevated concentrations of dissolved copper, total lead, *E. coli*, and pH (2016) have been detected in this outfall.

SR049

The receiving water for this outfall is the Salt River. The applicable designated uses are A&Wedw, PBC, FC, Agl and AgL. This catchment area includes several agricultural properties, along with newer residential, commercial, and light industrial properties. Elevated concentrations of dissolved copper, total lead, *E. coli*, dissolved zinc (2009), high pH (2010), and occasional pesticides including heptachlor, dieldrin, alpha-BHC, beta-BHC, and 4,4' DDE have been detected in this outfall.

SC046

Skunk Creek Wash (a tributary to New River) is the receiving water for this outfall, with designated uses of A&We and PBC. This area is primarily residential with some open land. Elevated concentrations of dissolved copper, total lead and *E. coli* have been detected. During the past season, elevated concentrations of Indeno(123-cd)pyrene and Benzo(a)pyrene were detected in low concentrations. A low pH was measured during the winter sampling.

- B. Water Quality Standards (SWQS): Compare the sampling results for each outfall monitoring location with the applicable SWQS for the receiving water.

The applicable SWQS for each monitoring station are dependent upon the designated uses for the specific receiving water. Prior to 2018, the City was viewing AC033 as discharging to a Phoenix Area Canal. However, upon further review, it was determined that ACDC is a tributary to New River, below Interstate 17 to confluence with Agua Fria River. As a result, the applicable uses for AC033 were updated as being A&We and PBC, only. Table 10-1 includes the designated uses for each monitoring location:

Table 10-1 Designated Uses for Monitoring Locations

Outfall	Receiving Water	Designated Uses
AC033	ACDC, Skunk Creek, New River	A&We, PBC
IB008	Indian Bend Wash	A&We, PBC
SR003	Salt River at 35th Avenue	A&Wedw, PBC, FC, Agl, and AgL
SR030	Salt River at 27th Avenue	A&Wedw, PBC, FC, Agl, and AgL
SR045	Salt River at 40th Street	A&We, PBC
SR049	Salt River at 67th Avenue	A&Wedw, PBC, FC, Agl, and AgL
SC046	Skunk Creek Wash, New River	A&We, PBC

Agl = Agricultural Irrigation
AgL = Agricultural Livestock Watering
A&We = Aquatic and Wildlife, Ephemeral
A&Wedw = Aquatic and Wildlife, Effluent Dependent Water (acute)
PBC = Partial Body Contact
FC = Fish Consumption

The analytical results reported were compared to the lowest applicable standard, as documented in Part 9.

- C. Exceeding a SWQS: Note any exceedance of a surface water quality standard (as measured at the outfall) during the reporting year, including, at a minimum, the following information:
1. Sampling dates: See Table 10-2
 2. Monitoring location (outfall identification number): See Table 10-2
 3. Receiving water and surface water quality standard exceeded: See Table 10-2
 4. Outfall monitoring results (laboratory reports): See Table 10-2 and Part 13

Table 10-2 Analytical Results Exceeding SWQS for Reporting Year 2019/20

Outfall	Sample Date	Parameter	Desig Use	SWQS	Result	Unit
AC033	8/28/2019	Copper (D)	A&We	12.45	41.7	ug/L
	8/28/2019	Lead (T)	PBC	15	27.2	ug/L
	8/28/2019	E. coli	PBC	575	>2,419.6	MPN
	8/28/2019	Indeno(1,2,3-cd)pyrene	PBC	1.9	4.5	ug/L
	11/29/2019	pH	PBC	6.5 – 9.0	5.22	SU
	11/29/19	Copper (D)	A&We	4.28	6.1	ug/L
	11/29/19	E. coli	PBC	575	2,590	MPN
IB008	8/29/2019	E. Coli	PBC	575	26,130	MPN
	8/29/2019	Copper (D)	A&We	9.46	15.7	ug/L
	8/29/2019	Lead (T)	PBC	15	21.4	ug/L
	12/8/2019	Copper (D)	A&We	6.18	11.7	ug/L
	12/8/2019	E. coli	PBC	575	3,840	MPN
SC046	7/24/2019	Copper (D)	A&We	7.72	41.4	ug/L
	7/24/2019	E. coli	PBC	575	>2,419.6	MPN
	11/29/2019	pH	PBC	6.5 – 9.0	5.7	SU
	11/29/2019	Copper (D)	A&We	4.28	6.2	ug/L
	11/29/2019	Lead (T)	PBC	15	22	ug/L
	11/29/2019	Benzo(a)pyrene	PBC	0.2	3.6	ug/L
	11/29/2019	Indeno(1,2,3-cd)pyrene	PBC	1.9	4.6	ug/L
SR003	11/29/2019	Copper (D)	A&Wedw	3.09	10.6	ug/L
	11/29/2019	Lead (T)	PBC	15	17.1	ug/L
	11/29/2019	E. coli	PBC	575	12,360	MPN
SR030	11/29/2019	Copper (D)	A&Wedw	3.35	7.3	ug/L
	11/29/2019	Lead (T)	PBC	15	53.2	ug/L
	11/29/2019	E. coli	PBC	575	9,590	MPN
SR045	11/29/2019	Copper (D)	A&We	57.64	86	ug/L
	11/29/2019	Lead (T)	PBC	15	45.8	ug/L
	11/29/2019	E. coli	PBC	575	64,880	MPN
SR049	11/29/2019	Copper (D)	A&We	3.87	11.8	ug/L
	11/29/2019	Lead (T)	PBC	15	16.9	ug/L
	11/29/2019	E. coli	PBC	575	17,850	MPN

ug/L-micrograms per liter; MPN-most probable number per 100 mL; D-dissolved; T-total; SU-standard units

5. A description of the circumstances that may have caused or contributed to the exceedance of an applicable surface water quality standard:

All monitoring stations showed elevated *E. coli* levels in one season, or both. These exceedances seem to be independent of predominant land uses and varied from site to site and season to season. *E. coli* can be associated with pets, humans, and wildlife, such as birds, rodents, and mammals. It can accumulate between rain events causing results to be elevated locally.

Dissolved copper was elevated at all outfalls. Copper is a common component in pesticides, fungicides, and insecticides. This includes algaecides commonly used in pools, spas, and fountains. Copper is also used in automotive parts such as brake pads, brake linings, and moving engine parts. Consequently, sources of elevated copper could include automotive repair shops, roadway run-off, and pool backwashing. In addition, copper occurs naturally in Arizona soils (also known as “The Copper State”).

All monitoring stations showed elevated lead levels. Lead is used in automotive parts, including tires and batteries. Lead-based paint is sometimes used on buildings and road stripping, and lead was a common additive in gasoline until the 1970’s and early 1980’s. Therefore, sources of elevated lead could include automotive repair shops, lead tire weights, roadway runoff, and lead-containing sediment deposited in the past from automotive exhaust.

Indeno(1,2,3-cd)pyrene was detected in two outfalls, SC046 and AC033, and benzo(a)pyrene was detected at SC046. This is the first time these analytes were detected at these outfalls. Both of these analytes are formed from the incomplete combustion of organic matter. Potential sources include vehicular exhaust, cigarette smoke and asphalt. The pH at SC046 and AC033 was unusually low during the November 29 rain event. The cause has not been determined. However, because these outfalls are many miles apart, it is unlikely there is a common source. Although the pH meter was calibrated, equipment malfunction or calibration error cannot be ruled out at this time.

6. If a pollutant is noted at levels above the SWQS at a particular outfall, more than 1X (‘reoccurs’), describe actions taken to determine the source(s) of the pollutant per Sections 4.3 and 4.4 of the permit. Also state any proposed follow-up actions or additional and/or revised management practices or pollution controls to prevent the discharge from causing or contributing to an exceedance of a surface water quality standard in the future.

The City follows an internal Standard Operating Procedure (SOP #6004) “Stormwater Quality Evaluation and Action Plan,” to identify the source of pollutants. The purpose of the procedure is to ensure compliance with Sections 4.2, 4.4, and 8.3 of the MS4 Permit. The procedure discusses how a SWQS exceedance is identified, assigns the responsibility for attempting to identify potential sources of the pollutant(s) of concern and evaluating existing BMPs that may require revision to address the issue(s), provides a schedule for implementation, and outlines the requirements for reporting the occurrence to ADEQ.

This reporting year, the City identified recurring exceedances of *E. coli* at all monitoring stations in one season, or both. The city identified recurring exceedances for total lead at all monitoring stations. The city also identified all monitoring stations with recurring exceedances of dissolved copper this year.

The first step in evaluating each exceedance was to research potential sources of these pollutants in stormwater. A summary of these findings is discussed in Part 10, Section C.5. Water Quality Inspectors were provided with a summary of the potential sources, along with catchment area information for each outfall in question. The inspectors then drove through each catchment area, looking for obvious causes of the exceedances. In most situations, the inspectors were unable to confirm a specific source of the elevated levels. A summary of their findings is included below:

SC046

Samples at this outfall contained pollutants in exceedance of the SWQS for *E. Coli*, lead, and dissolved copper.

E. coli

Potential sources of *E. coli* could be from wildlife in the vicinity of the outfall. Other sources could be pet waste.

Lead and Copper

During the investigation, it was noted that landscaping is primarily rock. The catchment area is in a mountainous drainage area, including a natural wash, could be the source of naturally occurring copper. Additional sources of lead and copper could be from vehicular traffic; numerous cars were observed in driveways and on streets.

IB008

Samples at this outfall contained pollutants in exceedance of the SWQS for *E. coli*, total lead, and dissolved copper.

E. coli

Potential sources of *E. coli* could be from properties with livestock privileges. Other sources could be parks and pet waste.

Lead and Copper

The lead and copper exceedances may be the result of the vehicular traffic in this area. There are also nurseries which may use pesticides. Active construction may have contributed to overall pollutant levels.

AC033

Samples at this outfall contained pollutants in exceedance of the SWQS for *E. coli*, total lead, and dissolved copper.

E. coli

Potential sources of *E. coli* could be from homeless camps, previous SSO's and parks and pet waste.

Lead and Copper

The lead and copper exceedances may be the result of the vehicular traffic in this area. Other sources can be pesticides or roofing remodels.

SR003

Samples at this outfall contained pollutants in exceedance of the SWQS for *E. coli*, total lead and dissolved copper.

E. coli

A possible source of e-coli may be goats that are kept on a palm tree orchard located on southwest corner of Buckeye and 35th Avenue (irrigated property). Though other sources are possible.

Lead and Copper

The lead and copper exceedances may be the result of the high traffic and trucking in this area, as well as heavy industry. Active construction may have contributed to overall pollutant levels.

SR030

Samples at this outfall contained pollutants in exceedance of the SWQS for *E. coli*, total lead and dissolved copper.

E. coli

Possible sources are the wildlife and domestic animals around the parks, neighborhood, and industrial areas.

Copper and Lead

This drainage area is 75% industrial and 25% residential. The main source of copper may include vehicle brake pads, vehicle fluids, leaks, dumping, and soil erosion.

SR045

Samples at this outfall contained pollutants in exceedance of the SWQS for lead, dissolved copper and *E. coli*.

E. coli

The north border of this catchment is the Salt River, which is the home of wildlife and transient human populations. Animal feces, and homeless activity could contribute to the elevated *E. coli* in runoff.

Lead and Copper

The area is dense with industrial, commercial, construction, auto body, auto repair, and waste transfer and recycling facilities. It's a high traffic area adjacent to businesses and major transportation, and includes numerous potential sources, such as heavy vehicle traffic, wood, oil or coal combustion, refuse incineration, fertilizers, heavy industry, industrial part cleaning operations, and junkyards.

SR049

Samples at this outfall contained pollutants in exceedance of the SWQS for *E. coli*, total lead and dissolved copper.

E. coli

There is a cattle feed lot and several residences with livestock (including goats and horses), as well as various wildlife in the vicinity. Pet waste was also observed.

Copper and Lead

Moderate vehicular traffic was observed, and there is construction of the 202 highway within this drainage area and a lot of construction traffic was observed.

7. A schedule for implementing the proposed follow-up, stormwater or non-stormwater management practices or pollution controls:

As described above, city inspectors conducted thorough visual reconnaissance of each catchment area, searching for potential sources of the elevated levels. No obvious cause of the elevated constituents was identified.

The potential sources for these pollutants are varied. *E. coli* can come from a variety of sources, including pet waste and bird droppings. Though the city cannot control wild birds, the PWD does enforce pet waste requirements. Phoenix City Code, Chapter 27, Section 27-12 requires all animal owners and custodians to immediately clean up and properly dispose of animal waste left on any public street, alley, gutter, sidewalk, right-of-way, or park. Staff hangs notices on doorknobs to educate the public regarding the need to clean up and properly dispose of pet wastes. The door hangers or similarly worded placards are posted at public facilities such as parks, libraries, and other locations. Pet waste bags are also provided at city parks.

The City is in process of undertaking an E. Coli study in fiscal year 20/21. The intent of this study is to give the City a better understanding on the source of E. Coli (i.e. human, dog, avian) to help focus outreach efforts.

Elevated levels of lead, and dissolved copper were identified in each monitored catchment area, regardless of catchment location, size, or predominant land use. These pollutants can come from a variety of residential, commercial, and industrial sources. They are wide-spread, and attempts to identify obvious sources in each catch basin over the past ten years have been unsuccessful. One potential source for lead and copper that seems to be universal is vehicular traffic. But even areas with light residential traffic (SC046) have elevated levels from time to time.

The City will continue to evaluate reduction strategies for these pollutants. However, metals such as lead and copper can come from automotive sources such as dust from brake pads, rubber tires, lead tire weights, and engine exhaust. Since these sources are ubiquitous, they may be best controlled at the state or national level.

PART 11: ESTIMATE OF ANNUAL POLLUTANT LOADINGS

Provide an estimate of the pollutant loadings each year from the municipal storm sewer system to waters of the U.S. for each constituent listed in Section 7.4 of the permit detected by stormwater monitoring within the permit term. Pollutant loadings and event mean concentrations may be estimated from sampling data collected at the representative monitoring locations, taking into consideration land uses and drainage areas for the outfall. Include a description of the procedures for estimating pollutant loads and concentrations, including any modeling, data analysis, and calculation methods. Compare the pollutant loadings estimated each year to previous estimates of pollutant loadings.

Seasonal and annual pollutant load estimates were developed for all of the City’s twelve stormwater sub-watersheds (Table 11-1). Winter, summer, and total annual loads were computed for all water quality parameters where sufficient validated data is available. As in past years, results from the City’s monitoring data were used to correlate pollutant concentrations with land uses for twelve stormwater sub-watersheds in Phoenix. Where data were insufficient to perform this evaluation, information from past annual reports was used. The “Simple Method” as described in USEPA’s guidance documents was used in performing this analysis .

**Table 11-1
Seasonal and Total Permit Year Load, City of Phoenix MS4 Permit Pollutants of Concern**

Constituent	Summer Pollutant Load (pounds)	Winter Pollutant Load (pounds)	Total Annual Pollutant Load (pounds)
BOD ₅	568,283	2,447,059	2,890,094
COD	2,788,802	12,047,703	14,201,876
TDS	3,186,634	13,829,952	16,094,324
Nitrogen, NO ₂ + NO ₃ , Total	53,215	230,982	270,799
Nitrogen, Organic, Total Kjeldahl	80,038	347,847	397,485
Phosphorous, Total	10,314	44,476	52,261
Arsenic, Total	113	491	568
Antimony, Total	48	209	243
Barium, Total	2,834	12,282	14,107
Beryllium, Total	6	26	30
Cadmium, Total	79	342	395
Chromium, Total	435	1,894	2,210
Copper, Total	1,020	4,341	5,158
Lead, Total	612	2,658	3,081
Mercury, Total	14	62	73
Nickel, Total	493	2,138	2,501
Selenium, Total	83	357	426
Silver, Total	11	49	57
Thallium, Total	6	25	29
Zinc, Total	3,581	15,416	18,071

The following methodology was used in developing pollutant loads:

In the Part 1 MS4 NPDES Permit Application, the City was divided into 13 stormwater sub-watersheds, based upon outfall locations that impacted specific water conveyance structures or tributaries of the Salt River. This division of the permit area was followed until the last AZPDES permit application in 2012. Through annexation, the City had acquired by this time substantial new undeveloped land, primarily in the north. In order to integrate this new land into the load calculation and to provide a consistent basis for analysis, a watershed-based approach was developed.

City GIS staff acquired County land-use spatial data and combined them with sub-watershed boundaries developed by the Maricopa County Flood Control District (MCFCD 2013). These sub-watershed boundaries are very similar to the Watershed Boundary Dataset 10-digit Hydrologic Unit Code (HUC), with exceptions made for local flood control and other man-made diversions (for example, White Tanks A Basin). Clipping these data to the City permit boundaries produced a watershed-based, land-use map that was used to define 12 new areas, now sub-watersheds, used in the pollutant load estimate.

For the purposes of this model, four land-uses were defined from the data: Industrial, Commercial, Residential, and Open Space. The Part 1 application demonstrated that, on a city-wide scale, these four land-use types provide the strongest distinction in stormwater composition.

The Part 1 application also developed pollutant-specific, rainfall-event-normalized, stormwater loading factors for each of the four land-use categories. These factors, called *event-mean concentrations* or EMCs, represent the concentration of each pollutant of concern in the runoff from the four land-use types. The concentration is normalized to the amount of rainfall in the sampling event to accommodate the dynamic nature of runoff chemistry, including a first flush of pollutant buildup between events.

Rainfall/runoff estimates were generated from data collected by the fifty-six Maricopa County Flood Control District (MCFCD) ALERT meteorological stations. Stations were located on GIS projections and rainfall records spatially correlated to each of the twelve sub-watersheds. Monthly rainfall depths were averaged by sub-watershed for the summer (June 2019 to October 2019) and winter (November 2019 to May 2020) total amounts for the permit year.

Rainfall was translated to runoff as part of the load calculation, using Schuler (1987),

$$R = P_j (P)(R_v)(A)$$

where, P = rainfall depth (inches)

 P_j = fraction of events that produce runoff (0.9)

 R_v = runoff coefficient

 A = sub-watershed area (acres)

Sub-watershed areas were measured from GIS projections. Runoff coefficients that were used for each land use were developed specially for Phoenix under the 2001 Permit Renewal Application effort:

Industrial: 0.053

Commercial: 0.745

Residential: 0.236

Open Space: 0.040

The current AZPDES permit indicates that, if possible, annual monitoring data be used to generate concentration factors in the load model. As in past years, EMCs were taken from the COP Part 1 NPDES MS4 characterization data. These values were compared to USGS monitoring results (Table 11-2) from representative storms.

EMCs were determined for each land-use type and pollutant of concern, as possible (Table 11-2). For each of the twelve stormwater sub-watersheds, EMCs were weighted by the percentage of land-use type, or

$$\begin{aligned} \text{EMC}_{k,j} = & (\text{EMC}_{j, \text{ industrial}} * \% \text{ area}_{k, \text{ industrial}}) + \\ & (\text{EMC}_{j, \text{ commercial}} * \% \text{ area}_{k, \text{ commercial}}) + \\ & (\text{EMC}_{j, \text{ residential}} * \% \text{ area}_{k, \text{ residential}}) + \\ & (\text{EMC}_{j, \text{ open space}} * \% \text{ area}_{k, \text{ open space}}) \end{aligned}$$

where, $\text{EMC}_{k,j}$ = event mean concentration for the kth sub-watershed and the jth pollutant

Thus, each sub-watershed has a unique EMC for each pollutant, dependent upon land use.

For each of the twelve stormwater sub-watersheds, total runoff was calculated for the summer and winter seasons. These volumes were multiplied by the EMCs and the seasonal load was calculated (Tables 11-3 through 11-14). Seasonal loads were added to give the annual load per pollutant per sub-watershed. Summation over the twelve stormwater sub-watersheds produced the estimated annual load to the Salt River from stormwater for each pollutant over the permit year.

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Table 11-2
Land-Use Based Event Mean Concentrations for City of Phoenix MS4 Permit Pollutants of Concern²

Pollutants	2019-20 data (average all sites) ¹	EMC _O	EMC _R	EMC _I	EMC _C
BOD ₅ (mg/L)	37.6	31.0	12.0	55.3	0.00
COD High Level (mg/L)	248	130	42.3	68.8	148
Residue, Total at 105 Deg.C (TDS)	186	120	111	123	84.0
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	1.11	3.12	1.24	1.14	0.70
Nitrogen Organic, Total Kjeldahl (mg/L as N)	4.79	0.11	5.19	7.24	1.67
Phosphorous, Total, (mg/L as P)	1.01	0.41	0.26	0.78	0.30
Arsenic, Total, (µg/L as As)	5.09	2.40	5.24	7.77	2.95
Antimony Total (µg/L as Sb)	2.81	0.64	1.96	4.81	2.12
Barium Total (µg/L as Ba)	186	20.0	170	311	35.6
Beryllium, Total Recoverable, (µg/L as Be)	0.60	0.20	0.12	0.22	0.39
Cadmium, Total Recoverable, (µg/L as Cd)	0.92	0.00	3.38	3.68	6.63
Chromium, Total Recoverable, (µg/L as Cr)	17.1	24.3	12.3	3.68	5.71
Copper, Total Recoverable, (µg/L as Cu)	82.3	29.0	23.3	204	15.0
Lead, Total Recoverable, (µg/L as Pb)	47.4	19.9	25.2	29.7	12.5
Mercury, Total Recoverable, (µg/L as Hg)	0.22	1.08	0.20	0.08	0.04
Nickel, Total Recoverable, (µg/L as Ni)	21.0	23.4	13.4	15.4	12.1
Selenium Total Recoverable, (µg/L as Se)	0.75	7.13	0.09	1.20	0.39
Silver, Total Recoverable, (µg/L as Ag)	0.38	0.45	0.37	0.42	0.32
Thallium Total Recoverable, (µg/L as Th)	0.26	0.20	0.21	0.04	0.21
Zinc, Total Recoverable, (µg/L as Zn)	429	96.0	109	346	135
NOTES:					
¹ Censored non detects include in mean as per USACOE 2008, Manual 1110-1-4014, ENVIRONMENTAL STATISTICS					
² Event mean concentrations from 2001 MS4 application, as modified by monitoring data to date. See text.					
O = open space land use, R = residential land use, I = industrial land use, C = commercial land use					

Table 11-3 Lower Arizona Canal Diversion Channel Watershed Pollutant Loadings				
Total area, acres: <u>94,321</u>		Residential: <u>41.14%</u>		
		Industrial : <u>13.58%</u>		
		Undeveloped: <u>19.67%</u>		
		Commercial: <u>25.60%</u>		
Total Summer (June-Oct) Runoff (cubic feet) <u>154,763,399</u>		Total Winter (Nov -May) Runoff (cubic feet) <u>627,398,413</u>		
Constituent	Land Use weighted concentrations	Summer Pollutant Load (pounds)	Winter Pollutant Load (pounds)	Total Annual Pollutant Load (pounds)
BOD ₅ (mg/L)	18.6	179,120	726,139	905,260
COD High Level (mg/L)	90.2	870,936	3,530,704	4,401,639
Residue, Total at 105 Deg.C (TDS)	107	1,037,373	4,205,429	5,242,802
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	1.46	14,079	57,074	71,153
Nitrogen Organic, Total Kjeldahl (mg/L as N)	3.57	34,463	139,709	174,171
Phosphorous, Total, (mg/L as P)	0.37	3,576	14,498	18,074
Arsenic, Total, (µg/L as As)	4.44	42.8	173.7	216.5
Antimony Total (µg/l as Sb)	2.13	20.6	83.3	103.9
Barium Total (µg/l as Ba)	125	1,210.6	4,907.5	6,118.0
Beryllium, Total Recoverable, (µg/L as Be)	0.22	2.1	8.5	10.6
Cadmium, Total Recoverable, (µg/L as Cd)	3.59	34.6	140.4	175.0
Chromium, Total Recoverable, (µg/L as Cr)	11.8	113.9	461.9	575.9
Copper, Total Recoverable, (µg/L as Cu)	46.8	451.7	1,831.0	2,282.6
Lead, Total Recoverable, (µg/L as Pb)	21.5	207.7	842.1	1,049.8
Mercury, Total Recoverable, (µg/L as Hg)	0.31	3.0	12.3	15.3
Nickel, Total Recoverable, (µg/L as Ni)	15.3	147.8	599.2	747.0
Selenium Total Recoverable, (µg/L as Se)	1.70	16.4	66.6	83.1
Silver, Total Recoverable, (µg/L as Ag)	0.38	3.6	14.8	18.4
Thallium Total Recoverable, (µg/L as Th)	0.19	1.8	7.4	9.2
Zinc, Total Recoverable, (µg/L as Zn)	145	1,401.4	5,681.0	7,082.4

Table 11-4 Upper Arizona Canal Diversion Channel Watershed Pollutant Loadings				
Total area, acres: <u>63,903</u>		Residential: <u>46.30%</u>		
		Industrial : <u>3.90%</u>		
		Undeveloped: <u>31.91%</u>		
		Commercial: <u>17.88%</u>		
Total Summer (June-Oct) Runoff (cubic feet) <u>120,536,883</u>		Total Winter (Nov -May) Runoff (cubic feet) <u>434,296,865</u>		
Constituent	Land Use weighted concentrations	Summer Pollutant Load (pounds)	Winter Pollutant Load (pounds)	Total Annual Pollutant Load (pounds)
BOD ₅ (mg/L)	17.6	132,414	477,092	609,506
COD High Level (mg/L)	90.2	678,356	2,444,131	3,122,487
Residue, Total at 105 Deg.C (TDS)	109	823,455	2,966,926	3,790,382
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	1.74	13,081	47,133	60,214
Nitrogen Organic, Total Kjeldahl (mg/L as N)	3.02	22,722	81,869	104,591
Phosphorous, Total, (mg/L as P)	0.34	2,522	9,085	11,607
Arsenic, Total, (µg/L as As)	4.02	30.2	109.0	139.2
Antimony Total (µg/l as Sb)	1.68	12.6	45.5	58.1
Barium Total (µg/l as Ba)	104	780.0	2,810.5	3,590.6
Beryllium, Total Recoverable, (µg/L as Be)	0.20	1.5	5.3	6.8
Cadmium, Total Recoverable, (µg/L as Cd)	2.89	21.8	78.4	100.1
Chromium, Total Recoverable, (µg/L as Cr)	14.6	109.9	395.9	505.8
Copper, Total Recoverable, (µg/L as Cu)	30.6	230.5	830.5	1,060.9
Lead, Total Recoverable, (µg/L as Pb)	21.4	161.0	580.2	741.2
Mercury, Total Recoverable, (µg/L as Hg)	0.45	3.3	12.1	15.4
Nickel, Total Recoverable, (µg/L as Ni)	16.4	123.6	445.4	569.0
Selenium Total Recoverable, (µg/L as Se)	2.43	18.3	65.9	84.2
Silver, Total Recoverable, (µg/L as Ag)	0.39	2.9	10.4	13.3
Thallium Total Recoverable, (µg/L as Th)	0.20	1.5	5.5	7.1
Zinc, Total Recoverable, (µg/L as Zn)	119	892.0	3,214.0	4,106.1

Table 11-5 South Mountain Watershed Pollutant Loadings				
Total area, acres: <u>61,998</u>		Residential: <u>27.03%</u>		
		Industrial : <u>4.37%</u>		
		Undeveloped: <u>52.98%</u>		
		Commercial: <u>15.35%</u>		
Total Summer (June-Oct) Runoff (cubic feet) <u>54,905,235</u>		Total Winter (Nov -May) Runoff (cubic feet) <u>254,517,178</u>		
Constituent	Land Use weighted concentrations	Summer Pollutant Load (pounds)	Winter Pollutant Load (pounds)	Total Annual Pollutant Load (pounds)
BOD ₅ (mg/L)	22.1	75,773	351,251	427,024
COD High Level (mg/L)	106	363,571	1,685,357	2,048,928
Residue, Total at 105 Deg.C (TDS)	112	384,119	1,780,612	2,164,731
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	2.15	7,361	34,122	41,483
Nitrogen Organic, Total Kjeldahl (mg/L as N)	2.05	7,023	32,556	39,579
Phosphorous, Total, (mg/L as P)	0.37	1,262	5,849	7,111
Arsenic, Total, (µg/L as As)	3.49	12.0	55.5	67.4
Antimony Total (µg/l as Sb)	1.41	4.8	22.4	27.2
Barium Total (µg/l as Ba)	76.2	260.9	1,209.4	1,470.3
Beryllium, Total Recoverable, (µg/L as Be)	0.21	0.7	3.3	4.0
Cadmium, Total Recoverable, (µg/L as Cd)	2.10	7.2	33.3	40.5
Chromium, Total Recoverable, (µg/L as Cr)	17.3	59.2	274.2	333.4
Copper, Total Recoverable, (µg/L as Cu)	32.9	112.8	522.8	635.5
Lead, Total Recoverable, (µg/L as Pb)	20.6	70.7	327.7	398.4
Mercury, Total Recoverable, (µg/L as Hg)	0.63	2.2	10.1	12.3
Nickel, Total Recoverable, (µg/L as Ni)	18.6	63.7	295.1	358.8
Selenium Total Recoverable, (µg/L as Se)	3.92	13.4	62.2	75.6
Silver, Total Recoverable, (µg/L as Ag)	0.40	1.4	6.4	7.8
Thallium Total Recoverable, (µg/L as Th)	0.20	0.7	3.2	3.9
Zinc, Total Recoverable, (µg/L as Zn)	116	398.7	1,848.1	2,246.8

Table 11-6 Upper Indian Bend Watershed Pollutant Loadings				
Total area, acres: <u>17,187</u>		Residential: <u>12.38%</u>		
		Industrial : <u>2.10%</u>		
		Undeveloped: <u>70.78%</u>		
		Commercial: <u>14.73%</u>		
Total Summer (June-Oct) Runoff (cubic feet) <u>13,425,449</u>		Total Winter (Nov -May) Runoff (cubic feet) <u>82,254,514</u>		
Constituent	Land Use weighted concentrations	Summer Pollutant Load (pounds)	Winter Pollutant Load (pounds)	Total Annual Pollutant Load (pounds)
BOD ₅ (mg/L)	24.6	20,598	126,197	146,794
COD High Level (mg/L)	121	100,934	618,401	719,336
Residue, Total at 105 Deg.C (TDS)	114	95,185	583,175	678,359
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	2.49	2,085	12,774	14,859
Nitrogen Organic, Total Kjeldahl (mg/L as N)	1.12	939	5,753	6,692
Phosphorous, Total, (mg/L as P)	0.38	321	1,965	2,286
Arsenic, Total, (µg/L as As)	2.94	2.5	15.1	17.6
Antimony Total (µg/l as Sb)	1.11	0.9	5.7	6.6
Barium Total (µg/l as Ba)	47.0	39.4	241.4	280.8
Beryllium, Total Recoverable, (µg/L as Be)	0.22	0.2	1.1	1.3
Cadmium, Total Recoverable, (µg/L as Cd)	1.47	1.2	7.6	8.8
Chromium, Total Recoverable, (µg/L as Cr)	19.6	16.5	100.8	117.3
Copper, Total Recoverable, (µg/L as Cu)	29.9	25.0	153.4	178.4
Lead, Total Recoverable, (µg/L as Pb)	19.7	16.5	101.0	117.4
Mercury, Total Recoverable, (µg/L as Hg)	0.80	0.7	4.1	4.7
Nickel, Total Recoverable, (µg/L as Ni)	20.3	17.0	104.3	121.4
Selenium Total Recoverable, (µg/L as Se)	5.14	4.3	26.4	30.7
Silver, Total Recoverable, (µg/L as Ag)	0.42	0.3	2.1	2.5
Thallium Total Recoverable, (µg/L as Th)	0.20	0.2	1.0	1.2
Zinc, Total Recoverable, (µg/L as Zn)	109	90.9	557.1	648.1

Table 11-7 Middle Indian Bend Watershed Pollutant Loadings				
Total area, acres: <u>19,142</u>		Residential: <u>65.54%</u>		
		Industrial : <u>0.35%</u>		
		Undeveloped: <u>22.42%</u>		
		Commercial: <u>12.69%</u>		
Total Summer (June-Oct) Runoff (cubic feet) <u>38,373,637</u>		Total Winter (Nov -May) Runoff (cubic feet) <u>134,832,842</u>		
Constituent	Land Use weighted concentrations	Summer Pollutant Load (pounds)	Winter Pollutant Load (pounds)	Total Annual Pollutant Load (pounds)
BOD ₅ (mg/L)	14.9	35,646	125,248	160,894
COD High Level (mg/L)	75	180,617	634,630	815,246
Residue, Total at 105 Deg.C (TDS)	110	262,477	922,261	1,184,738
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	1.59	3,813	13,398	17,211
Nitrogen Organic, Total Kjeldahl (mg/L as N)	3.61	8,652	30,400	39,052
Phosphorous, Total, (mg/L as P)	0.30	720	2,528	3,248
Arsenic, Total, (µg/L as As)	4.32	10.3	36.3	46.7
Antimony Total (µg/l as Sb)	1.69	4.1	14.3	18.3
Barium Total (µg/l as Ba)	120	287.2	1,009.1	1,296.3
Beryllium, Total Recoverable, (µg/L as Be)	0.17	0.4	1.4	1.8
Cadmium, Total Recoverable, (µg/L as Cd)	3.03	7.3	25.5	32.8
Chromium, Total Recoverable, (µg/L as Cr)	14.1	33.8	118.8	152.6
Copper, Total Recoverable, (µg/L as Cu)	24.1	57.8	202.9	260.7
Lead, Total Recoverable, (µg/L as Pb)	22.4	53.7	188.6	242.2
Mercury, Total Recoverable, (µg/L as Hg)	0.37	0.9	3.1	4.0
Nickel, Total Recoverable, (µg/L as Ni)	15.5	37.1	130.3	167.3
Selenium Total Recoverable, (µg/L as Se)	1.71	4.1	14.4	18.5
Silver, Total Recoverable, (µg/L as Ag)	0.38	0.9	3.2	4.1
Thallium Total Recoverable, (µg/L as Th)	0.21	0.5	1.8	2.3
Zinc, Total Recoverable, (µg/L as Zn)	110	263.5	925.8	1,189.2

Table 11-8 Cave Creek Watershed Pollutant Loadings				
Total area, acres: <u>18,009</u>		Residential: <u>16.83%</u>		
		Industrial : <u>0.28%</u>		
		Undeveloped: <u>77.63%</u>		
		Commercial: <u>5.26%</u>		
Total Summer (June-Oct) Runoff (cubic feet) <u>16,584,045</u>		Total Winter (Nov -May) Runoff (cubic feet) <u>67,113,558</u>		
Constituent	Land Use weighted concentrations	Summer Pollutant Load (pounds)	Winter Pollutant Load (pounds)	Total Annual Pollutant Load (pounds)
BOD ₅ (mg/L)	26.2	27,149	109,868	137,017
COD High Level (mg/L)	116	120,037	485,773	605,810
Residue, Total at 105 Deg.C (TDS)	117	120,643	488,226	608,868
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	2.67	2,763	11,183	13,946
Nitrogen Organic, Total Kjeldahl (mg/L as N)	1.07	1,107	4,479	5,586
Phosphorous, Total, (mg/L as P)	0.38	393	1,591	1,984
Arsenic, Total, (µg/L as As)	2.92	3.0	12.2	15.3
Antimony Total (µg/l as Sb)	0.95	1.0	4.0	5.0
Barium Total (µg/l as Ba)	46.9	48.6	196.5	245.1
Beryllium, Total Recoverable, (µg/L as Be)	0.19	0.2	0.8	1.0
Cadmium, Total Recoverable, (µg/L as Cd)	0.93	1.0	3.9	4.8
Chromium, Total Recoverable, (µg/L as Cr)	21.2	22.0	89.0	110.9
Copper, Total Recoverable, (µg/L as Cu)	27.8	28.7	116.3	145.1
Lead, Total Recoverable, (µg/L as Pb)	20.4	21.1	85.5	106.7
Mercury, Total Recoverable, (µg/L as Hg)	0.87	0.9	3.7	4.6
Nickel, Total Recoverable, (µg/L as Ni)	21.1	21.8	88.4	110.2
Selenium Total Recoverable, (µg/L as Se)	5.58	5.8	23.4	29.1
Silver, Total Recoverable, (µg/L as Ag)	0.43	0.4	1.8	2.2
Thallium Total Recoverable, (µg/L as Th)	0.21	0.2	0.9	1.1
Zinc, Total Recoverable, (µg/L as Zn)	101	104.4	422.5	526.9

Table 11-9 Skunk Creek Watershed Pollutant Loadings				
Total area, acres: <u>26,174</u>		Residential: <u>19.12%</u>		
		Industrial : <u>1.15%</u>		
		Undeveloped: <u>59.46%</u>		
		Commercial: <u>20.26%</u>		
Total Summer (June-Oct) Runoff (cubic feet) <u>34,544,635</u>		Total Winter (Nov -May) Runoff (cubic feet) <u>171,686,365</u>		
Constituent	Land Use weighted concentrations	Summer Pollutant Load (pounds)	Winter Pollutant Load (pounds)	Total Annual Pollutant Load (pounds)
BOD ₅ (mg/L)	21.4	46,047	228,852	274,898
COD High Level (mg/L)	116	250,363	1,244,299	1,494,662
Residue, Total at 105 Deg.C (TDS)	111	239,265	1,189,146	1,428,412
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	2.25	4,844	24,073	28,916
Nitrogen Organic, Total Kjeldahl (mg/L as N)	1.48	3,194	15,872	19,066
Phosphorous, Total, (mg/L as P)	0.36	783	3,891	4,674
Arsenic, Total, (µg/L as As)	3.12	6.7	33.4	40.1
Antimony Total (µg/l as Sb)	1.24	2.7	13.3	16.0
Barium Total (µg/l as Ba)	55.3	119.1	591.9	711.1
Beryllium, Total Recoverable, (µg/L as Be)	0.22	0.5	2.4	2.8
Cadmium, Total Recoverable, (µg/L as Cd)	2.03	4.4	21.8	26.1
Chromium, Total Recoverable, (µg/L as Cr)	18.0	38.8	192.8	231.6
Copper, Total Recoverable, (µg/L as Cu)	27.1	58.3	290.0	348.3
Lead, Total Recoverable, (µg/L as Pb)	19.5	42.1	209.2	251.2
Mercury, Total Recoverable, (µg/L as Hg)	0.69	1.5	7.4	8.8
Nickel, Total Recoverable, (µg/L as Ni)	19.1	41.2	204.7	245.8
Selenium Total Recoverable, (µg/L as Se)	4.35	9.4	46.6	56.0
Silver, Total Recoverable, (µg/L as Ag)	0.40	0.9	4.3	5.2
Thallium Total Recoverable, (µg/L as Th)	0.21	0.4	2.2	2.6
Zinc, Total Recoverable, (µg/L as Zn)	109	235.4	1,169.8	1,405.2

Table 11-10 Upper New River Watershed Pollutant Loadings				
Total area, acres: <u>30,056</u>		Residential: <u>14.35%</u>		
		Industrial : <u>0.64%</u>		
		Undeveloped: <u>80.59%</u>		
		Commercial: <u>4.42%</u>		
Total Summer (June-Oct) Runoff (cubic feet) <u>29,174,785</u>		Total Winter (Nov -May) Runoff (cubic feet) <u>99,038,151</u>		
Constituent	Land Use weighted concentrations	Summer Pollutant Load (pounds)	Winter Pollutant Load (pounds)	Total Annual Pollutant Load (pounds)
BOD ₅ (mg/L)	27.1	49,255	167,205	216,460
COD High Level (mg/L)	118	214,443	727,957	942,400
Residue, Total at 105 Deg.C (TDS)	117	213,213	723,784	936,998
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	2.73	4,970	16,873	21,843
Nitrogen Organic, Total Kjeldahl (mg/L as N)	0.96	1,741	5,911	7,652
Phosphorous, Total, (mg/L as P)	0.39	703	2,385	3,088
Arsenic, Total, (µg/L as As)	2.87	5.2	17.7	22.9
Antimony Total (µg/l as Sb)	0.92	1.7	5.7	7.4
Barium Total (µg/l as Ba)	44.1	80.4	272.8	353.1
Beryllium, Total Recoverable, (µg/L as Be)	0.19	0.4	1.2	1.6
Cadmium, Total Recoverable, (µg/L as Cd)	0.80	1.5	4.9	6.4
Chromium, Total Recoverable, (µg/L as Cr)	21.6	39.4	133.6	173.0
Copper, Total Recoverable, (µg/L as Cu)	28.7	52.2	177.2	229.4
Lead, Total Recoverable, (µg/L as Pb)	20.4	37.1	126.0	163.2
Mercury, Total Recoverable, (µg/L as Hg)	0.90	1.6	5.6	7.2
Nickel, Total Recoverable, (µg/L as Ni)	21.4	39.0	132.3	171.3
Selenium Total Recoverable, (µg/L as Se)	5.79	10.5	35.8	46.3
Silver, Total Recoverable, (µg/L as Ag)	0.43	0.8	2.6	3.4
Thallium Total Recoverable, (µg/L as Th)	0.21	0.4	1.3	1.6
Zinc, Total Recoverable, (µg/L as Zn)	101	184.1	625.0	809.2

Table 11-11 Lower New River Watershed Pollutant Loadings				
Total area, acres: <u>1,395</u>		Residential: <u>37.20%</u>		
		Industrial : <u>2.48%</u>		
		Undeveloped: <u>53.59%</u>		
		Commercial: <u>6.74%</u>		
Total Summer (June-Oct) Runoff (cubic feet) <u>1,296,768</u>		Total Winter (Nov -May) Runoff (cubic feet) <u>5,941,687</u>		
Constituent	Land Use weighted concentrations	Summer Pollutant Load (pounds)	Winter Pollutant Load (pounds)	Total Annual Pollutant Load (pounds)
BOD ₅ (mg/L)	22.4	1,816	8,321	10,137
COD High Level (mg/L)	97.1	7,852	35,979	43,831
Residue, Total at 105 Deg.C (TDS)	114	9,247	42,369	51,616
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	2.21	179	819	997
Nitrogen Organic, Total Kjeldahl (mg/L as N)	2.28	185	847	1,032
Phosphorous, Total, (mg/L as P)	0.36	29	132	161
Arsenic, Total, (µg/L as As)	3.63	0.3	1.3	1.6
Antimony Total (µg/l as Sb)	1.34	0.1	0.5	0.6
Barium Total (µg/l as Ba)	84.2	6.8	31.2	38.0
Beryllium, Total Recoverable, (µg/L as Be)	0.18	0.0	0.1	0.1
Cadmium, Total Recoverable, (µg/L as Cd)	1.79	0.1	0.7	0.8
Chromium, Total Recoverable, (µg/L as Cr)	18.1	1.5	6.7	8.2
Copper, Total Recoverable, (µg/L as Cu)	30.2	2.4	11.2	13.7
Lead, Total Recoverable, (µg/L as Pb)	21.6	1.7	8.0	9.8
Mercury, Total Recoverable, (µg/L as Hg)	0.66	0.1	0.2	0.3
Nickel, Total Recoverable, (µg/L as Ni)	18.7	1.5	6.9	8.5
Selenium Total Recoverable, (µg/L as Se)	3.91	0.3	1.4	1.8
Silver, Total Recoverable, (µg/L as Ag)	0.41	0.0	0.2	0.2
Thallium Total Recoverable, (µg/L as Th)	0.20	0.0	0.1	0.1
Zinc, Total Recoverable, (µg/L as Zn)	110	8.9	40.6	49.5

Table 11-12 Upper Agua Fria River Watershed Pollutant Loadings				
Total area, acres: <u>492</u>		Residential: <u>0.00%</u>		
		Industrial : <u>0.00%</u>		
		Undeveloped: <u>100.00%</u>		
		Commercial: <u>0.00%</u>		
Total Summer (June-Oct) Runoff (cubic feet) <u>192,241</u>		Total Winter (Nov -May) Runoff (cubic feet) <u>652,590</u>		
Constituent	Land Use weighted concentrations	Summer Pollutant Load (pounds)	Winter Pollutant Load (pounds)	Total Annual Pollutant Load (pounds)
BOD ₅ (mg/L)	31.0	372	1,262	1,634
COD High Level (mg/L)	130	1,559	5,293	6,852
Residue, Total at 105 Deg.C (TDS)	120	1,439	4,886	6,325
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	3.12	37	127	164
Nitrogen Organic, Total Kjeldahl (mg/L as N)	0.11	1	5	6
Phosphorous, Total, (mg/L as P)	0.41	5	17	22
Arsenic, Total, (µg/L as As)	2.40	0.0	0.1	0.1
Antimony Total (µg/l as Sb)	0.64	0.0	0.0	0.0
Barium Total (µg/l as Ba)	20.0	0.2	0.8	1.1
Beryllium, Total Recoverable, (µg/L as Be)	0.20	0.0	0.0	0.0
Cadmium, Total Recoverable, (µg/L as Cd)	0.00	0.0	0.0	0.0
Chromium, Total Recoverable, (µg/L as Cr)	24.3	0.3	1.0	1.3
Copper, Total Recoverable, (µg/L as Cu)	29.0	0.3	1.2	1.5
Lead, Total Recoverable, (µg/L as Pb)	19.9	0.2	0.8	1.0
Mercury, Total Recoverable, (µg/L as Hg)	1.08	0.0	0.0	0.1
Nickel, Total Recoverable, (µg/L as Ni)	23.4	0.3	1.0	1.2
Selenium Total Recoverable, (µg/L as Se)	7.13	0.1	0.3	0.4
Silver, Total Recoverable, (µg/L as Ag)	0.45	0.0	0.0	0.0
Thallium Total Recoverable, (µg/L as Th)	0.20	0.0	0.0	0.0
Zinc, Total Recoverable, (µg/L as Zn)	96.0	1.2	3.9	5.1

Table 11-13 Lower Agua Fria River Watershed Pollutant Loadings				
Total area, acres: <u>24</u>		Residential: <u>0.00%</u>		
		Industrial : <u>89.39%</u>		
		Undeveloped: <u>10.61%</u>		
		Commercial: <u>0.00%</u>		
Total Summer (June-Oct) Runoff (cubic feet) <u>7,488</u>		Total Winter (Nov -May) Runoff (cubic feet) <u>30,316</u>		
Constituent	Land Use weighted concentrations	Summer Pollutant Load (pounds)	Winter Pollutant Load (pounds)	Total Annual Pollutant Load (pounds)
BOD ₅ (mg/L)	52.7	25	100	124
COD High Level (mg/L)	75.3	35	142	178
Residue, Total at 105 Deg.C (TDS)	122	57	231	289
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	1.35	1	3	3
Nitrogen Organic, Total Kjeldahl (mg/L as N)	6.48	3	12	15
Phosphorous, Total, (mg/L as P)	0.74	0	1	2
Arsenic, Total, (µg/L as As)	7.20	0.0	0.0	0.0
Antimony Total (µg/l as Sb)	4.37	0.0	0.0	0.0
Barium Total (µg/l as Ba)	280	0.1	0.5	0.7
Beryllium, Total Recoverable, (µg/L as Be)	0.22	0.0	0.0	0.0
Cadmium, Total Recoverable, (µg/L as Cd)	3.29	0.0	0.0	0.0
Chromium, Total Recoverable, (µg/L as Cr)	5.87	0.0	0.0	0.0
Copper, Total Recoverable, (µg/L as Cu)	185	0.1	0.4	0.4
Lead, Total Recoverable, (µg/L as Pb)	28.6	0.0	0.1	0.1
Mercury, Total Recoverable, (µg/L as Hg)	0.19	0.0	0.0	0.0
Nickel, Total Recoverable, (µg/L as Ni)	16.3	0.0	0.0	0.0
Selenium Total Recoverable, (µg/L as Se)	1.83	0.0	0.0	0.0
Silver, Total Recoverable, (µg/L as Ag)	0.43	0.0	0.0	0.0
Thallium Total Recoverable, (µg/L as Th)	0.06	0.0	0.0	0.0
Zinc, Total Recoverable, (µg/L as Zn)	319	0.1	0.6	0.8

Table 11-14				
White Tanks A Watershed Pollutant Loadings				
Total area, acres: <u>39</u>		Residential: <u>0.00%</u>		
		Industrial : <u>90.30%</u>		
		Undeveloped: <u>4.26%</u>		
		Commercial: <u>5.44%</u>		
Total Summer (June-Oct) Runoff (cubic feet) <u>21,236</u>		Total Winter (Nov -May) Runoff (cubic feet) <u>85,976</u>		
Constituent	Land Use weighted concentrations	Summer Pollutant Load (pounds)	Winter Pollutant Load (pounds)	Total Annual Pollutant Load (pounds)
BOD ₅ (mg/L)	51.3	68	275	343
COD High Level (mg/L)	75.7	100	406	507
Residue, Total at 105 Deg.C (TDS)	120	160	646	805
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	1.20	2	6	8
Nitrogen Organic, Total Kjeldahl (mg/L as N)	6.63	9	36	44
Phosphorous, Total, (mg/L as P)	0.74	1	4	5
Arsenic, Total, (µg/L as As)	7.28	0.0	0.0	0.0
Antimony Total (µg/l as Sb)	4.49	0.0	0.0	0.0
Barium Total (µg/l as Ba)	284	0.4	1.5	1.9
Beryllium, Total Recoverable, (µg/L as Be)	0.23	0.0	0.0	0.0
Cadmium, Total Recoverable, (µg/L as Cd)	3.69	0.0	0.0	0.0
Chromium, Total Recoverable, (µg/L as Cr)	4.67	0.0	0.0	0.0
Copper, Total Recoverable, (µg/L as Cu)	186	0.2	1.0	1.2
Lead, Total Recoverable, (µg/L as Pb)	28.3	0.0	0.2	0.2
Mercury, Total Recoverable, (µg/L as Hg)	0.12	0.0	0.0	0.0
Nickel, Total Recoverable, (µg/L as Ni)	15.6	0.0	0.1	0.1
Selenium Total Recoverable, (µg/L as Se)	1.41	0.0	0.0	0.0
Silver, Total Recoverable, (µg/L as Ag)	0.42	0.0	0.0	0.0
Thallium Total Recoverable, (µg/L as Th)	0.06	0.0	0.0	0.0
Zinc, Total Recoverable, (µg/L as Zn)	324	0.4	1.7	2.2

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ASSESSMENT OF POLLUTANT LOADS

The City uses a pollutant load model that estimates individual pollutant loads by basin and season. As discussed at the end of Part 5 of this report, land use data obtained from the FCDMC is used because it is viewed as more accurate and consistent.

The load is a function of rainfall amounts in each basin, the areal percentage of four land-use classifications (undeveloped, residential, commercial and industrial) and a set of event mean concentrations (EMCs). For each of the City sub-watersheds, the same land-use classifications, rainfall-runoff relationship, and EMCs have been used. The only variable has been the amount of rainfall. In this way, the load has decreased or increased as rainfall has changed from year to year and only reflects this variation.

Because rainfall and runoff in central Arizona follow a discontinuous and unpredictable pattern, especially during summer monsoon season when local convection patterns drive rainfall patterns, the volume of runoff observed at a specific outfall can vary by several orders of magnitude from year to year, and can vary just as much from one outfall location to another (i.e., rainfall associated with a specific storm event will vary widely across the COP system). Although some sampled outfalls may receive abundant runoff, precipitation may not occur at others. These factors skew data obtained via statistical analysis; thus efforts to identify overall patterns or trends in pollutant concentrations based on statistical analysis is not meaningful.

Table 11-15 contains a summary of the pollutant load data calculated for reporting years 2014 through the current reporting year. As discussed above, the data demonstrate that changes in pollutant load calculations vary strictly with rainfall volume.

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Table 11-15 Pollutant Load Comparison 2014-2020

Constituent	Total Annual Pollutant Load 2013/14 (pounds)	Total Annual Pollutant Load 2014/15 (pounds)	Total Annual Pollutant Load 2015/16 (pounds)	Total Annual Pollutant Load 2016/17 (pounds)	Total Annual Pollutant Load 2017/18 (pounds)	Total Annual Pollutant Load 2018/19 (pounds)	Total Annual Pollutant Load 2019/20 (pounds)
BOD ₅ (mg/L)	2,127,604	3,733,690	1,839,037	2,372,602	1,004,453	3,340,326	2,890,094
COD High Level (mg/L)	10,426,176	18,377,162	8,971,215	11,578,413	4,889,256	16,384,770	14,201,876
Residue, Total at 105 Deg. C (TDS)	11,704,768	20,634,575	10,081,558	12,988,914	5,515,942	18,613,613	16,094,324
Nitrogen NO ₂ + NO ₃ , Total, (mg/L as N)	199,774	352,787	171,979	222,705	92,876	308,574	270,799
Nitrogen Organic, Total Kjeldahl (mg/L as N)	281,558	494,542	242,821	309,620	136,068	471,601	397,485
Phosphorous, Total, (mg/L as P)	38,294	67,305	32,947	42,339	18,082	60,836	52,261
Arsenic, Total, (mg/L as As)	404	726	43,969	57,037	21,358	665	568
Antimony Total (mg/l as Sb)	175	309	151	192	83.98	289	243
Barium Total (mg/l as Ba)	10,054	17,722	8,669	11,057	4,846	16,733	14,107
Beryllium, Total Recoverable, (mg/L as Be)	46	81.2	39.9	52.2	10.29	35.0	30
Cadmium, Total Recoverable, (mg/L as Cd)	280	492	241	309	135.26	470	395
Chromium, Total Recoverable, (mg/L as Cr)	1,610	2,844	1,395	1,812	750.26	2,515	2,210
Copper, Total Recoverable, (mg/L as Cu)	3,784	6,588	3,260	4,149	1,817	6,162	5,158
Lead, Total Recoverable, (mg/L as Pb)	2,220	3,908	1,920	2,474	1,051	3,575	3,081
Mercury, Total Recoverable, (mg/L as Hg)	54	94.9	46.6	60.7	24.76	81.9	73
Nickel, Total Recoverable, (mg/L as Ni)	1,819	3,206	1,574	2,037	853.39	2,875	2,501
Selenium Total Recoverable, (mg/L as Se)	317	560	275	359	145.59	478	426
Silver, Total Recoverable, (mg/L as Ag)	0	0.00	0.00	0.00	19.5	66.1	57
Thallium Total Recoverable, (mg/L as Th)	NC	NC	NC	NC	6.2	33.5	29
Zinc, Total Recoverable, (mg/L as Zn)	13,083	22,934	11,294	14,475	6,265	21,271	18,071
Total Annual Runoff (millions of cubic feet)	1,633.2	2,882.6	1,404.1	1,819.7	1,169.0	2,711.9	2,340.9
NC - A statistically representative event mean concentration for thallium could not be calculated as thallium occurs infrequently in stormwater samples regionally.							

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PART 12: ANNUAL EXPENDITURES

Provide a brief statement of the expenditures incurred each reporting period (July 1-June 30) to implement and maintain the stormwater management program, including associated monitoring and reporting activities. This figure should include funds related exclusively to implementation of the stormwater program. Provide the estimated budget for implementing and maintaining the stormwater program in the subsequent reporting period. Include a statement of the funding sources used to support program expenditures.

Personnel from the City departments responsible for implementation of the stormwater program provided actual and estimated expenditure data for each fiscal year. The expenditures are included in Table 12-1.

Table 12-1 Annual Expenditures Stormwater Program Implementation

	Fiscal Year 2014	Fiscal Year 2015	Fiscal Year 2016	Fiscal Year 2017	Fiscal Year 2018	Fiscal Year 2019	Fiscal Year 2020	Fiscal Year 2021 (estimated)
Street Transportation Department	\$2,407,926 (revised)	\$1,886,898	\$1,949,181	\$2,464,300	\$2,919,870	\$2,490,040	\$3,449,427	\$3,174,410
Water Services Department	\$1,947,736	\$1,867,870	\$1,702,105	\$1,842,748	\$1,792,284	\$1,890,000	\$1,995,290	\$2,318,927
Planning and Development Department	\$487,100	\$910,900	\$1,288,398	\$1,563,702	\$1,846,831	\$1,914,000	\$1,944,000	\$1,750,000
Office of Environmental Programs	\$119,840 (revised)	\$121,232 (revised)	\$139,424	\$132,627	\$147,219	\$159,786	\$145,433	\$184,078
Office of Environmental Programs – Capital Improvement Projects*	\$231,076 (revised)	\$240,854 (revised)	\$231,716	\$173,421	\$99,276	\$95,154	\$319,108	\$250,000
TOTALS	\$5,193,678 (revised)	\$5,027,754 (revised)	\$5,310,824	\$6,176,798	\$6,805,480	\$5,440,161	\$8,231,175	\$7,677,415

* Up to \$250,000 in capital improvement project funding is made available each year, and used as necessary to ensure compliance and/or enhance the City's overall stormwater program. Revisions to prior year's expenditures are based on a recent re-evaluation of program expense tracking. FY 20 includes \$155,000 carryover from the previous year.

The City collects a stormwater fee to defray the costs of operating the stormwater management program. Stormwater program charges from the WSD, STD, and OEP are paid out of these funds. The fee does not cover the costs for maintenance of the storm drain system, infrastructure improvements, or other ancillary programs (e.g., HHW, street sweeping, etc.). Stormwater program costs for PDD are funded by construction permit fees.

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PART 13: ATTACHMENTS

Attach a copy of each of the following documents for the first year Annual Report, and each subsequent year if changes are made. If no changes are made to these during a reporting period, indicate, *'no changes were made this period, the 2009 submittal is current'*.

Drainage System Maps

The City considers the storm drains to be protected critical infrastructure. As such, the City has not provided an electronic copy of the GIS maps as an attachment. GIS maps are available for review by ADEQ upon request. Hard copies of the drainage basin maps are provided.

List of major outfalls

List of changes to the major outfall inventory (new outfalls, outfalls out of service), including drainage area and coordinates for the outfalls listed in Table 1 of the permit (4th year report).

Laboratory reports for stormwater monitoring performed in the reporting period.

New or revised ordinances associated with stormwater management.

New or revised public outreach documents.

The following attachments to the Annual Report are in addition to those required as listed above:

STORM Annual Report

Select Outreach Images

Public Awareness Survey

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Drainage System Maps

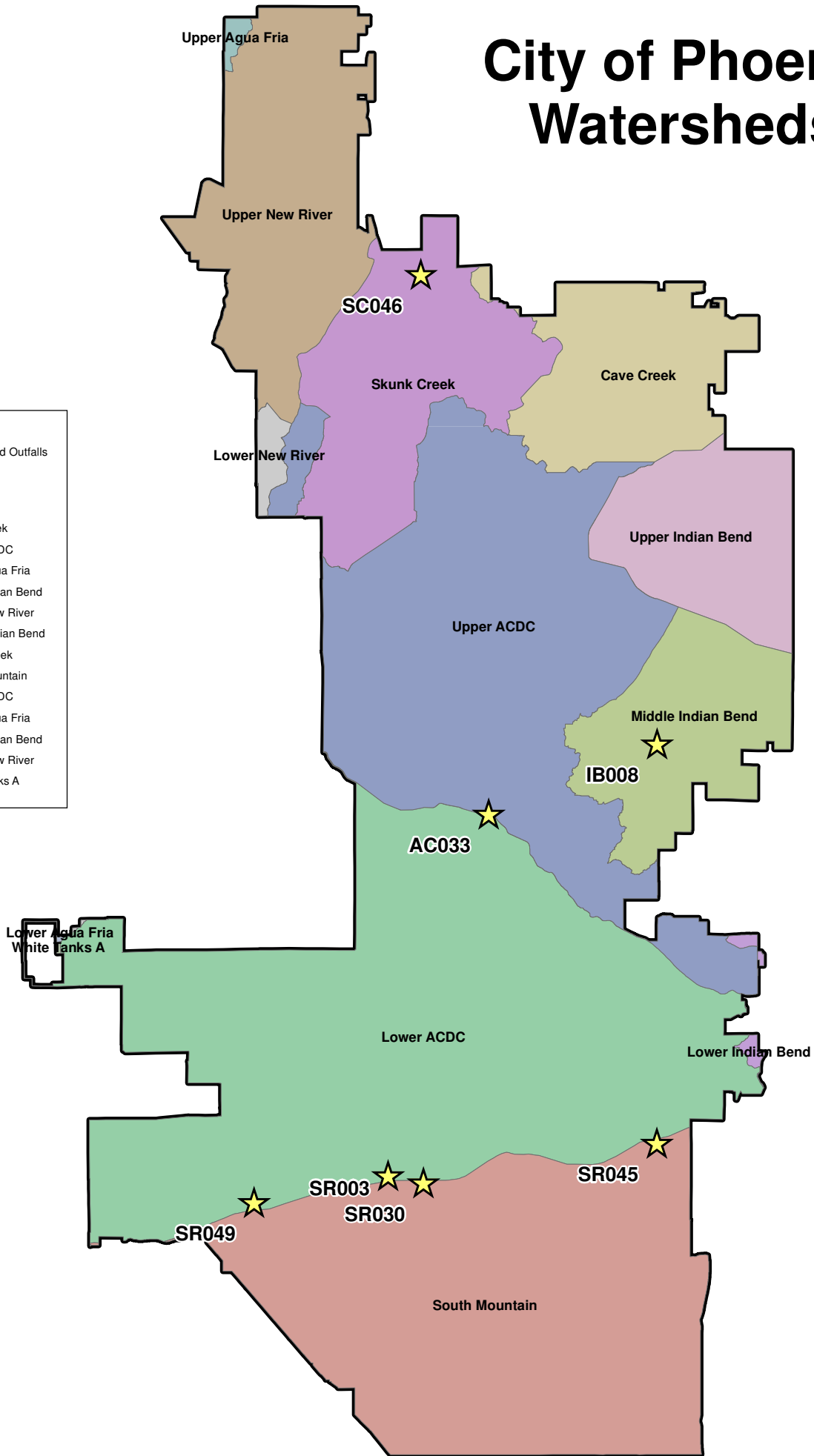
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City of Phoenix Watersheds

★ Monitored Outfalls

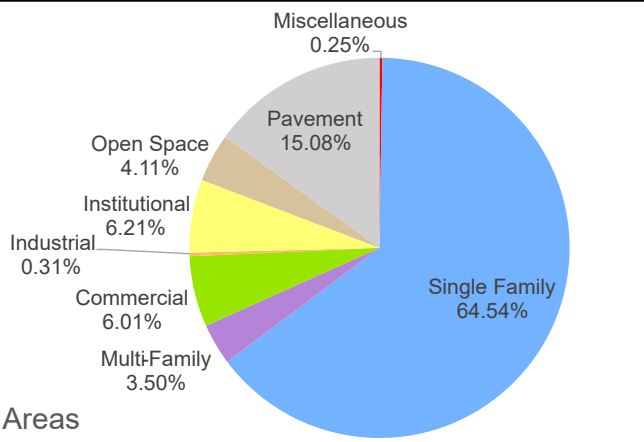
Watersheds

- ☐ Cave Creek
- ☐ Lower ACDC
- ☐ Lower Agua Fria
- ☐ Lower Indian Bend
- ☐ Lower New River
- ☐ Middle Indian Bend
- ☐ Skunk Creek
- ☐ South Mountain
- ☐ Upper ACDC
- ☐ Upper Agua Fria
- ☐ Upper Indian Bend
- ☐ Upper New River
- ☐ White Tanks A

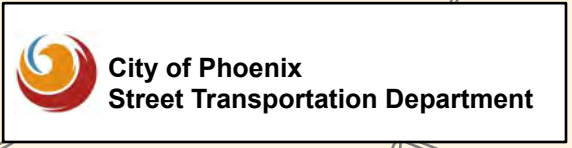
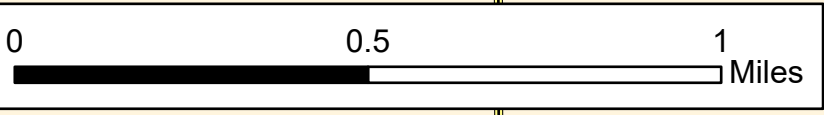
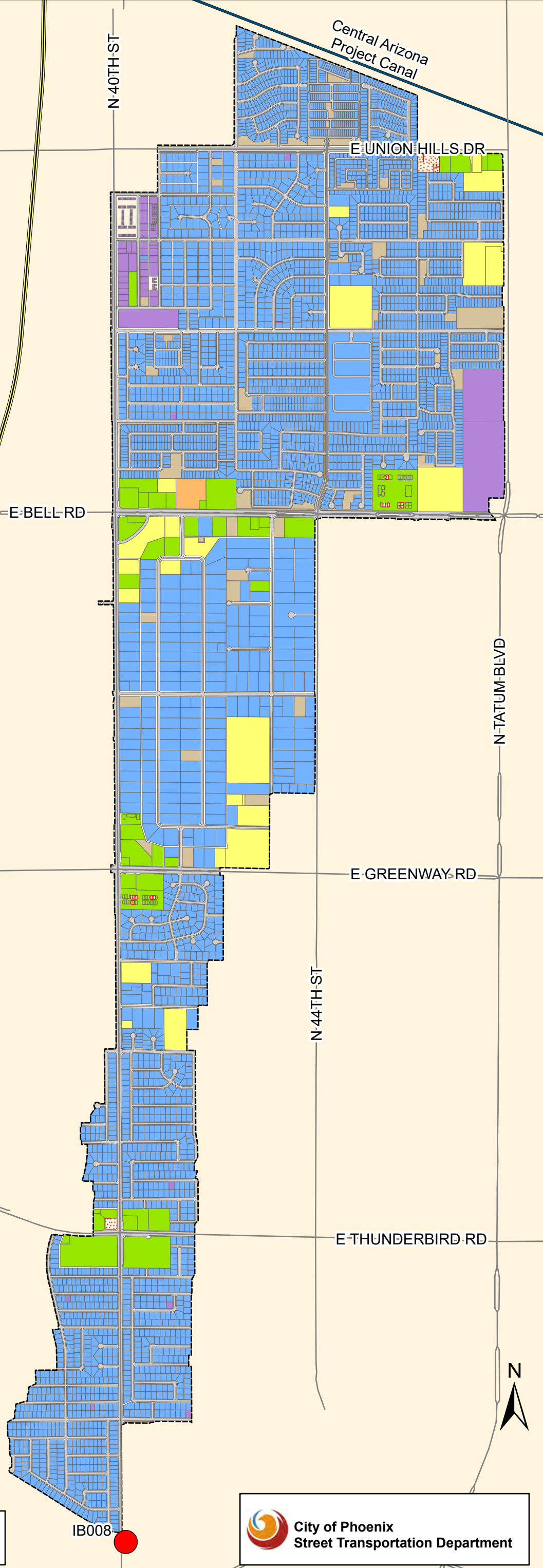
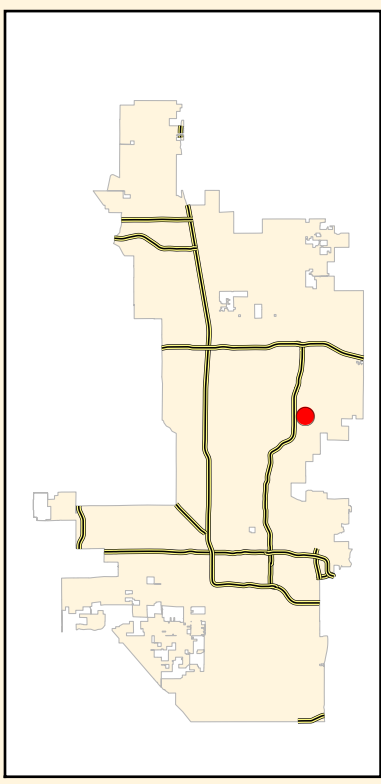


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Drainage Area IB008



- Outfalls
- Freeways
- Streets
- Canals
- Rivers
- Pavement
- City Limit
- Drainage Areas
- Land Use**
- Commercial
- Industrial
- Institutional
- Miscellaneous
- Multi Family Residential
- Open Space
- Single Family Residential
- Transportation
- Utilities



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Drainage Area SC046

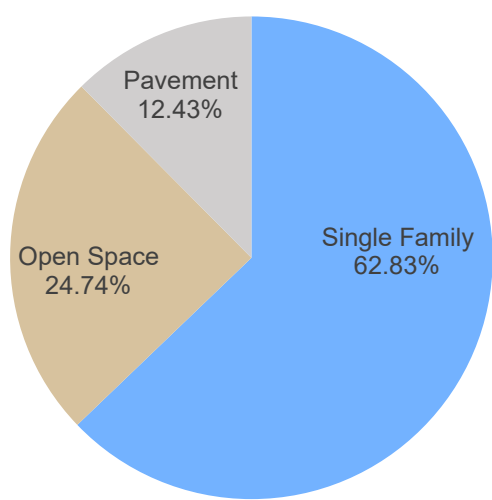
SC046

N VIA TRAMONTO

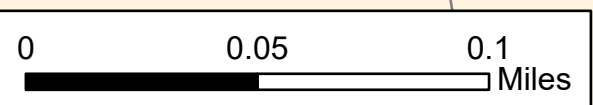
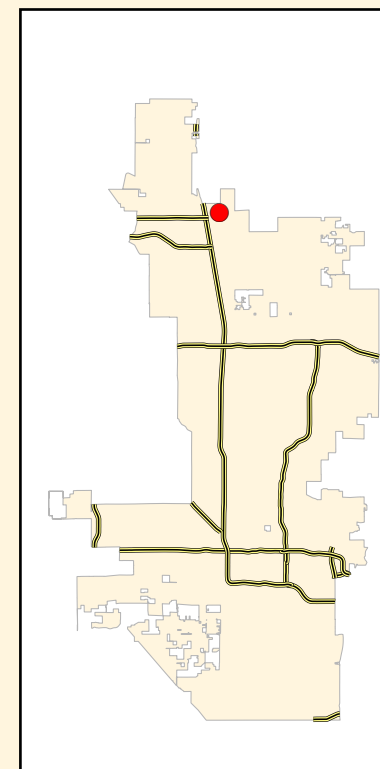
W FLORIMOND RD

W PERDIDO WAY

N 27TH DR



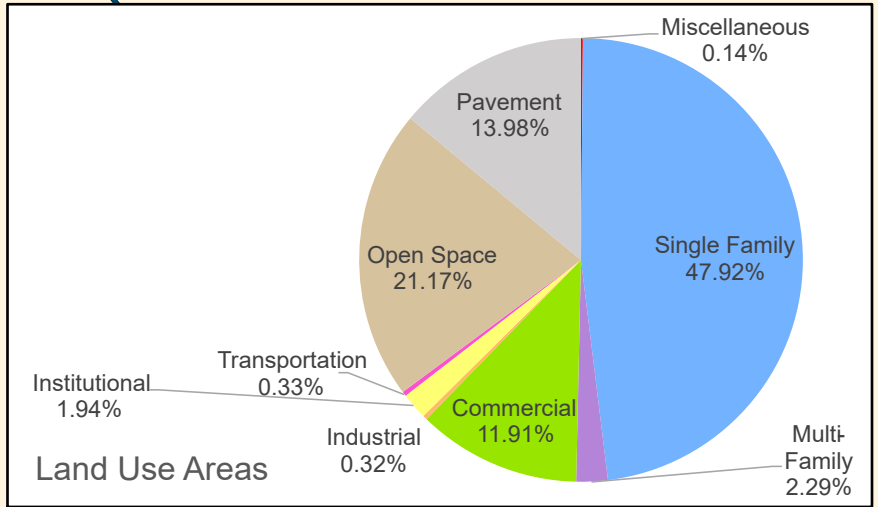
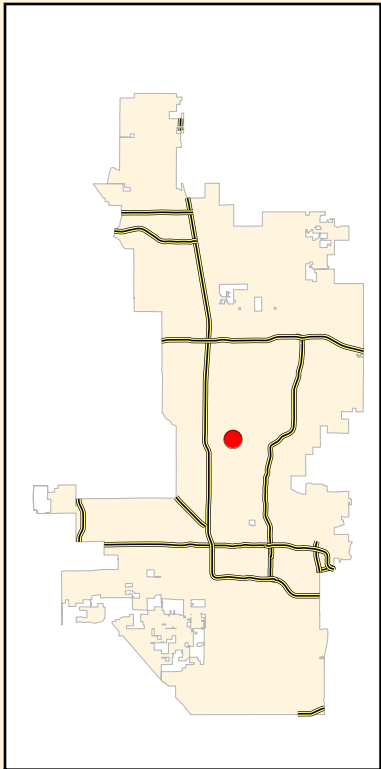
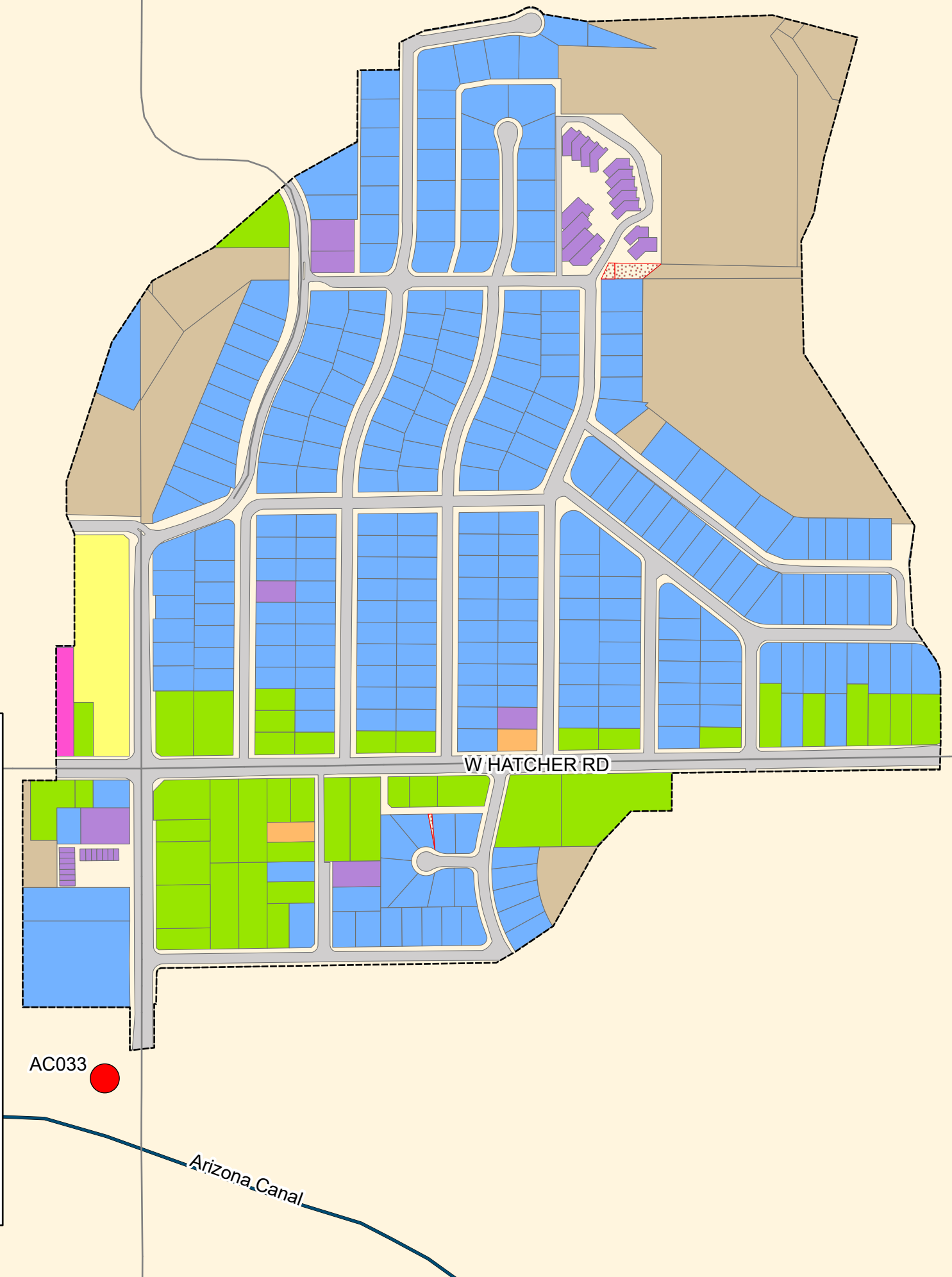
Land Use Areas



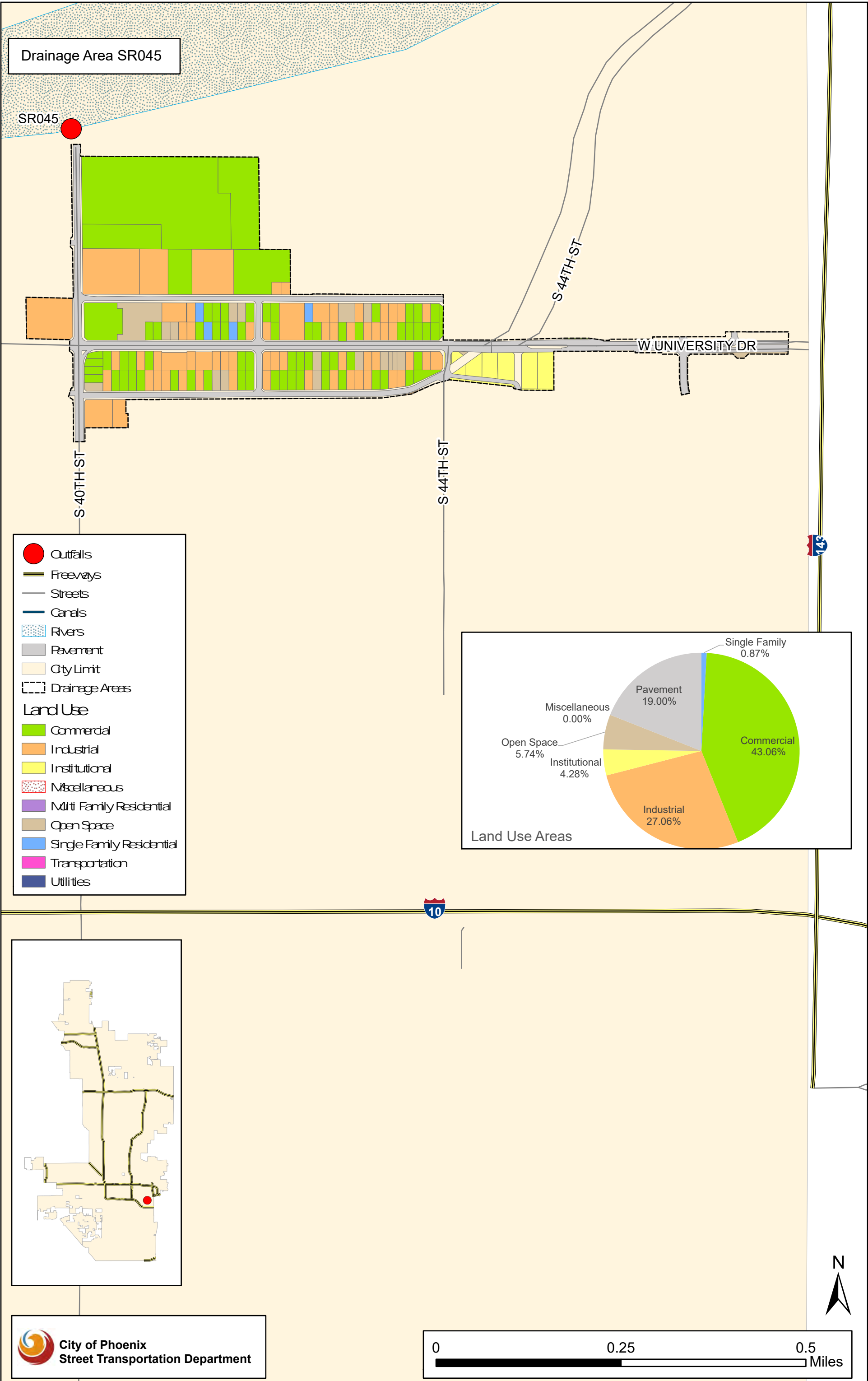
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Drainage Area AC033

-  Outfalls
-  Freeways
-  Streets
-  Canals
-  Rivers
-  Pavement
-  City Limit
-  Drainage Areas
- Land Use**
-  Commercial
-  Industrial
-  Institutional
-  Miscellaneous
-  Multi Family Residential
-  Open Space
-  Single Family Residential
-  Transportation
-  Utilities



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SR030


















Drainage Area SR030

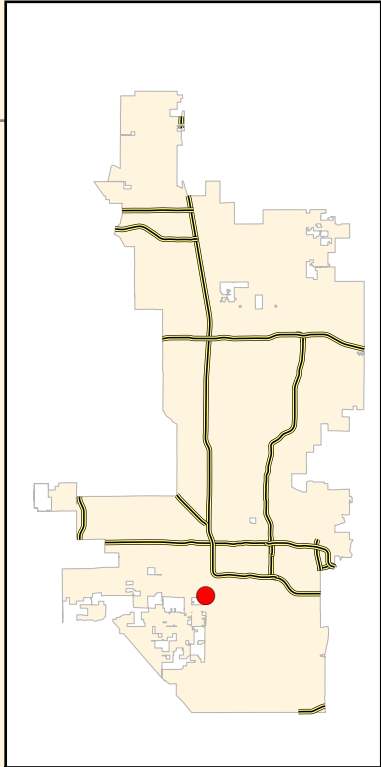
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S-19TH AVE

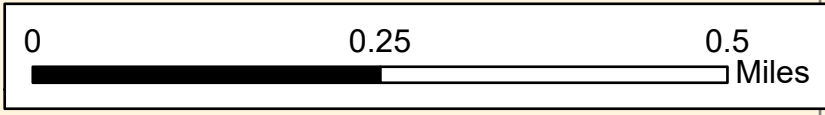
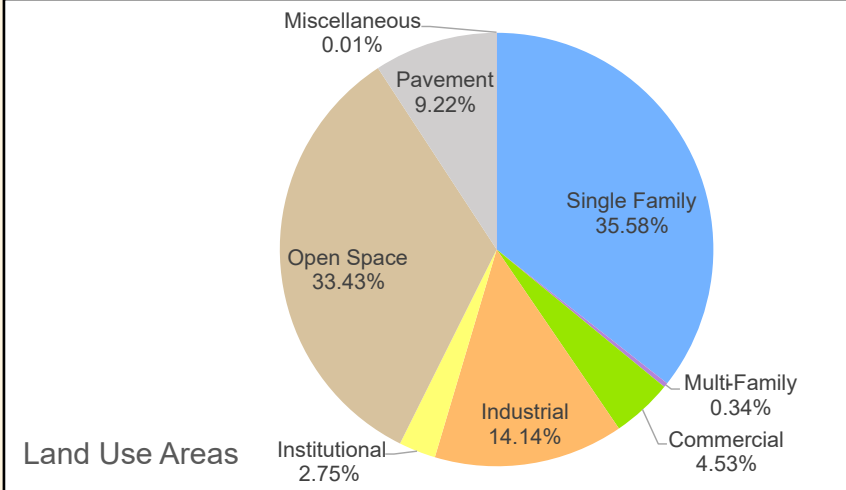
S-27TH AVE

W SOUTHERN AVE

-  Outfalls
 -  Freeways
 -  Streets
 -  Canals
 -  Rivers
 -  Pavement
 -  City Limit
 -  Drainage Areas
- Land Use**
-  Commercial
 -  Industrial
 -  Institutional
 -  Miscellaneous
 -  Multi Family Residential
 -  Open Space
 -  Single Family Residential
 -  Transportation
 -  Utilities
















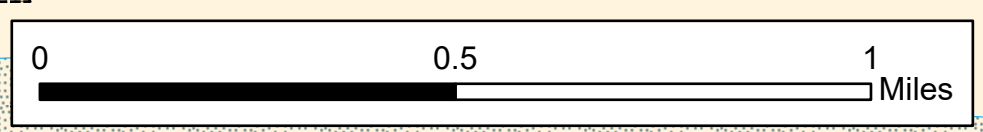
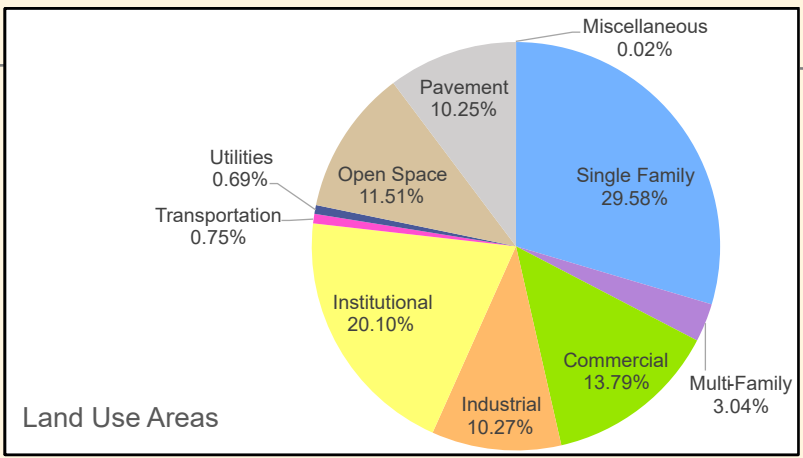
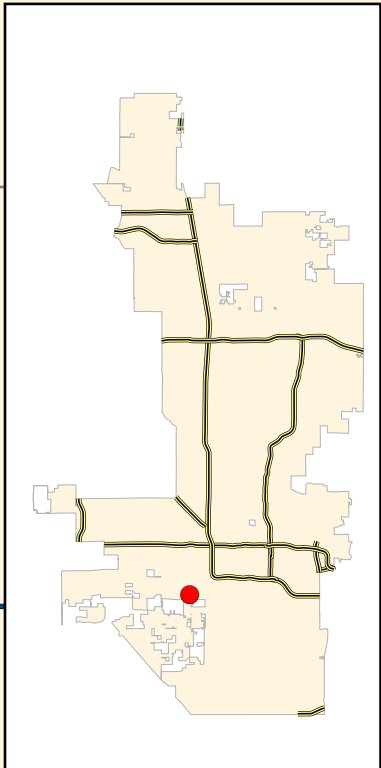
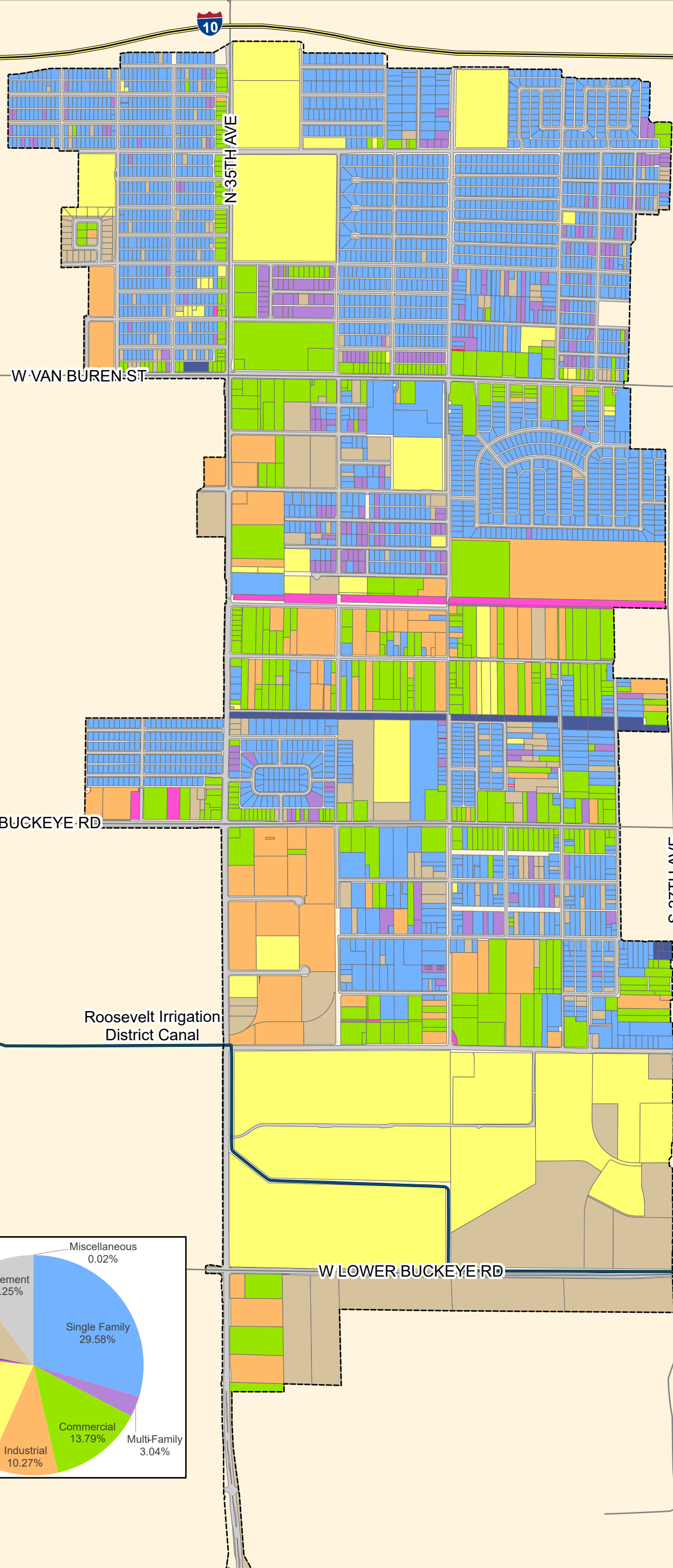
 **City of Phoenix**
Street Transportation Department



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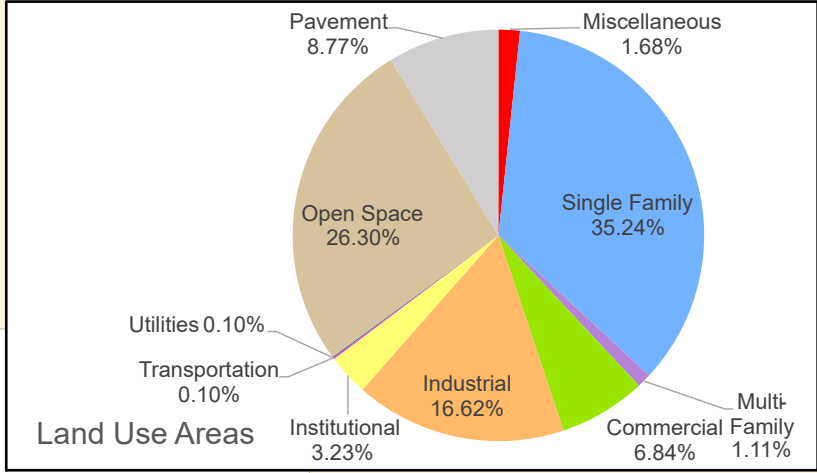
Drainage Area SR003

-  Outfalls
 -  Freeways
 -  Streets
 -  Canals
 -  Rivers
 -  Pavement
 -  City Limit
 -  Drainage Areas
- Land Use**
-  Commercial
 -  Industrial
 -  Institutional
 -  Miscellaneous
 -  Multi Family Residential
 -  Open Space
 -  Single Family Residential
 -  Transportation
 -  Utilities

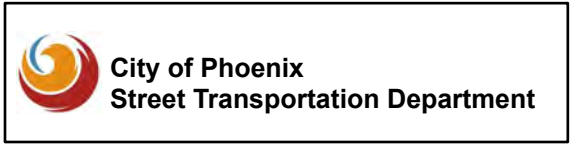
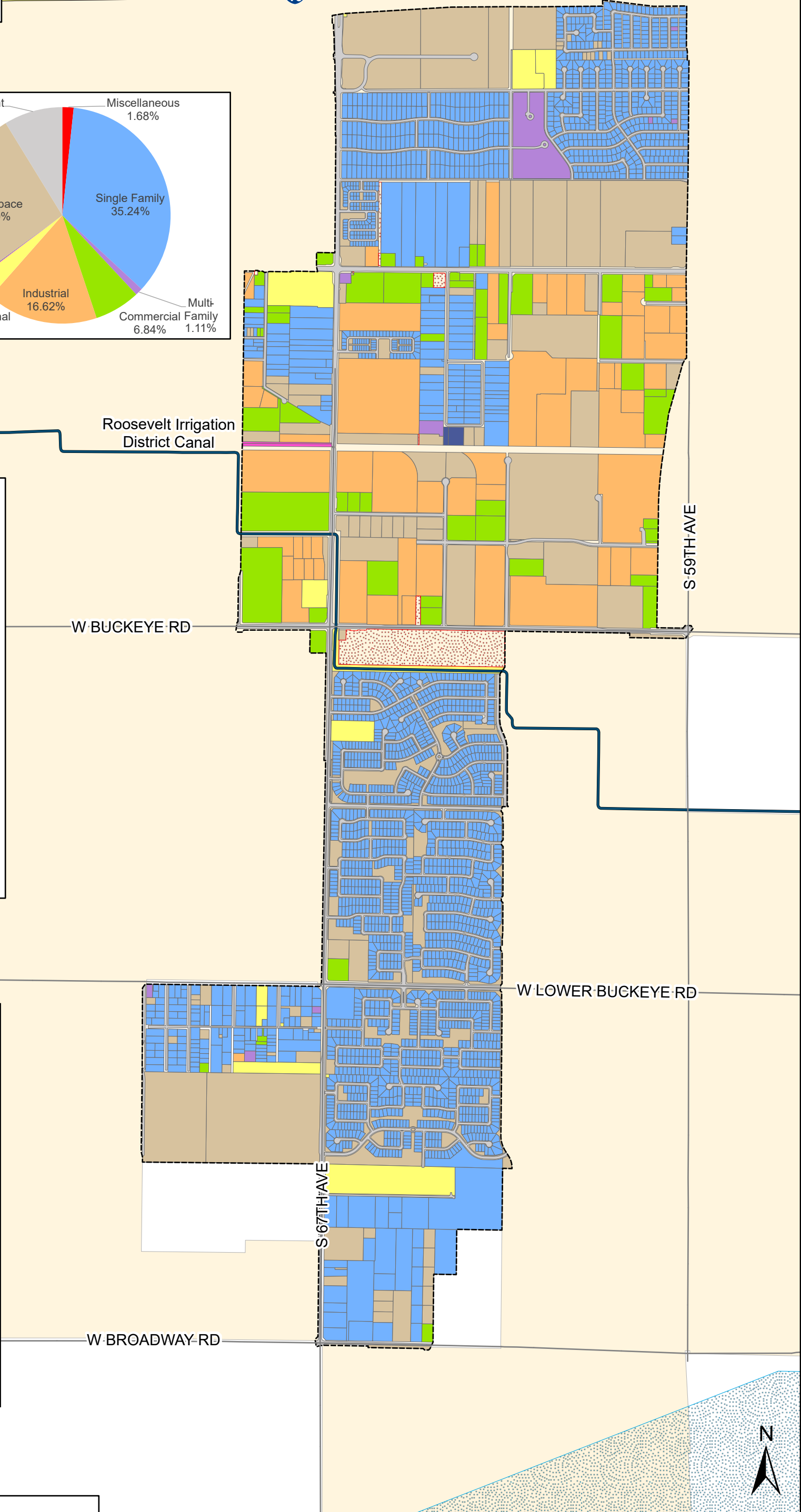
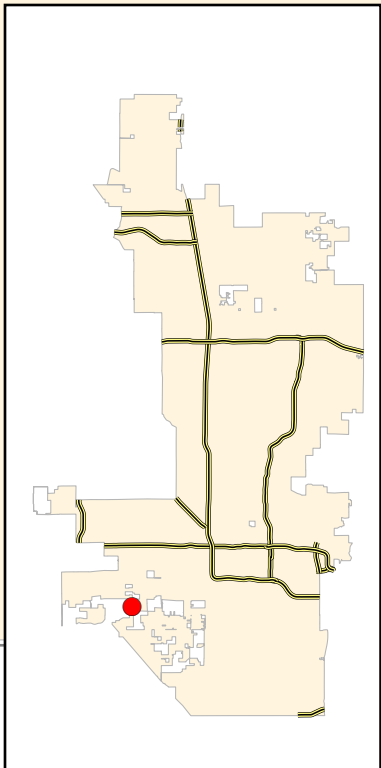


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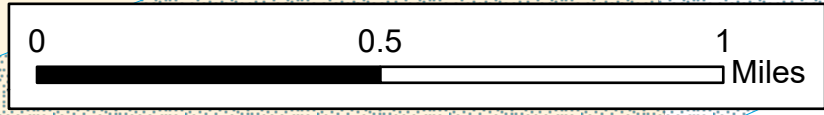
Drainage Area SR049



- Outfalls
- Freeways
- Streets
- Canals
- Rivers
- Pavement
- City Limit
- Drainage Areas
- Land Use**
- Commercial
- Industrial
- Institutional
- Miscellaneous
- Multi Family Residential
- Open Space
- Single Family Residential
- Transportation
- Utilities



SR049



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List of Major Outfalls

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Total Outfalls: 413

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
AC/DC-Arizona Canal Diversion Channel		Count	89				
AC070	Dunlap Ave And Short Tunnel N/A, Phoenix, AZ	33.57	-111.88	Pipe	60 Inches	02/23/2016	2021
AC081	Hwy 51 And Acdc Channel N/A, Phoenix, AZ	33.57	-111.88	Box	6 x 6 Feet	03/29/2016	2021
AC083	24th St. Water Treatment Plant And Acdc Channel N	33.57	-111.88	Pipe	36 Inches	03/29/2016	2021
AC085	2 Mile Tunnel And Acdc Channel N/A, Phoenix, AZ	33.57	-111.88	Pipe	30 Inches	03/09/2016	2021
AC001	51st Ave And Cactus Road N/A, Phoenix, AZ	33.60	-111.83	Pipe	78 Inches	02/12/2016	2021
AC002	43rd Ave And Peoria Ave N/A, Phoenix, AZ	33.58	-111.85	Pipe	90 Inches	03/29/2017	2022
AC003	43rd Ave And Peoria Ave N/A, Phoenix, AZ	33.58	-111.85	Pipe	42 Inches	02/11/2016	2021
AC004	35th Ave And Acdc Channel N/A, Phoenix, AZ	33.57	-111.87	Pipe	96 Inches	03/29/2017	2022
AC005	30th Ave And Metrocenter N/A, Phoenix, AZ	33.57	-111.87	Pipe	53 Inches	03/28/2017	2022
AC006	29th Ave And Metrocenter N/A, Phoenix, AZ	33.57	-111.88	Pipe	48 Inches	02/11/2016	2021
AC007	29th Ave And Metrocenter N/A, Phoenix, AZ	33.57	-111.88	Pipe	43 Inches	02/24/2016	2021
AC008	I-17 (Black Canyon Fwy) And Acdc Channel N/A, Phoe	33.57	-111.88	Pipe	27 Inches	02/23/2016	2021
AC010	19th Ave And Acdc Channel N/A, Phoenix, AZ	33.57	-111.90	Pipe	36 Inches	02/23/2016	2021
AC011	7th St And Acdc Channel N/A, Phoenix, AZ	33.60	-111.17	Pipe	42 Inches	02/23/2016	2021
AC012	18th Pl And Acdc Channel N/A, Phoenix, AZ	33.54	-111.96	Pipe	48 Inches	03/29/2016	2021
AC013	24th St. Water Treatment Plant And Acdc Channel N	33.53	-111.97	Pipe	36 Inches	03/09/2016	2021
AC014	2 Mile Tunnel And Acdc Channel N/A, Phoenix, AZ	33.60	-111.83	Pipe	36 Inches	03/09/2016	2021
AC015	33rd Dr And Acdc Channel N/A, Phoenix, AZ	33.57	-111.87	Pipe	12 Inches	02/11/2016	2021
AC018	18th Ave And Hatcher N/A, Phoenix, AZ	33.57	-111.90	Pipe	36 Inches	02/23/2016	2021
AC021	49th Dr And Acdc Channel N/A, Phoenix, AZ	33.59	-111.84	Spillway	50 Feet	02/11/2016	2021
AC022	Lupine Dr And Acdc Channel N/A, Phoenix, AZ	33.59	-111.84	Spillway	50 Feet	02/11/2016	2021
AC023	Yucca St And ACDC Channel N/A, Phoenix, AZ	33.59	-111.84	Spillway	27 Feet	02/11/2016	2021
AC024	39th Ave And Acdc Channel N/A, Phoenix, AZ	33.58	-111.86	Spillway	30 Feet	02/11/2016	2021
AC025	Ironwood Dr And Acdc Channel N/A, Phoenix, AZ	33.58	-111.86	Spillway	30 Feet	02/11/2016	2021
AC026	3rd St And Acdc Channel N/A, Phoenix, AZ	33.56	-111.94	Spillway	70 Feet	02/23/2016	2021
AC028	10th St And Acdc Channel N/A, Phoenix, AZ	33.56	-111.94	Spillway	100 Feet	02/23/2016	2021
AC029	12th St And Acdc Channel N/A, Phoenix, AZ	33.55	-111.94	Spillway	16 Feet	02/23/2016	2021

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
AC/DC-Arizona	Canal Diversion Channel	Count	89				
AC030	13th St And Orangewood N/A, Phoenix, AZ	33.54	-111.95	Spillway	50 Feet	02/23/2016	2021
AC031	14th St And State Ave N/A, Phoenix, AZ	33.54	-111.95	Spillway	90 Feet	03/29/2016	2021
AC033	7th Ave And Acdc Channel N/A, Phoenix, AZ	33.57	-112.08	Pipe	42 Inches	02/23/2016	2021
AC033	7th Ave And Acdc Channel N/A, Phoenix, AZ	33.57	-112.08	Pipe	42 Inches	02/23/2016	2021
AC033	7th Ave And Acdc Channel N/A, Phoenix, AZ	33.57	-112.08	Pipe	42 Inches	02/23/2016	2021
AC033	7th Ave And Acdc Channel N/A, Phoenix, AZ	33.57	-112.08	Pipe	42 Inches	02/23/2016	2021
AC034	12th Ave And Acdc Channel N/A, Phoenix, AZ	33.57	-111.91	Pipe	36 Inches	02/23/2016	2021
AC039	14th St And Acdc Channel N/A, Phoenix, AZ	33.58	-111.85	Pipe	36 Inches	03/29/2016	2021
AC044	6th St And Acdc Channel N/A, Phoenix, AZ	33.56	-111.93	Pipe	36 Inches	02/23/2016	2021
AC048	10th St And Acdc Channel N/A, Phoenix, AZ	33.56	-111.94	Pipe	96 Inches	02/23/2016	2021
AC106	2 Mile Tunnel And Acdc Channel N/A, Phoenix, AZ	33.52	-111.99	Pipe	36 Inches	03/09/2016	2021
AC128	7th Ave And Dunlap Ave N/A, Phoenix, AZ	33.57	-111.92	Pipe	12 Inches	02/15/2017	2022
AC130	Paradise Dr And Acdc N/A, Phoenix, AZ	33.59	-111.83	Spillway	64 Feet	02/11/2016	2021
AC131	47th Ave And Acdc N/A, Phoenix, AZ	33.59	-111.84	Spillway	64 Feet	02/11/2016	2021
AC132	46th Ave And Acdc N/A, Phoenix, AZ	33.58	-111.84	Spillway	32 Feet	02/11/2016	2021
AC133	43rd Ave And Acdc N/A, Phoenix, AZ	33.58	-111.85	Spillway	32 Feet	02/11/2016	2021
AC134	43rd Ave And Acdc N/A, Phoenix, AZ	33.58	-111.85	Spillway	32 Feet	02/11/2016	2021
AC135	43rd Ave And Acdc N/A, Phoenix, AZ	33.58	-111.85	Spillway	24 Feet	02/11/2016	2021
AC136	North Ln And Acdc N/A, Phoenix, AZ	33.58	-111.85	Spillway	24 Feet	02/11/2016	2021
AC137	41st Dr And Acdc N/A, Phoenix, AZ	33.58	-111.85	Spillway	24 Feet	02/11/2016	2021
AC138	41st Ln And Acdc N/A, Phoenix, AZ	33.58	-111.85	Spillway	24 Feet	02/11/2016	2021
AC139	41st Ave And Acdc N/A, Phoenix, AZ	33.58	-111.85	Spillway	24 Feet	02/11/2016	2021
AC140	40th Dr And Acdc N/A, Phoenix, AZ	33.58	-111.85	Spillway	24 Feet	02/11/2016	2021
AC141	40th Ln And Acdc N/A, Phoenix, AZ	33.58	-111.85	Spillway	24 Feet	02/11/2016	2021
AC142	40th Ave And Acdc N/A, Phoenix, AZ	33.58	-111.85	Spillway	24 Feet	02/11/2016	2021
AC143	39th Ln And Acdc N/A, Phoenix, AZ	33.58	-111.86	Spillway	24 Feet	02/11/2016	2021
AC144	37th Ave And Acdc N/A, Phoenix, AZ	33.57	-111.86	Spillway	64 Feet	02/11/2016	2021
AC145	36th Ave And Acdc N/A, Phoenix, AZ	33.57	-111.86	Spillway	40 Feet	02/23/2016	2021
AC146	33rd Ave And Acdc N/A, Phoenix, AZ	33.57	-111.13	Spillway	48 Feet	02/23/2016	2021
AC147	23rd Ave And Acdc N/A, Phoenix, AZ	33.57	-111.89	Spillway	40 Feet	02/23/2016	2021

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
AC/DC-Arizona	Canal Diversion Channel	Count	89				
AC148	21st Dr And Acdc N/A, Phoenix, AZ	33.57	-111.90	Spillway	40 Feet	02/23/2016	2021
AC150	20th Dr And Acdc N/A, Phoenix, AZ	33.57	-111.90	Spillway	50 Feet	02/23/2016	2021
AC151	20th Ave And Acdc N/A, Phoenix, AZ	33.57	-111.90	Spillway	40 Feet	02/23/2016	2021
AC152	20th Dr And Acdc N/A, Phoenix, AZ	33.57	-111.90	Spillway	24 Feet	02/23/2016	2021
AC153	16th Ave And Acdc N/A, Phoenix, AZ	33.57	-111.91	Spillway	36 Feet	02/23/2016	2021
AC154	15th Ave And Acdc N/A, Phoenix, AZ	33.57	-111.91	Spillway	60 Feet	02/23/2016	2021
AC155	14th Ave And Acdc N/A, Phoenix, AZ	33.57	-111.91	Spillway	60 Feet	02/23/2016	2021
AC156	13th Ave And Acdc N/A, Phoenix, AZ	33.57	-111.91	Spillway	60 Feet	02/23/2016	2021
AC157	9th Ave And Acdc N/A, Phoenix, AZ	33.57	-111.91	Spillway	46 Feet	02/23/2016	2021
AC158	8th Ave And Acdc N/A, Phoenix, AZ	33.57	-111.92	Spillway	48 Feet	02/23/2016	2021
AC159	Central Ave And Short Channel N/A, Phoenix, AZ	33.56	-111.93	Spillway	30 Feet	02/23/2016	2021
AC160	8th St And Acdc N/A, Phoenix, AZ	33.56	-111.94	Spillway	24 Feet	02/23/2016	2021
AC161	8th Pl And Acdc N/A, Phoenix, AZ	33.56	-111.94	Spillway	24 Feet	02/23/2016	2021
AC162	Harmont Dr And Acdc N/A, Phoenix, AZ	33.55	-111.94	Spillway	56 Feet	02/23/2016	2021
AC163	Northern Ave And Acdc N/A, Phoenix, AZ	33.55	-111.94	Spillway	80 Feet	02/23/2016	2021
AC165	E Desert Park Ln And Acdc N/A, Phoenix, AZ	33.55	-111.94	Spillway	40 Feet	02/23/2016	2021
AC166	Haywood Ave And Acdc N/A, Phoenix, AZ	33.55	-111.94	Spillway	40 Feet	02/23/2016	2021
AC169	Morten Ave And Acdc N/A, Phoenix, AZ	33.55	-111.94	Spillway	40 Feet	02/23/2016	2021
AC171	15th St And Acdc N/A, Phoenix, AZ	33.54	-111.95	Spillway	320 Feet	03/29/2016	2021
AC173	17th St And Acdc N/A, Phoenix, AZ	33.54	-111.96	Spillway	40 Feet	03/29/2016	2021
AC176	19th St And Acdc N/A, Phoenix, AZ	33.53	-111.96	Spillway	80 Feet	03/29/2016	2021
AC177	20th St And Acdc N/A, Phoenix, AZ	33.53	-111.96	Spillway	40 Feet	03/29/2016	2021
AC178	Maryland Ave And Acdc N/A, Phoenix, AZ	33.53	-111.96	Spillway	24 Feet	03/29/2016	2021
AC179	Maryland Ave And Acdc N/A, Phoenix, AZ	33.53	-111.04	Spillway	40 Feet	03/29/2016	2021
AC180	Maryland Ave And Acdc N/A, Phoenix, AZ	33.53	-111.96	Spillway	32 Feet	03/29/2016	2021
AC181	Maryland Ave And Acdc N/A, Phoenix, AZ	33.53	-111.96	Spillway	40 Feet	03/29/2016	2021
AC182	Marlette Ave And Acdc N/A, Phoenix, AZ	33.53	-111.96	Spillway	32 Feet	03/29/2016	2021
AC183	Claremont St And Acdc N/A, Phoenix, AZ	33.53	-111.96	Spillway	32 Feet	03/29/2016	2021
AC184	Squaw Peak Water Treatment Plant And Acdc N/A, Pho	33.53	-111.97	Spillway	72 Feet	03/29/2016	2021
AC191	I-17 And Acdc Channel N/A, Phoenix, AZ	33.57	-111.88	Spillway	31 Feet	03/29/2016	2021

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
AC/DC-Arizona Canal Diversion Channel		Count	89				
AC192	3858 W Malapai Dr, Phoenix, AZ 85051	33.58	-112.14	Spillway	25 Feet	02/11/2016	2021
AC193	3848 W Malapai Dr, Phoenix, AZ	33.58	-111.86	Spillway	25 Feet	02/11/2016	2021
AC194	3832 W Malapai Dr. N/A, Phoenix, AZ	33.58	-111.86	Spillway	25 Feet	02/11/2016	2021
AC195	9th Avenue And Acdc Channel N/A, Phoenix, AZ	33.57	112.08	Pipe	72 Inches	09/07/2016	2021
AC196	1330 North State Ave And Acdc N/A, Phoenix, AZ	33.54	112.05	Spillway	5 Feet	02/24/2017	2022
AF-Agua Fria		Count	4				
AF002	Encanto Blvd And Sr101 West (9500 W) N/A, Phoenix,	33.47	-111.73	Pipe	42 Inches	07/16/2015	2020
AF003	Mcdowell Rd And Sr101 West (9700 W) N/A, Phoenix,	33.47	-111.73	Box	4 x 11 Feet	07/16/2015	2020
AF005	Camelback Rd And Sr Loop 101 N/A, Phoenix, AZ	33.51	-111.73	Pipe	35 Inches	07/16/2015	2020
AF006	Camelback Road And 114th Aveune N/A, Phoenix, AZ	33.51	-111.70	Pipe	60 Inches	07/16/2015	2020
AZ-Arizona Canal		Count	7				
AZ001	Arizona Canal And 42nd St N/A, Phoenix, AZ	33.51	-111.99	Pipe	36 Inches	02/10/2020	2025
AZ002	Arizona Canal And 56th St N/A, Phoenix, AZ	33.49	-111.96	Pipe	48 Inches	02/04/2020	2025
AZ003	Arizona Canal And 57th St N/A, Phoenix, AZ	33.49	-111.96	Pipe	48 Inches	02/04/2020	2025
AZ024	Arizona Canal And 21st St N/A, Phoenix, AZ	33.53	-112.03	Pipe	36 Inches	02/10/2020	2025
AZ025	Arizona Canal And 21st St N/A, Phoenix, AZ	33.53	-112.03	Pipe	36 Inches	02/10/2020	2025
AZ028	Arizona Canal And 56th St N/A, Phoenix, AZ	33.49	-111.96	Spillway	6 Feet	02/04/2020	2025
AZ030	Arizona Canal And 44th St N/A, Phoenix, AZ	33.50	-111.99	Spillway	6 Feet	02/10/2020	2025
CC-Cave Creek Wash		Count	47				
CC002	23rd Ave And Vogel Ave N/A, Phoenix, AZ	33.57	-112.11	Pipe	48 Inches	07/16/2019	2024
CC003	Peoria Ave And Cave Creek Wash N/A, Phoenix, AZ	33.58	-112.11	Pipe	84 Inches	07/16/2019	2024
CC004	25th Ave And Cholla Rd N/A, Phoenix, AZ	33.59	-112.11	Pipe	78 Inches	07/23/2019	2024
CC005	25th Ave And Cactus Rd N/A, Phoenix, AZ	33.60	-112.11	Pipe	48 Inches	06/03/2020	2025
CC006	25th Ave And Larkspur Dr N/A, Phoenix, AZ	33.60	-112.11	Pipe	30 Inches	08/27/2019	2024
CC008	23rd Ave And Thunderbird Rd N/A, Phoenix, AZ	33.61	-112.11	Pipe	72 Inches	09/10/2019	2024
CC010	19th Ave And Greenway Rd N/A, Phoenix, AZ	33.62	-112.10	Pipe	90 Inches	09/13/2019	2024
CC042	17407 N 8th Ave, Phoenix, AZ	33.64	-112.08	Spillway	10 Feet	10/10/2019	2024
CC043	7th Ave And Cave Creek Wash N/A, Phoenix, AZ	33.64	-112.08	Pipe	60 Inches	10/10/2019	2024
CC044	3rd Ave And Grovers Ave N/A, Phoenix, AZ	33.65	-112.08	Spillway	16 Feet	10/10/2019	2024
CC045	5th Ave And Michelle Dr N/A, Phoenix, AZ	33.65	-112.08	Spillway	10 Feet	10/23/2019	2024
CC046	5th Ave And Michigan Ave N/A, Phoenix, AZ	33.65	-112.08	Spillway	10 Feet	10/23/2019	2024

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
CC-Cave Creek Wash		Count	47				
CC047	232 W Michigan Ave, Phoenix, AZ 85023	33.65	-112.08	Spillway	14 Feet	10/23/2019	2024
CC048	5th Ave And Bluefield Cir N/A, Phoenix, AZ	33.65	-112.08	Spillway	10 Feet	10/23/2019	2024
CC049	237 W Wagoner Rd, Phoenix, AZ 85023	33.65	-112.08	Spillway	8 Feet	10/23/2019	2024
CC050	Union Hills Dr And Cave Creek Wash N/A, Phoenix, A	33.65	-112.08	Pipe	72 Inches	10/23/2019	2024
CC052	15478 N 13th Ave, Phoenix, AZ	33.63	-112.09	Spillway	10 Feet	10/03/2019	2024
CC055	19th Ave And Greenway Rd N/A, Phoenix, AZ	33.62	-112.10	Spillway	3 x 6 Feet	09/13/2019	2024
CC056	19th Ave And Greenway Rd N/A, Phoenix, AZ	33.62	-112.10	Spillway	3 x 6 Feet	09/13/2019	2024
CC057	Cave Creek Golf Course At Acoma Dr N/A, Phoenix, A	33.62	-112.11	Pipe	42 Inches	09/10/2019	2024
CC060	18019 N Villa Rita Dr, Phoenix, AZ	33.65	-112.08	Spillway	18 Feet	04/21/2020	2025
CC062	19823 N 3rd St, Phoenix, AZ	33.67	-112.07	Spillway	29 Feet	11/13/2019	2024
CC063	19819 N 3rd St, Phoenix, AZ	33.67	-112.07	Spillway	20 Feet	11/13/2019	2024
CC064	19801 N 3rd St, Phoenix, AZ	33.67	-112.07	Spillway	7 Feet	11/13/2019	2024
CC065	301 E Behrend Dr, Phoenix, AZ 85024	33.67	-112.07	Spillway	9 Feet	11/13/2019	2024
CC066	301 E Wikieup Ln, Phoenix, AZ 85024	33.67	-112.07	Spillway	9 Feet	11/13/2019	2024
CC067	301 E Sequoia Dr, Phoenix, AZ 85024	33.66	-112.07	Spillway	9 Feet	11/13/2019	2024
CC068	301 E Oraibi Dr, Phoenix, AZ 85024	33.66	-112.07	Spillway	9 Feet	11/13/2019	2024
CC069	301 E Piute Ave, Phoenix, AZ 85024	33.66	-112.07	Spillway	9 Feet	11/13/2019	2024
CC070	301 E Utopia Rd, Phoenix, AZ 85024	33.66	-112.07	Spillway	9 Feet	11/13/2019	2024
CC071	401 E Wescott Dr, Phoenix, AZ 85024	33.66	-112.07	Spillway	13 Feet	11/13/2019	2024
CC072	18650 N 2nd Ave, Phoenix, AZ	33.66	-112.08	Spillway	12 Feet	11/13/2019	2024
CC073	18819 N 2nd Ave, Phoenix, AZ	33.66	-112.08	Spillway	10 Feet	11/13/2019	2024
CC074	18802 N 2nd Dr, Phoenix, AZ	33.66	-112.08	Spillway	9 Feet	11/13/2019	2024
CC075	201 W Taro Ln, Phoenix, AZ 85027	33.66	-112.08	Spillway	10 Feet	11/13/2019	2024
CC076	27th Ave And Cholla Rd N/A, Phoenix, AZ	33.59	-112.11	Spillway	62 Feet	08/22/2019	2024
CC077	519 W Helena Dr, Phoenix, AZ 85023	33.64	-112.08	Spillway	15 Feet	10/10/2019	2024
CC078	4th Ave And Muriel Dr N/A, Phoenix, AZ	33.65	-112.08	Spillway	24 Feet	10/10/2019	2024
CC079	4th Ave And Angela Dr N/A, Phoenix, AZ	33.65	-112.08	Spillway	16 Feet	10/10/2019	2024
CC080	4th Ave And Angela Dr N/A, Phoenix, AZ	33.65	-112.08	Spillway	16 Feet	10/10/2019	2024
CC081	17415 N 6th Ave, Phoenix, AZ	33.64	-112.08	Spillway	19 Feet	10/10/2019	2024
CC024	Shangri-La Rd And Cave Creek Wash N/A, Phoenix, AZ	33.59	-112.11	Pipe	36 Inches	08/15/2019	2024

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
CC-Cave Creek Wash		Count	47				
CC041	901 W Danbury Rd, Phoenix, AZ 85023	33.64	-112.08	Spillway	10 Feet	10/10/2019	2024
CC082	Cave Creek Gc And Cave Creek Wash N/A, Phoenix, AZ	33.62	-112.11	Pipe	42 Inches	10/17/2019	2024
CC083	23rd Ave And Greenway Rd N/A, Phoenix, AZ	33.62	-112.11	Pipe	48 Inches	10/17/2019	2024
CC094	7th St And Lone Cactus N/A, Phoenix, AZ	33.68	-112.07	Pipe	54 Inches	11/19/2019	2024
CC087	Deer Valley Road And 11th Pl N/A, Phoenix, AZ	33.68	-112.06	Pipe	66 Inches	11/19/2019	2024
CO-Charter Oak		Count	18				
CO001	Nisbet Rd And 42nd St N/A, Phoenix, AZ	33.62	111.99	Spillway	5 Feet	12/13/2016	2021
CO003	42nd St And Whitney Ln N/A, Phoenix, AZ	33.62	111.99	Spillway	11 Feet	12/13/2016	2021
CO005	42nd St. South Of Acoma Dr. East Side Of Channel N	33.62	111.99	Spillway	5 Feet	12/13/2016	2021
CO006	Located At 14245 N. 42nd St. East Side Of Channel	33.62	111.99	Spillway	5 Feet	12/13/2016	2021
CO007	42nd St And Hearn Rd. East Side Of Channel N/A, Ph	33.62	111.99	Spillway	9 Feet	12/13/2016	2021
CO008	41st Place And Gelding Dr. N/A, Phoenix, AZ	33.62	111.99	Spillway	30 Feet	12/14/2016	2021
CO009	41st Place And Sheena Dr. N/A, Phoenix, AZ	33.61	111.99	Spillway	9 Feet	12/14/2016	2021
CO010	Thunderbird Rd And 41st Pl N/A, Phoenix, AZ	33.61	111.99	Spillway	5 Feet	12/14/2016	2021
CO011	Thunderbird Rd And 41st Place N/A, Phoenix, AZ	33.61	111.99	Spillway	5 Feet	12/14/2016	2021
CO012	4202 E 4202 East Sheena Dr. Dr, Phoenix, AZ	33.61	111.99	Spillway	10 Feet	12/14/2016	2021
CO013	4202 E Redfield Dr, Phoenix, AZ	33.61	111.99	Spillway	10 Feet	12/14/2016	2021
CO014	Thunderbird Rd And 41st Place N/A, Phoenix, AZ	33.61	111.99	Spillway	5 Feet	12/14/2016	2021
CO015	Thunderbird Rd And 41st Place N/A, Phoenix, AZ	33.61	111.99	Spillway	5 Feet	12/14/2016	2021
CO017	4215 E Andora Dr, Phoenix, AZ	33.61	111.99	Spillway	4 Feet	12/14/2016	2021
CO018	13221 N 42nd St, Phoenix, AZ	33.61	111.99	Spillway	9 Feet	12/14/2016	2021
CO019	13021 N 42nd St, Phoenix, AZ	33.61	111.99	Spillway	9 Feet	12/15/2016	2021
CO020	4156 E Sweetwater Ave, Phoenix, AZ	33.60	111.99	Spillway	5 Feet	12/15/2016	2021
CO021	4127 E Windrose Dr, Phoenix, AZ	33.60	111.99	Spillway	9 Feet	12/15/2016	2021
EF-East Fork of Cave Creek		Count	57				
EF036	15803 N 4th Dr, Phoenix, AZ	33.63	-111.92	Spillway	14 Feet	08/27/2015	2020
EF037	Moon Valley Park N/A, Phoenix, AZ	33.63	-111.92	Pipe	5 Feet	08/27/2015	2020
EF038	214 W Kathleen Rd, Phoenix, AZ 85023	33.63	-112.08	Spillway	10 Feet	08/27/2015	2020
EF039	16042 N 1st St, Phoenix, AZ	33.63	-111.93	Pipe	8 Feet	08/27/2015	2020
EF040	1407 W Beck Ln, Phoenix, AZ 85023	33.63	-112.09	Spillway	21 Feet	08/26/2015	2020
EF041	1101 W Beck Ln, Phoenix, AZ 85023	33.63	-112.09	Spillway	19 Feet	08/26/2015	2020

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
EF-East Fork of Cave Creek		Count	57				
EF042	15406 N 7th Dr, Phoenix, AZ	33.63	-111.92	Spillway	25 Feet	08/26/2015	2020
EF043	1527 W Caribbean Ln, Phoenix, AZ 85023	33.62	-112.09	Spillway	10 Feet	08/26/2015	2020
EF044	1445 W Caribbean Ln, Phoenix, AZ 85023	33.62	-112.09	Spillway	6 Feet	08/26/2015	2020
EF045	1455 W Caribbean Ln, Phoenix, AZ 85023	33.62	-112.09	Spillway	10 Feet	08/26/2015	2020
EF046	1503 W Caribbean Ln, Phoenix, AZ 85023	33.62	-112.09	Spillway	6 Feet	08/26/2015	2020
EF051	19th Pl And Greenway Pkwy N/A, Phoenix, AZ	33.63	-111.96	Pipe	36 Inches	09/30/2015	2020
EF052	Cave Creek Rd And Greenway Pkwy N/A, Phoenix, AZ	33.63	-111.97	Spillway	48 Feet	08/19/2015	2020
EF053	1802 E Paradise Ln, Phoenix, AZ 85022	33.63	-112.04	Spillway	18 Feet	08/20/2015	2020
EF054	16th St And Greenway Pkwy N/A, Phoenix, AZ	33.64	-111.95	Spillway	23 Feet	08/20/2015	2020
EF055	16th St And Greenway Pkwy N/A, Phoenix, AZ	33.64	-111.95	Spillway	14 Feet	08/20/2015	2020
EF056	1610 E Sandra Ter, Phoenix, AZ	33.64	-111.95	Spillway	6 Feet	08/20/2015	2020
EF057	1526 W Caribbean Ln, Phoenix, AZ 85023	33.62	-112.09	Spillway	12 Feet	08/26/2015	2020
EF058	15406 N 7th Dr, Phoenix, AZ	33.63	-111.92	Pipe	90 Inches	08/26/2015	2020
EF063	7th St And Greenway Pkwy N/A, Phoenix, AZ	33.64	-111.93	Spillway	150 Feet	08/27/2015	2020
EF001	Cave Creek Rd And Greenway Pkwy N/A, Phoenix, AZ	33.63	-111.97	Pipe	72 Inches	09/30/2015	2020
EF002	16th St And Greenway Pkwy N/A, Phoenix, AZ	33.63	-111.96	Pipe	84 Inches	09/30/2015	2020
EF003	18th St And Greenway Pkwy N/A, Phoenix, AZ	33.63	-111.96	Pipe	84 Inches	09/30/2015	2020
EF004	20th St And Greenway Pkwy N/A, Phoenix, AZ	33.63	-111.96	Pipe	96 Inches	09/30/2015	2020
EF006	9th St And Greenway Pkwy N/A, Phoenix, AZ	33.64	-111.94	Pipe	96 Inches	08/20/2015	2020
EF007	9th St And Greenway Pkwy N/A, Phoenix, AZ	33.64	-111.94	Pipe	36 Inches	08/27/2015	2020
EF008	Cave Creek Rd And Greenway Pkwy N/A, Phoenix, AZ	33.63	-111.97	Pipe	72 Inches	10/01/2015	2020
EF009	16th St And Greenway Pkwy N/A, Phoenix, AZ	33.64	-111.95	Pipe	48 Inches	09/30/2015	2020
EF010	7th St And Greenway Pkwy N/A, Phoenix, AZ	33.64	-111.93	Pipe	84 Inches	08/21/2015	2020
EF011	7th St And Greenway Pkwy N/A, Phoenix, AZ	33.64	-111.93	Pipe	36 Inches	08/20/2015	2020
EF012	7th St And Greenway Pkwy N/A, Phoenix, AZ	33.64	-111.93	Pipe	36 Inches	08/20/2015	2020
EF013	Cave Creek Rd And Greenway Pkwy N/A, Phoenix, AZ	33.63	-111.97	Spillway	22 Feet	08/19/2015	2020
EF014	22nd Pl And Monte Cristo N/A, Phoenix, AZ	33.63	-111.97	Spillway	50 Feet	08/19/2015	2020
EF015	22nd St And East Fork N/A, Phoenix, AZ	33.63	-111.97	Pipe	36 Inches	09/30/2015	2020
EF016	22nd St And East Fork N/A, Phoenix, AZ	33.63	-111.97	Pipe	36 Inches	09/30/2015	2020
EF017	22nd St And Monte Cristo N/A, Phoenix, AZ	33.63	-111.96	Spillway	40 Feet	08/19/2015	2020

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
EF-East Fork of Cave Creek		Count	57				
EF018	21st St And East Fork N/A, Phoenix, AZ	33.63	-111.96	Pipe	36 Inches	09/30/2015	2020
EF019	21st St And East Fork N/A, Phoenix, AZ	33.63	-111.96	Pipe	42 Inches	09/30/2015	2020
EF020	20th Pl And Monte Cristo N/A, Phoenix, AZ	33.63	-111.96	Spillway	12 Feet	08/19/2015	2020
EF021	2012 E Monte Cristo Ave, Phoenix, AZ 85022	33.63	-112.04	Spillway	21 Feet	08/19/2015	2020
EF022	20th St And Greenway Pkwy N/A, Phoenix, AZ	33.63	-111.96	Spillway	15 Feet	08/19/2015	2020
EF023	19th St And East Fork (1926 E Monte Cristo) N/A, P	33.63	-111.96	Spillway	10 Feet	08/19/2015	2020
EF025	1410 E Sandra Ter, Phoenix, AZ	33.64	-111.95	Spillway	15 Feet	08/19/2015	2020
EF026	14th St And Grandview Rd N/A, Phoenix, AZ	33.64	-111.95	Spillway	21 Feet	08/19/2015	2020
EF027	12th St And East Fork N/A, Phoenix, AZ	33.64	-111.94	Box	36 Feet	08/26/2015	2020
EF028	16431 N 12th St, Phoenix, AZ	33.64	-111.94	Spillway	50 Feet	08/19/2015	2020
EF033	301 W Lemarche Ave, Phoenix, AZ	33.63	-111.92	Spillway	10 Feet	08/27/2015	2020
EF034	301 W Monte Cristo Ave, Phoenix, AZ 85023	33.63	-112.08	Pipe	6 Feet	08/27/2015	2020
EF035	15802 N 4th Ave, Phoenix, AZ	33.63	-111.92	Spillway	12 Feet	08/27/2015	2020
EF069	Utopia Rd Between 27th And 28th Street N/A, Phoeni	33.66	112.02	Pipe	48 Inches	07/22/2015	2020
EF070	Utopia Road Between 27th And 28th St. N/A, Phoenix	33.66	112.02	Pipe	96 Inches	07/22/2015	2020
EF086	20300 N 26th St, Phoenix, AZ	33.67	112.04	Pipe	76 Inches	07/24/2015	2020
EF087	20300 N 26th St, Phoenix, AZ	33.67	112.02	Pipe	76 Inches	07/24/2015	2020
EF088	Cave Creek And 101 N/A, Phoenix, AZ	33.67	112.04	Pipe	58 Inches	07/24/2015	2020
EF091	2302 E Grovers Ave, Phoenix, AZ	33.66	112.04	Pipe	96 Inches	08/04/2015	2020
EF065	Union Hills And 25th Way N/A, Phoenix, AZ	33.65	112.03	Pipe	48 Inches	07/22/2015	2020
EF066	Union Hills And 25th Way N/A, Phoenix, AZ	33.65	112.03	Pipe	63 Inches	07/22/2015	2020
GC-Grand Canal		Count	3				
GC001	Grand Ave And Grand Canal N/A, Phoenix, AZ	33.49	-112.13	Pipe	24 Inches	01/28/2020	2025
GC002	Grand Ave And Grand Canal N/A, Phoenix, AZ	33.49	-112.13	Pipe	36 Inches	02/03/2020	2025
GC033	Grand Canal And E Of Pueblo Grande Museum Park N/A	33.44	-111.98	Spillway	14 Feet	01/14/2020	2025
IB-Indian Bend Wash		Count	21				
IB001	52nd St And Shea Blvd N/A, Phoenix, AZ 85253	33.58	-111.97	Pipe	36 Inches	09/26/2018	2023
IB002	52nd St And Shea Blvd N/A, Phoenix, AZ 85253	33.58	-111.97	Pipe	84 Inches	09/26/2018	2023
IB003	Tatum Blvd And Cholla St N/A, Phoenix, AZ 85254	33.59	-111.98	Pipe	66 Inches	09/26/2018	2023
IB004	Tatum Blvd And Cholla St N/A, Phoenix, AZ 85028	33.59	-111.98	Pipe	66 Inches	09/26/2018	2023
IB005	52nd St And Indian Bend Wash N/A, Phoenix, AZ 8525	33.58	-111.97	Box	14 x 3 Feet	09/26/2018	2023

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
IB-Indian Bend Wash		Count	21				
IB007	36th St And Sweetwater Ave N/A, Phoenix, AZ	33.60	-112.00	Pipe	78 Inches	09/11/2018	2023
IB008	40th St And Indian Bend Wash N/A, Phoenix, AZ 8503	33.60	-112.00	Pipe	66 Inches	04/21/2020	2021
IB008	40th St And Indian Bend Wash N/A, Phoenix, AZ 8503	33.60	-112.00	Pipe	66 Inches	04/21/2020	2021
IB008	40th St And Indian Bend Wash N/A, Phoenix, AZ 8503	33.60	-112.00	Pipe	66 Inches	04/21/2020	2021
IB008	40th St And Indian Bend Wash N/A, Phoenix, AZ 8503	33.60	-112.00	Pipe	66 Inches	04/21/2020	2021
IB010	40th Street And Indian Bend Wash. North Side Of Wa	33.60	-112.00	Pipe	36 Inches	09/11/2018	2023
IB011	56th St And Indian Bend Wash N/A, Phoenix, AZ 8525	33.57	-111.96	Pipe	66 Inches	10/11/2018	2023
IB013	Cactus Rd And Indian Bend Wash N/A, Phoenix, AZ 85	33.60	-111.99	Pipe	72 Inches	09/12/2018	2023
IB016	Tatum Blvd And Cholla St N/A, Phoenix, AZ 85254	33.59	-111.98	Pipe	36 Inches	09/26/2018	2023
IB018	Cactus Rd And Indian Bend Wash N/A, Phoenix, AZ 85	33.60	-111.99	Pipe	72 Inches	04/21/2020	2021
IB021	10202 N 54th Pl, Phoenix, AZ 85253	33.58	-111.96	Pipe	36 Inches	10/11/2018	2023
IB024	3631 E Dahlia Dr, Phoenix, AZ 85032	33.60	-112.00	Spillway	21 Feet	08/23/2018	2023
IB026	12806 N 37th Ct, Phoenix, AZ 85032	33.60	-112.00	Spillway	8 Feet	08/23/2018	2023
IB035	Thunderbird Rd And Indian Bend Wash N/A, Phoenix,	33.61	-112.01	Pipe	60 Inches	08/22/2018	2023
IB036	Thunderbird Rd And Indian Bend Wash N/A, Phoenix,	33.61	-112.01	Pipe	60 Inches	08/22/2018	2023
IB037	Thunderbird Rd And Indian Bend Wash N/A, Phoenix,	33.61	-112.01	Box	6 x 10 Feet	08/22/2018	2023
IB038	Thunderbird Rd And Indian Bend Wash N/A, Phoenix,	33.61	-112.01	Pipe	84 Inches	08/22/2018	2023
IB045	4943 E Cholla St, Phoenix, AZ 85254	33.59	-111.97	Spillway	7 Feet	10/11/2018	2023
IB050	40th St And Indian Bend Wash. North Side Of Wash.	33.60	-112.00	Pipe	48 Inches	09/11/2018	2023
LC-Laveen Channel		Count	12				
LC001	4532 W Alta Vista Rd, Phoenix, AZ	33.39	-111.84	Spillway	9 Feet	09/15/2016	2021
LC002	6616 S 46th Gn N/A, Phoenix, AZ	33.39	-111.84	Spillway	13 Feet	09/15/2016	2021
LC003	46th Dr And Vineyard Rd N/A, Phoenix, AZ	33.38	-111.84	Spillway	32 Feet	09/15/2016	2021
LC008	53rd Ln And Baseline Rd N/A, Phoenix, AZ	33.38	-111.83	Pipe	66 Inches	09/15/2016	2021
LC015	63rd Land And Beverly Rd N/A, Phoenix, AZ	33.37	112.20	Pipe	26 Inches	09/27/2016	2021
LC017	7377 W Magdalena Ln N/A, Phoenix, AZ	33.37	112.21	Pipe	34 Inches	09/27/2016	2021
LC018	7810 S 74th Ave, Phoenix, AZ	33.37	-111.78	Pipe	36 Inches	09/27/2016	2021
LC020	S 63rd Ave And Lacc N/A, Phoenix, AZ	33.37	112.19	Pipe	60 Inches	09/21/2016	2021
LC022	4724 W Carson Rd, Phoenix, AZ	33.38	-111.84	Spillway	8 Feet	09/15/2016	2021
LC023	North Side Of Channel. About 50 Ft. West Of 51st S	33.38	-111.83	Pipe	62 Inches	09/15/2016	2021

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
LC-Laveen Channel		Count	12				
LC026	Inside West Tunnel Culvert @ Baseline And Lacc N/A	33.38	-111.82	Pipe	48 Inches	09/20/2016	2021
LC028	74th Lane And Fawn N/A, Phoenix, AZ	33.37	112.22	Spillway	10 Feet	09/28/2016	2021
MV-Moon Valley		Count	7				
MV001	19th Ave And Sweetwater Ave N/A, Phoenix, AZ 85009	33.60	112.10	Pipe	48 Inches	07/12/2017	2022
MV005	12th Ave And Thunderbird Rd N/A, Phoenix, AZ 85029	33.61	112.09	Pipe	54 Inches	07/12/2017	2022
MV007	7th St And Hearn Rd N/A, Phoenix, AZ	33.62	-111.93	Pipe	48 Inches	08/02/2017	2022
MV016	13th Ln And Thunderbird Rd N/A, Phoenix, AZ	33.61	-111.91	Spillway	11 Feet	07/12/2017	2022
MV019	7th St. And E. Roberts Rd. West Side Of Street N/A	33.61	112.06	Pipe	50 Inches	08/09/2017	2022
MV020	7th St. And E. Roberts Rd. West Side Of Street. N/	33.61	112.06	Pipe	50 Inches	08/09/2017	2022
MV023	23rd Avenue And Wood Drive Ave, Phoenix, AZ 85029	33.60	-112.11	Spillway	46 Feet	07/12/2017	2022
NR-New River		Count	3				
NR004	4640 W Heyerdahl Ct, Phoenix, AZ	33.87	112.16	Pipe	40 Inches	08/31/2016	2021
NR005	N 45th Ave And W Emily Dr N/A, Phoenix, AZ	33.88	112.16	Pipe	40 Inches	08/31/2016	2021
NR006	45th Ave And Judson Drive N/A, Phoenix, AZ	33.88	112.16	Pipe	36 Inches	08/31/2016	2021
OC-Old Cross-Cut Canal		Count	16				
OC039	46th Street And Roosevelt Street - Old Cross Cut N	33.46	-111.98	Box	6 x 5 Feet	12/13/2018	2023
OC053	48th St And Osborn Rd N/A, Phoenix, AZ 85018	33.49	-111.98	Pipe	52 Inches	01/29/2019	2024
OC054	48th St And Osborn Rd N/A, Phoenix, AZ 85018	33.49	-111.98	Box	8 x 6 Feet	01/29/2019	2024
OC055	48th St And Weldon Ave N/A, Phoenix, AZ 85018	33.49	-111.98	Pipe	48 Inches	01/29/2019	2024
OC062	48th St And Thomas Rd N/A, Phoenix, AZ 85008	33.48	-111.98	Pipe	36 Inches	01/30/2019	2024
OC072	Old Cross Cut And Granada N/A, Phoenix, AZ 85008	33.47	-111.98	Pipe	42 Inches	01/17/2019	2024
OC001	Old Cross Cut And Washington St, South Tunnel N/A,	33.45	-111.98	Pipe	36 Inches	12/13/2018	2023
OC002	Old Cross Cut And Van Buren St, South Tunnel N/A,	33.45	-111.98	Pipe	42 Inches	12/13/2018	2023
OC004	46th St And Mcdowell Rd N/A, Phoenix, AZ 85008	33.47	-111.98	Pipe	42 Inches	01/16/2019	2024
OC005	48th St And Thomas Rd N/A, Phoenix, AZ 85008	33.48	-111.98	Pipe	36 Inches	01/30/2019	2024
OC006	48th St And Earll Dr N/A, Phoenix, AZ 85018	33.48	-111.98	Pipe	52 Inches	01/30/2019	2024
OC007	48th St And Indian School Rd N/A, Phoenix, AZ 8501	33.49	-111.98	Pipe	36 Inches	01/31/2019	2024
OC008	46th St And Mcdowell Rd N/A, Phoenix, AZ 85008	33.47	-111.98	Pipe	54 Inches	01/16/2019	2024
OC022	48th St And Oak St N/A, Phoenix, AZ 85008	33.47	-111.98	Pipe	48 Inches	01/31/2019	2024
OC090	48th St. And Indian School N/A, Phoenix, AZ 85018			Pipe	102 Inches	01/31/2019	2024
OC091	48th st And Osborn Rd, Phoenix, AZ 85018			Pipe	48 Inches	02/01/2019	2024

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
PD-Papago Diversion Channel		Count	1				
PD010	35th Ave And Papago Diversion Channel N/A, Phoenix	33.46	-112.13	Pipe	54 Inches	03/26/2019	2024
PV-Paradise Valley		Count	2				
PV002	34th St And Lincoln Dr N/A, Phoenix, AZ 85253	33.53	112.00	Pipe	48 Inches	08/23/2017	2022
PV004	35th St And Lincoln Dr N/A, Phoenix, AZ 85253	33.53	112.00	Pipe	48 Inches	08/23/2017	2022
SC-Skunk Creek		Count	42				
SC002	51st Ave And Skunk Creek, Near Norhtwest Bike Lane	33.66	-111.83	Pipe	36 Inches	07/07/2016	2021
SC006	19432 N 50th Ave, Phoenix, AZ	33.66	-111.83	Spillway	10 Feet	07/07/2016	2021
SC008	19653 N 48th Ln, Phoenix, AZ	33.66	-111.84	Spillway	16 Feet	07/13/2016	2021
SC009	19623 N 48th Ave, Phoenix, AZ	33.66	-111.84	Spillway	24 Feet	07/07/2016	2021
SC010	47th Dr And Behrend Dr N/A, Phoenix, AZ	33.66	-111.84	Spillway	6 Feet	07/07/2016	2021
SC012	4790 W Oraibi Dr, Phoenix, AZ 85308	33.66	-112.16	Spillway	6 Feet	07/13/2016	2021
SC013	19634 N 47th Dr, Phoenix, AZ	33.66	-111.84	Spillway	4 Feet	07/07/2016	2021
SC014	19640 N 47th Ave, Phoenix, AZ	33.66	-111.84	Pipe	6 Feet	07/07/2016	2021
SC015	46th Dr And Behrend Dr N/A, Phoenix, AZ	33.67	-111.84	Pipe	6 Feet	07/07/2016	2021
SC016	19810 N 46th Ave, Phoenix, AZ	33.67	-111.84	Pipe	6 Feet	07/07/2016	2021
SC017	19828 N 45th Ln, Phoenix, AZ	33.67	112.16	Spillway	6 Feet	07/13/2016	2021
SC022	2749 W Darien Way, Phoenix, AZ	33.80	-111.88	Spillway	10 Feet	07/12/2016	2021
SC023	27th Ct And Florimond Rd N/A, Phoenix, AZ	33.80	-111.88	Spillway	50 Feet	07/12/2016	2021
SC024	27th Ln And Via Aquila N/A, Phoenix, AZ	33.81	-111.88	Box	4 x 2 Feet	07/12/2016	2021
SC025	27th Ln And Via Aquila, West Side N/A, Phoenix, AZ	33.81	-111.88	Box	4 x 2 Feet	07/12/2016	2021
SC027	Carefree Hwy And 27th Dr N/A, Phoenix, AZ	33.80	-111.88	Pipe	36 Inches	07/12/2016	2021
SC031	35th Dr And Soft Wind Dr N/A, Phoenix, AZ	33.70	-111.86	Pipe	30 Inches	08/16/2016	2021
SC032	20659 N 41st Ln, Phoenix, AZ	33.67	-111.85	Spillway	18 Feet	07/26/2016	2021
SC033	20669 N 41st Ln, Phoenix, AZ	33.67	-111.85	Spillway	17 Feet	07/26/2016	2021
SC034	20657 N 42nd Ave, Phoenix, AZ	33.67	-111.85	Spillway	18 Feet	07/26/2016	2021
SC035	20622 N 42nd Ave, Phoenix, AZ	33.67	-111.85	Spillway	17 Feet	07/26/2016	2021
SC036	20670 N 41st Ave, Phoenix, AZ	33.67	-111.85	Spillway	45 Feet	07/26/2016	2021
SC037	Sc Wash And Sr101 Frontage Rd N/A, Phoenix, AZ	33.67	-111.85	Pipe	36 Inches	07/26/2016	2021
SC040	Via Puzzola And Via Del Deserto N/A, Phoenix, AZ	33.81	-111.88	Pipe	36 Inches	07/12/2016	2021
SC043	2761 W Via Calabria N/A, Phoenix, AZ	33.80	0.00	Spillway	19 Feet	07/12/2016	2021
SC001	56th Ave And Union Hills Dr N/A, Phoenix, AZ	33.66	-111.82	Box	10x11 Feet	07/13/2016	2021

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
SC-Skunk Creek		Count	42				
SC044	35th Ave And Parkside Ln N/A, Phoenix, AZ	33.69	112.13	Pipe	35 Inches	08/16/2016	2021
SC046	35206 N 27th Dr, Phoenix, AZ	33.80	-112.12	Pipe	36 Inches	07/12/2016	2021
SC046	35206 N 27th Dr, Phoenix, AZ	33.80	-112.12	Pipe	36 Inches	07/12/2016	2021
SC046	35206 N 27th Dr, Phoenix, AZ	33.80	-112.12	Pipe	36 Inches	07/12/2016	2021
SC046	35206 N 27th Dr, Phoenix, AZ	33.80	-112.12	Pipe	36 Inches	07/12/2016	2021
SC067	35th Avenue And Williams Drive N/A, Phoenix, AZ	112.21	34.16	Pipe	56 Inches	08/16/2016	2021
SC049	Pinnacle Peak Road And 40th Lane N/A, Phoenix, A	33.70	112.15	Pipe	62 Inches	08/17/2016	2021
SC050	South Side Of Pinnacle Peak Road At 40th Lane. N/A	33.70	112.15	Pipe	60 Inches	08/17/2016	2021
SC052	Southside Of Pinnacle Peak Road Just Before 47th A	33.70	112.16	Pipe	54 Inches	08/17/2016	2021
SC053	Southside Of Pinnacle Peak Road Just Before 47th A	33.70	112.16	Pipe	48 Inches	08/17/2016	2021
SC054	Southside Of Pinnacle Peak Road Just Before 47th A	33.70	112.16	Pipe	42 Inches	08/17/2016	2021
SC055	Southside Of Pinnacle Peak Road And 51st Avenue. N	33.70	112.17	Pipe	42 Inches	08/17/2016	2021
SC058	4531 W Soft Wind Dr, Phoenix, AZ	33.72	112.16	Spillway		08/17/2016	2021
SC059	23620 N 45th Ave, Phoenix, AZ	33.71	112.16	Pipe	24 Inches	08/17/2016	2021
SC060	23804 N 44th Ln, Phoenix, AZ	33.70	112.16	Spillway	6 Feet	08/17/2016	2021
SC061	Mariposa Grande And 45th Dr N/A, Phoenix, AZ	33.70	112.16	Spillway	10 Feet	08/17/2016	2021
SC064	Alameda Road Between 43rd Ave And 45th Dr N/A, Ph	33.71	112.16	Pipe	24 Inches	08/17/2016	2021
SC065	44th Ln And W Misty Willow Ln N/A, Phoenix, AZ	33.70	112.16	Spillway	9 Feet	08/17/2016	2021
SC048	W Oberlin Way And N 26th Ave N/A, Phoenix, AZ	33.74	112.11	Spillway	32 Feet	08/16/2016	2021
SR-Salt River		Count	59				
SR003	35th Ave And Salt River N/A, Phoenix, AZ 85043	33.41	-112.13	Pipe	75 Inches	04/02/2020	2021
SR003	35th Ave And Salt River N/A, Phoenix, AZ 85043	33.41	-112.13	Pipe	75 Inches	04/02/2020	2021
SR003	35th Ave And Salt River N/A, Phoenix, AZ 85043	33.41	-112.13	Pipe	75 Inches	04/02/2020	2021
SR003	35th Ave And Salt River N/A, Phoenix, AZ 85043	33.41	-112.13	Pipe	75 Inches	04/02/2020	2021
SR004	27th Ave And Salt River N/A, Phoenix, AZ 85009	33.42	-112.12	Pipe	72 Inches	03/25/2020	2021
SR005	25th Ave And Salt River N/A, Phoenix, AZ	33.42	-112.11	Pipe	102 Inches	03/27/2020	2025
SR006	22nd Ave And Salt River N/A, Phoenix, AZ	33.42	-112.11	Pipe	72 Inches	03/25/2020	2025
SR007	19th Ave And Salt River N/A, Phoenix, AZ	33.41	-112.10	Pipe	54 Inches	04/01/2020	2025
SR008	15th Ave And Salt River N/A, Phoenix, AZ	33.41	-112.09	Pipe	96 Inches	04/03/2020	2025
SR009	11th Ave And Salt River N/A, Phoenix, AZ	33.42	-112.09	Pipe	81 Inches	04/07/2020	2025

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
SR-Salt River	Count	59					
SR010	7th Ave And Salt River N/A, Phoenix, AZ	33.42	-112.08	Pipe	54 Inches	01/07/2020	2021
SR012	Central Ave And Salt River N/A, Phoenix, AZ	33.42	-112.07	Pipe	42 Inches	01/07/2020	2025
SR013	Central Ave And Salt River N/A, Phoenix, AZ	33.42	-112.07	Box	10 x 21 Feet	04/08/2020	2025
SR014	3rd St And Salt River N/A, Phoenix, AZ	33.42	-112.07	Pipe	36 Inches	01/07/2020	2025
SR015	3rd St And Salt River N/A, Phoenix, AZ	33.42	-112.07	Pipe	84 Inches	01/07/2020	2021
SR016	10th St And Salt River N/A, Phoenix, AZ	33.42	-112.06	Pipe	54 Inches	01/08/2020	2025
SR017	12th St And Salt River N/A, Phoenix, AZ	33.42	-112.06	Pipe	96 Inches	01/08/2020	2025
SR018	16th St And Salt River N/A, Phoenix, AZ	33.42	-112.05	Pipe	66 Inches	01/09/2020	2025
SR019	20th St And Salt River N/A, Phoenix, AZ	33.42	-112.04	Box	10 x 21 Feet	03/17/2020	2025
SR020	24th St And Salt River N/A, Phoenix, AZ	33.42	-112.03	Pipe	84 Inches	04/09/2020	2021
SR001	51st Ave And Salt River N/A, Phoenix, AZ	33.41	-112.17	Pipe	96 Inches	03/23/2020	2021
SR002	43rd Ave And Salt River N/A, Phoenix, AZ 85043	33.41	-112.15	Pipe	90 Inches	03/23/2020	2021
SR079	35th Ave And Salt River N/A, Phoenix, AZ 85043	33.41	-112.13	Pipe	42 Inches	03/25/2020	2025
SR080	51st Ave And Salt River N/A, Phoenix, AZ	33.40	-112.17	Pipe	42 Inches	03/23/2020	2025
SR024	28th St And Salt River N/A, Phoenix, AZ	33.42	-112.02	Pipe	90 Inches	04/14/2020	2025
SR026	37th St And Salt River N/A, Phoenix, AZ	33.43	-112.01	Pipe	42 Inches	04/15/2020	2025
SR027	36th St And Salt River, Under Sky Harbor N/A, Phoe	33.43	-112.00	Pipe	82 Inches	04/15/2020	2025
SR029	47th St And Salt River N/A, Phoenix, AZ	33.43	-111.98	Pipe	78 Inches	04/22/2020	2025
SR030	27th Ave And Salt River N/A, Phoenix, AZ	33.41	-112.12	Pipe	108 Inches	03/25/2020	2021
SR030	27th Ave And Salt River N/A, Phoenix, AZ	33.41	-112.12	Pipe	108 Inches	03/25/2020	2021
SR030	27th Ave And Salt River N/A, Phoenix, AZ	33.41	-112.12	Pipe	108 Inches	03/25/2020	2021
SR030	27th Ave And Salt River N/A, Phoenix, AZ	33.41	-112.12	Pipe	108 Inches	03/25/2020	2021
SR031	19th Ave And Salt River N/A, Phoenix, AZ	33.41	-112.10	Pipe	60 Inches	04/01/2020	2025
SR032	7th Ave And Salt River N/A, Phoenix, AZ	33.42	-112.08	Pipe	72 Inches	04/07/2020	2025
SR033	Central Ave And Salt River N/A, Phoenix, AZ	33.42	-112.07	Pipe	66 Inches	02/20/2020	2025
SR035	7th St And Salt River N/A, Phoenix, AZ 85009	33.42	-112.07	Pipe	72 Inches	02/19/2020	2025
SR036	15th St And Salt River N/A, Phoenix, AZ	33.42	-111.95	Pipe	72 Inches	01/09/2020	2025
SR037	16th St And Salt River N/A, Phoenix, AZ	33.42	-112.05	Pipe	36 Inches	03/17/2020	2025
SR038	24th St And Salt River N/A, Phoenix, AZ	33.42	-112.03	Pipe	72 Inches	01/09/2020	2025
SR039	28th St And Salt River N/A, Phoenix, AZ 85040	33.42	-112.02	Pipe	96 Inches	01/09/2020	2021

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
SR-Salt River	Count	59					
SR045	40th St And Salt River N/A, Phoenix, AZ 85040	33.43	-112.00	Pipe	54 Inches	04/14/2020	2025
SR045	40th St And Salt River N/A, Phoenix, AZ 85040	33.43	-112.00	Pipe	54 Inches	04/14/2020	2025
SR045	40th St And Salt River N/A, Phoenix, AZ 85040	33.43	-112.00	Pipe	54 Inches	04/14/2020	2025
SR045	40th St And Salt River N/A, Phoenix, AZ 85040	33.43	-112.00	Pipe	54 Inches	04/14/2020	2025
SR046	7th St And Salt River N/A, Phoenix, AZ	33.42	-112.07	Pipe	24 Inches	04/08/2020	2025
SR048	45th St And Salt River N/A, Phoenix, AZ	33.43	-111.99	Pipe	48 Inches	04/22/2020	2025
SR049	67th Ave And Salt River N/A, Phoenix, AZ 85043	33.40	-112.20	Pipe	96 Inches	02/27/2020	2021
SR049	67th Ave And Salt River N/A, Phoenix, AZ 85043	33.40	-112.20	Pipe	96 Inches	02/27/2020	2021
SR049	67th Ave And Salt River N/A, Phoenix, AZ 85043	33.40	-112.20	Pipe	96 Inches	02/27/2020	2021
SR049	67th Ave And Salt River N/A, Phoenix, AZ 85043	33.40	-112.20	Pipe	96 Inches	02/27/2020	2021
SR052	52nd St And Hohokam Frwy N/A, Phoenix, AZ	33.44	-111.97	Box	8 x 5 Feet	04/22/2020	2025
SR056	28th St And Salt River N/A, Phoenix, AZ	33.42	-112.02	Pipe	36 Inches	04/14/2020	2025
SR059	25th Ave And Salt River N/A, Phoenix, AZ	33.42	-112.11	Pipe	60 Inches	03/27/2020	2025
SR061	32nd St And Salt River N/A, Phoenix, AZ 85034	33.42	-112.01	Box	7 x 5 Feet	04/15/2020	2021
SR062	38th St And Salt River N/A, Phoenix, AZ	33.43	-112.00	Pipe	60 Inches	04/15/2020	2025
SR063	15th Ave And Salt River N/A, Phoenix, AZ	33.41	-112.09	Pipe	60 Inches	04/03/2020	2025
SR064	19th Ave And Salt River N/A, Phoenix, AZ	33.41	-112.10	Pipe	36 Inches	04/02/2020	2025
SR068	28th St And Salt River N/A, Phoenix, AZ 85034	33.42	-112.02	Box	8 x 8 Feet	04/14/2020	2021
SR069	31st St And Salt River N/A, Phoenix, AZ	33.42	-111.99	Pipe	60 Inches	04/14/2020	2025
SR070	33rd St And Salt River N/A, Phoenix, AZ	33.42	-112.01	Pipe	36 Inches	04/15/2020	2025
SR071	33rd St And Salt River N/A, Phoenix, AZ	33.42	-112.01	Pipe	60 Inches	04/15/2020	2025
SR072	45th St And Salt River N/A, Phoenix, AZ	33.43	-111.99	Pipe	48 Inches	04/22/2020	2025
SR073	45th St And Salt River N/A, Phoenix, AZ	33.43	-111.99	Pipe	60 Inches	04/21/2020	2025
SR075	43rd Ave And Broadway Rd N/A, Phoenix, AZ 85041	33.40	-112.15	Box	10 Feet	03/24/2020	2025
SR076	43rd Ave And Broadway Rd N/A, Phoenix, AZ 85041	33.40	-112.15	Pipe	48 Inches	03/24/2020	2025
SR077	22nd Ave And Rio Salado Service Yard N/A, Phoenix,	33.42	-112.11	Spillway	17 Feet	03/25/2020	2025
SR083	83rd Ave And Salt River N/A, Phoenix, AZ 85339	33.39	-112.23	Pipe	12 Inches	02/27/2020	2021
SR084	Sw Corner Of The 153 Expressway And The Salt River	33.43	-111.98	Pipe	72" Inches	04/22/2020	2025
SR082	75th Ave S/O Broadway Rd N/A, Phoenix, AZ	33.40	-112.22	Pipe	84 Inches	02/27/2020	2025
SR088	31st Ave. And Salt River N/A, Phoenix, AZ 85009	33.41	-112.12	Pipe	30 Inches	04/01/2020	2021

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
SR-Salt River		Count	59				
SR089	31st And Salt River N/A, Phoenix, AZ 85009	33.41	-112.12	Spillway	11 Feet	04/01/2020	2021
ST-Sweetwater Tributary of Indian Bend Wash		Count	1				
ST004	Sweetwater Ave And 35th St N/A, Phoenix, AZ 85032	33.60	112.01	Pipe	36 Inches	08/17/2017	2022
SW-Scatter Wash		Count	10				
SW026	31st Ave And Deer Valley Rd N/A, Phoenix, AZ 85027	33.41	-112.07	Pipe	36 Inches	12/14/2017	2022
SW032	22125 Sands Dr, Phoenix, AZ 85027	33.69	-112.12	Pipe	53 Inches	12/28/2017	2022
SW001	33rd Ave And Deer Valley Rd N/A, Phoenix, AZ 85308	33.40	-112.07	Pipe	54 Inches	12/14/2017	2022
SW006	43rd Ave And Behrend Dr N/A, Phoenix, AZ	33.67	-111.85	Pipe	36 Inches	10/31/2017	2022
SW009	21041 N 33rd Ave, Phoenix, AZ 85027	33.68	-112.13	Pipe	8 Feet	12/28/2017	2022
SW011	33rd Ave And Deer Valley Rd N/A, Phoenix, AZ 85027	33.41	-112.07	Pipe	36 Inches	12/14/2017	2022
SW015	38th Ave And Beardsley Rd N/A, Phoenix, AZ	33.67	-111.86	Pipe	96 Inches	12/13/2017	2022
SW019	31st Dr And Deer Valley Rd N/A, Phoenix, AZ 85027	33.41	-112.07	Pipe	36 Inches	12/14/2017	2022
SW037	35th Avenue And Mohawk Lane N/A, Phoenix, AZ 85308	33.67	-112.14	Pipe	48 Inches	12/13/2017	2022
SW040	35th Avenue And Mohawk Lane N/A, Phoenix, AZ 85027	33.67	-112.13	Pipe	42 Inches	12/13/2017	2022
TD-Tempe Drainage Channel		Count	3				
TD008	3402 S 40th St, Phoenix, AZ 85040	33.42	-112.00	Pipe	36 Inches	10/17/2017	2022
TD010	3425 S 40th St, Phoenix, AZ 85040	33.42	-111.99	Pipe	18 Inches	10/17/2017	2022
TD013	3402 E Illini St, Phoenix, AZ 85040	33.41	-112.01	Pipe	24 Inches	10/17/2017	2022
TS-Tenth Street Wash		Count	9				
TS002	11421 N Cave Creek Rd, Phoenix, AZ	33.59	-111.95	Pipe	48 Inches	09/13/2016	2021
TS007	1425 E Desert Cove Rd, Phoenix, AZ	33.58	-111.95	Pipe	36 Inches	09/13/2016	2021
TS008	14th St And Desert Cove Ave N/A, Phoenix, AZ	33.59	-111.95	Spillway	52 Feet	09/13/2016	2021
TS009	15th Way And Sahauro Dr. N/A, Phoenix, AZ	33.58	-111.95	Spillway	36 Inches	09/13/2016	2021
TS011	10th St. And Townley Ave. N/A, Phoenix, AZ	33.57	-111.94	Spillway	36 Feet	10/11/2016	2021
TS013	11th Street And Townley Ave. N/A, Phoenix, AZ	33.57	112.04	Box	8 Feet	10/18/2016	2021
TS014	Dunlap And 11th Street N/A, Phoenix, AZ	33.57	112.06	Spillway	72 Inches	10/18/2016	2021
TS018	1107 Hatcher Rd, Phoenix, AZ	33.57	112.06	Spillway	45 Inches	10/19/2016	2021
TS025	1839 E Cinnabar Ave, Phoenix, AZ	33.58	112.06	Spillway	9 Feet	10/19/2016	2021
ZT-Emile Zola Tributary of Indian Bend Wash		Count	2				
ZT001	33rd Pl And Sharon Dr N/A, Phoenix, AZ	33.61	-111.99	Spillway	18 Feet	10/05/2016	2021
ZT002	33rd Pl And Emile Zola Ave N/A, Phoenix, AZ	33.61	-111.99	Spillway	46 Feet	10/05/2016	2021

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List of Changes to the Major Outfall Inventory

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Total Outfall Added: 7
 Total Outfall Removed: 8

Fiscal Year: 2020

Outfall Added : 7

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
Count 1							
SR090	18th Place And The Salt River N/A, Phoenix, AZ 850	33.42	-112.04	Pipe	24 Inches	3/17/2020	2025
CC- Cave Creek Wash Count 6							
CC100	905 salter Dr, Phoenix, AZ 85014	33.68	-112.06			11/19/2019	2024
CC095	2499 W Sweetwater Ave, Phoenix, AZ 85029	33.60	-112.11	Pipe	24 Inches	8/27/2019	2024
CC097	17627 N 5th Ave, Phoenix, AZ 85023	33.65	-112.08	Spillway		10/23/2019	2024
CC098	502 W Muriel Dr, Phoenix, AZ 85023	33.65	-112.08	Spillway		10/23/2019	2024
CC096	Union Hills Dr And Cave Creek Wash N/A, Phoenix, A	33.65	-112.08	Pipe	18 Inches	10/23/2019	2024
CC099	535 W Muriel Dr, Phoenix, AZ 85023	33.65	-112.08	Spillway		10/23/2019	2024

Outfall Removed : 8

Outfall ID	Site Address	Latitude	Longitude	Drain Type	Drain Size	Last Inspection	Target Inspection
CC-Cave Creek Wash		Count	2				
CC053	15th Ave And Greenway Rd N/A, Phoenix, AZ	33.63	-111.91	Pipe	24 Inches		
CC054	16th Dr And Greenway Rd N/A, Phoenix, AZ	33.63	-111.91	Pipe	19 Inches		
GC-Grand Canal		Count	1				
GC022	15th Ave And Grand Canal N/A, Phoenix, AZ	33.50	-111.91	Pipe	24 Inches		
IB-Indian Bend Wash		Count	2				
IB027	4150 E Cactus Rd, Phoenix, AZ 85032	33.60	-111.99	Spillway	11 Feet		
IB048	Thunderbird And Sb051 N/A, Phoenix, AZ 85032	33.61	-112.01	Spillway	16.5 Feet		
OC-Old Cross-Cut Canal		Count	3				
OC030	Old Cross Cut, South Of Mcdowell Rd N/A, Phoenix,	33.46	-111.98	Pipe	8 Inches		
OC032	Old Cross Cut, South Of Mcdowell Rd N/A, Phoenix,	33.46	-111.98	Pipe	24 Inches		
OC033	Old Cross Cut, Open Canal N/A, Phoenix, AZ 85008	33.46	-111.98	Pipe	24 Inches		

Laboratory Reports for Stormwater Monitoring Performed in the Reporting Period

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**LABORATORY REPORTS FOR
STORMWATER MONITORING PERFORMED
IN THE REPORTING PERIOD**

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SUMMER SEASON

June 1, 2019 – October 31, 2019

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OUTFALL SC046

Storm of July 24, 2019

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To: Joshua Blakey
Environmental Quality Specialist - Stormwater

Date: 9/1/2020

From: Kristi McFarlin
Environmental Quality Specialist-Laboratory

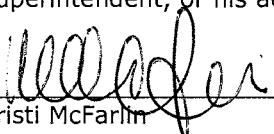
Subject: Stormwater Summer Season June 1-October 31, 2019

Attached are laboratory reports and COCs for samples collected 7/24/19 at SC046.

Please call me at (602) 262-5012 if you have any questions about these reports.
Attached:

LIMS:
2019064919-2019054933

I certify that these test reports are in compliance with the terms and conditions of Laboratory agreements and all referenced methods, both technically and for completeness, except for any noted conditions. Release of the data in this original printed test report and any alternate means of electronic communication and transmission have been authorized by the Laboratory Superintendent, or his acknowledged designee, as verified by the following signature.



Kristi McFarlin
Environmental Quality Specialist

Date: 9/1/20

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Sample # Sample ID
 2019054919 

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report

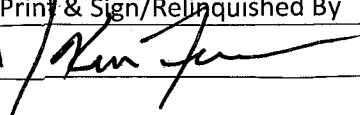
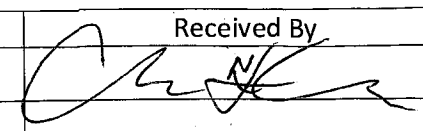


Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
		Stormwater SC046	608-STORM	2	7/24/19	0629	ICE
		Stormwater SC046	625-STORM	2			ICE
		Stormwater SC046	TOTAL METALS STORMWATER	1			HNO3
		Stormwater SC046	METALS DISSOLVED STORMWATER	1			HNO3/FIELD FILTERED
		Stormwater SC046	NH3-WC and TKN-WC	1			H2SO4
		Stormwater SC046	Group A with TDS	1			ICE
		Stormwater SC046	IC300 Nitrate, Nitrite, Orthophosphate	1			ICE
		Stormwater SC046	TOTAL PHOSPHOROUS	1			H2SO4

COMPOSITE SAMPLES

Sample # Sample ID
 2019054919 - SC046
 2019054920 - SC046
 2019054921 - SC046
 2019054922 - SC046
 2019054923 - SC046
 2019054924 - SC046
 2019054925 - SC046
 2019054926 - SC046

Sampler Print & Sign/Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
KEN FOSSUM 	7/24/19	0915		C
	RECEIVED WS LAB			
	JUL 24 2019			

TIME: 1023
 TEMP °C: 3-4

Sample # Sample ID
 2019054927 

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report



Project ID: STORMWATER

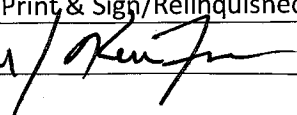
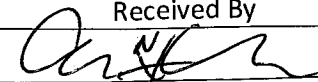
LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
		SC046	8260B-Storm 624-Storm	6	7/24/19 7/24/19	0900	HCL
		SC046	624 ACAC 624 CEVE	6			ICE
		SC046	COLILERT - MPN	1			NaSO4
		SC046	CYANIDE	1			NaOH
		SC046	1664 HEMSGT	3			H2SO4
		SC046 Trip Blank	8260B-Storm 624-Storm	2			HCL
		SC046 Trip Blank	624 ACAC 624 CEVE	2			ICE

GRAB SAMPLES

pH 6.96 Air Temp 25.5 Water Temp 28.9 Specific Conductance 154
 Barometric Pressure 718 Dissolved Oxygen 6.09

Sample # Sample ID
 2019054929 - SC046
 2019054930 - SC046
 2019054931 - SC046
 2019054932 - SC046 Trip Blank
 2019054933 - SC046 Trip Blank

2019054927 - SC046
 2019054928 - SC046

Sampler Print & Sign/Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
KEN FOSSUM / 	RECEIVED W&S LAB	915		C
	JUL 24 2019			

TIME: 1023
 TEMP °C: 30



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054919**

Sample ID : SC046	Temperature : 28.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 06:29	pH : 6.96	Account Number : Stormwater
Approval Date : 08/27/2019 15:10		Sampled by : Ken Fossum
Received Date/Time: 07/24/2019 10:23		Delivered : Ken Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
608-STORM	EPA 608							JG	
	alpha-BHC	<0.012	ug/L	1	E8	0.012	0.1		08/12/2019 17:12
	gamma-BHC	<0.013	ug/L	1	E8	0.013	0.1		08/12/2019 17:12
	beta-BHC	<0.099	ug/L	1	E8	0.099	0.1		08/12/2019 17:12
	d-BHC	<0.045	ug/L	1	E8	0.045	0.1		08/12/2019 17:12
	Heptachlor	<0.011	ug/L	1	E8	0.011	0.1		08/12/2019 17:12
	Aldrin	<0.010	ug/L	1	E8	0.010	0.1		08/12/2019 17:12
	Heptachlor Epoxide	<0.012	ug/L	1	E8	0.012	0.1		08/12/2019 17:12
	4,4'-DDE	<0.015	ug/L	1	E8	0.015	0.1		08/12/2019 17:12
	Endosulfan I	<0.020	ug/L	1	E8	0.020	0.1		08/12/2019 17:12
	Dieldrin	<0.012	ug/L	1	E8	0.012	0.1		08/12/2019 17:12
	Endrin	<0.042	ug/L	1	E8;N1	0.042	0.1		08/12/2019 17:12
	4,4'-DDD	<0.017	ug/L	1	E8	0.017	0.1		08/12/2019 17:12
	Endosulfan II	<0.014	ug/L	1	E8	0.014	0.1		08/12/2019 17:12
	4,4'-DDT	<0.009	ug/L	1	E8	0.009	0.1		08/12/2019 17:12
	Endrin Aldehyde	<0.068	ug/L	1	E8	0.068	0.1		08/12/2019 17:12
	Endosulfan Sulfate	<0.017	ug/L	1	E8	0.017	0.1		08/12/2019 17:12
	Chlordane	<0.33	ug/L	1	E8;N1	0.33	1.0		08/12/2019 17:12
	Toxaphene	<0.482	ug/L	1	E8;V1	0.482	2.0		08/12/2019 17:12
	Arochlor-1016	<0.40	ug/L	1	E8;V1;N1	0.40	1.0		08/12/2019 17:12
	Arochlor-1221	<0.50	ug/L	1	E8;V1;N1	0.50	2.0		08/12/2019 17:12
	Arochlor-1232	<0.48	ug/L	1	E8	0.48	1.0		08/12/2019 17:12
	Arochlor-1242	<0.28	ug/L	1	E8	0.28	1.0		08/12/2019 17:12
	Arochlor-1248	<0.35	ug/L	1	E8	0.35	1.0		08/12/2019 17:12
	Arochlor-1254	<0.21	ug/L	1	E8	0.21	1.0		08/12/2019 17:12
	Arochlor-1260	<0.28	ug/L	1	E8	0.28	1.0		08/12/2019 17:12

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054919**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 06:29	Account Number : Stormwater
Approval Date : 08/27/2019 15:10	Temperature : 28.9 Deg. C
Received Date/Time: 07/24/2019 10:23	pH : 6.96
Sample Type : COMPOS	Sampled by : Ken Fossum
	Delivered : Ken Fossum
	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
608-STORM	EPA 608							JG	
	Decachlorobiphenyl	82	% Recovery	1					08/12/2019 17:12
	Total Endosulfan	<0.020	ug/L	1	E8	0.020	0.1		08/12/2019 17:12
	TOTAL PCB	<0.50	ug/L	1	E8	0.50	2.0		08/12/2019 17:12
	Aldrin/Dieldrin	<0.012	ug/L	1	E8	0.012	0.1		08/12/2019 17:12

608-STORM Case Narrative: The opening CCV did not meet laboratory acceptance criteria for PCB-1016 (117%), PCB-1221 (122%) and Toxaphene (120%); control limits: 85-115%. The closing CCV did not meet laboratory acceptance criteria for Endrin (71%), control limits: 80-138%; PCB-1016 (118%), control limits: 85-115%; PCB-1221 (120%), control limits: 85-115% and Chlordane (120%), control limits: 85-115%. Closing QC is not a 608 EPA method requirement.

Extraction - 608 EPA 608 COMPLETE DC 07/29/2019 00:00

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054920**

Sample ID : SC046	Temperature : 28.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 06:29	pH : 6.96	Account Number : Stormwater
Approval Date : 08/12/2019 13:00		Sampled by : Ken Fossum
Received Date/Time: 07/24/2019 10:23		Delivered : Ken Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
	Acenaphthene	<11.9	ug/L	10	E8;D1	11.9	100		08/01/2019 13:24
	Acenaphthylene	<14.1	ug/L	10	E8;D1	14.1	100		08/01/2019 13:24
	Anthracene	<12.0	ug/L	10	E8;D1	12.0	100		08/01/2019 13:24
	Benzo(a)anthracene	<10.2	ug/L	10	E8;D1	10.2	100		08/01/2019 13:24
	Benzo(a)pyrene	<10.8	ug/L	10	E8;D1	10.8	100		08/01/2019 13:24
	Benzo(b)fluoranthene	<3.8	ug/L	10	E8;D1	3.8	100		08/01/2019 13:24
	Benzo(ghi)perylene	<11.4	ug/L	10	E8;D1	11.4	100		08/01/2019 13:24
	Benzo(k)fluoranthene	<10.3	ug/L	10	E8;D1	10.3	100		08/01/2019 13:24
	Chrysene	<11.6	ug/L	10	E8;D1	11.6	100		08/01/2019 13:24
	Dibenzo(a,h)anthracene	<10.2	ug/L	10	E8;D1	10.2	100		08/01/2019 13:24
	1,2-Dichlorobenzene	<14.3	ug/L	10	E8;D1	14.3	100		08/01/2019 13:24
	1,3-Dichlorobenzene	<13.9	ug/L	10	E8;D1	13.9	100		08/01/2019 13:24
	1,4-Dichlorobenzene	<14.8	ug/L	10	E8;D1	14.8	100		08/01/2019 13:24
	3,3'-Dichlorobenzidine	<69.9	ug/L	10	E8;D1	69.9	500		08/01/2019 13:24
	Diethyl phthalate	<10.8	ug/L	10	E8;D1	10.8	100		08/01/2019 13:24
	Dimethyl phthalate	<11.7	ug/L	10	E8;D1	11.7	200		08/01/2019 13:24
	Di-n-butyl phthalate	<11.2	ug/L	10	E8;D1	11.2	100		08/01/2019 13:24
	2,4-Dinitrotoluene	<11.7	ug/L	10	E8;D1	11.7	100		08/01/2019 13:24
	2,6-Dinitrotoluene	<11.3	ug/L	10	E8;D1	11.3	100		08/01/2019 13:24
	Di-n-octyl phthalate	<20.5	ug/L	10	D1;E8	20.5	100		08/01/2019 13:24
	1,2-Diphenyl hydrazine (as azobenzene)	<11.1	ug/L	10	E8;D1	11.1	100		08/01/2019 13:24
	Fluoranthene	<12.7	ug/L	10	E8;D1	12.7	100		08/01/2019 13:24
	Fluorene	<11.8	ug/L	10	E8;D1	11.8	100		08/01/2019 13:24
	Hexachlorobenzene	<10.1	ug/L	10	E8;D1	10.1	100		08/01/2019 13:24
	Hexachlorobutadiene	<12.0	ug/L	10	E8;D1	12.0	100		08/01/2019 13:24

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054920**

Sample ID : SC046	Temperature : 28.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 06:29	pH : 6.96	Account Number : Stormwater
Approval Date : 08/12/2019 13:00		Sampled by : Ken Fossum
Received Date/Time: 07/24/2019 10:23		Delivered : Ken Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
	Hexachlorocyclopentadiene	<30.7	ug/L	10	E8;D1	30.7	100		08/01/2019 13:24
	Hexachloroethane	<13.5	ug/L	10	E8;D1	13.5	100		08/01/2019 13:24
	Indeno(1,2,3-cd)pyrene	<10.7	ug/L	10	E8;D1	10.7	100		08/01/2019 13:24
	Isophorone	<13.2	ug/L	10	E8;D1	13.2	100		08/01/2019 13:24
	Naphthalene	<14.8	ug/L	10	E8;D1	14.8	100		08/01/2019 13:24
	Nitrobenzene	<15.5	ug/L	10	E8;D1	15.5	100		08/01/2019 13:24
	N-Nitrosodimethylamine	<16.7	ug/L	10	E8;D1	16.7	100		08/01/2019 13:24
	N-Nitrosodi-n-propylamine	<16.5	ug/L	10	E8;D1	16.5	100		08/01/2019 13:24
	N-Nitrosodiphenylamine	<10.7	ug/L	10	E8;D1	10.7	100		08/01/2019 13:24
	Phenanthrene	<13.3	ug/L	10	E8;D1	13.3	100		08/01/2019 13:24
	Pyrene	<12.0	ug/L	10	E8;D1	12.0	100		08/01/2019 13:24
	1,2,4-Trichlorobenzene	<13.4	ug/L	10	E8;D1	13.4	100		08/01/2019 13:24
	2-Chlorophenol	<45.2	ug/L	10	E8;D1	45.2	100		08/01/2019 13:24
	2,4-Dichlorophenol	<47.7	ug/L	10	E8;D1	47.7	100		08/01/2019 13:24
	2,4-Dimethylphenol	<20.4	ug/L	10	E8;D1	20.4	100		08/01/2019 13:24
	2-Methyl-4,6-dinitrophenol	<33.6	ug/L	10	E8;D1	33.6	100		08/01/2019 13:24
	2,4-Dinitrophenol	<34.1	ug/L	10	E8;D1	34.1	100		08/01/2019 13:24
	2-Nitrophenol	<46.8	ug/L	10	E8;D1	46.8	100		08/01/2019 13:24
	4-Nitrophenol	<35.2	ug/L	10	E8;D1	35.2	100		08/01/2019 13:24
	4-Chloro-3-methylphenol	<47.6	ug/L	10	E8;D1	47.6	100		08/01/2019 13:24
	Pentachlorophenol	<40.0	ug/L	10	E8;D1	40.0	100		08/01/2019 13:24
	Phenol	<40.8	ug/L	10	E8;D1	40.8	100		08/01/2019 13:24
	2,4,6-Trichlorophenol	<52.7	ug/L	10	E8;D1	52.7	100		08/01/2019 13:24
	2,4,6-Tribromophenol	0	% Recovery	10	D1;S8				08/01/2019 13:24
	Dibromooctafluorobiphenyl	0	% Recovery	10	D1;S8				08/01/2019 13:24

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054920**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 06:29	Account Number : Stormwater
Approval Date : 08/12/2019 13:00	Temperature : 28.9 Deg. C
Received Date/Time: 07/24/2019 10:23	pH : 6.96
Sample Type : COMPOS	Sampled by : Ken Fossum
	Delivered : Ken Fossum
	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
	4,4-Dibromobiphenyl	0	% Recovery	10	D1;S8				08/01/2019 13:24
625-STORM Case Narrative: Dilution factor = 10X.									
Extraction - 625	EPA 625	COMPLETE						DC	07/29/2019 00:00

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054921**

Sample ID : SC046	Temperature : 28.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 06:29	pH : 6.96	Account Number : Stormwater
Approval Date : 08/13/2019 09:11		Sampled by : Ken Fossum
Received Date/Time: 07/24/2019 10:23		Delivered : Ken Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Silver - Total Recoverable	EPA 200.8	<0.00015	mg/L	5	D1;E8	0.00015	0.0050	YL	08/08/2019 00:00
Arsenic - Total Recoverable	EPA 200.8	0.0033	mg/L	5	D1;E4	0.00035	0.0050	YL	08/08/2019 00:00
Barium - Total Recoverable	EPA 200.8	0.109	mg/L	5	D1	0.00030	0.0050	YL	08/08/2019 00:00
Beryllium - Total Recoverable	EPA 200.8	0.00031	mg/L	5	D1;E4	0.00015	0.0050	YL	08/08/2019 00:00
Cadmium - Total Recoverable	EPA 200.8	<0.00025	mg/L	5	D1;E8	0.00025	0.0050	YL	08/08/2019 00:00
Chromium - Total Recoverable	EPA 200.8	0.0074	mg/L	5	D1;B1	0.00045	0.0050	YL	08/08/2019 00:00
Chromium - Total Recoverable Case Narrative: LRB = 0.00071 mg/L, acceptance limit<0.00045 mg/L.									
Copper - Total Recoverable	EPA 200.8	0.0580	mg/L	5	D1	0.0005	0.0050	YL	08/08/2019 00:00
Nickel - Total Recoverable	EPA 200.8	0.0093	mg/L	5	D1	0.00015	0.0050	YL	08/08/2019 00:00
Lead - Total Recoverable	EPA 200.8	0.0106	mg/L	5	D1	0.00010	0.0050	YL	08/08/2019 00:00
Antimony - Total Recoverable	EPA 200.8	0.00085	mg/L	5	D1;E4	0.00030	0.0050	YL	08/08/2019 00:00
Selenium - Total Recoverable	EPA 200.8	<0.00055	mg/L	5	D1;E8	0.00055	0.0050	YL	08/08/2019 00:00
Thallium - Total Recoverable	EPA 200.8	<0.00015	mg/L	5	D1;E8	0.00015	0.0050	YL	08/08/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054921**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 06:29	Account Number : Stormwater
Approval Date : 08/13/2019 09:11	Sampled by : Ken Fossum
Received Date/Time: 07/24/2019 10:23	Delivered : Ken Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Zinc - Total Recoverable	EPA 200.8	0.198 mg/L	5	D1	0.00330	0.050	YL	08/08/2019 00:00
Metals Prep - TR	SM22 3030 F ☒	COMPLETE					CG	08/02/2019 11:12
Mercury - Total	EPA 245.1	0.000065 mg/L	2	D2;E4	0.000042	0.0002	CG	08/02/2019 13:44
Mercury - Total Case Narrative: Batch LFM 54906 %R = 67.1%. Acceptance range 70-130%. Batch LFM 56411 %R = 57.4%. Acceptance range 70-130%.								
pH<2Verification	pH <2 Verification	COMPLETE					SS	07/25/2019 14:07

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054922**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 06:29	Account Number : Stormwater
Approval Date : 08/14/2019 14:36	Sampled by : Ken Fossum
Received Date/Time: 07/24/2019 10:23	Delivered : Ken Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Filtration Prep Dissolved Metals	SM22 3030 B	NOT RUN						SS	08/14/2019 11:05
Filtration Prep Dissolved Metals Case Narrative: COC says field filtered.									
Hardness - Total	SM22 2340 B							GA	
Hardness - Total		31.0	mg/L	1		0.79	16.6		08/13/2019 19:14
Calcium Hardness		26.7	mg/L	1		0.61	12.5		08/13/2019 19:14
Calcium - Total Recoverable	EPA 200.7	10.7	mg/L	1		0.244	5.00	GA	08/13/2019 19:14
Magnesium - Total Recoverable	EPA 200.7	1.03	mg/L	1		0.043	1.00	GA	08/13/2019 15:09
Silver - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	YL	08/08/2019 00:00
Arsenic - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00035	0.0050	YL	07/26/2019 00:00
Barium - Dissolved	EPA 200.8	0.022	mg/L	5	D1	0.00030	0.0050	YL	07/26/2019 00:00
Beryllium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	YL	07/26/2019 00:00
Cadmium - Dissolved	EPA 200.8	<0.00025	mg/L	5	D1;E8	0.00025	0.0050	YL	07/26/2019 00:00
Chromium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00045	0.0050	YL	07/26/2019 00:00
Copper - Dissolved	EPA 200.8	0.0414	mg/L	5	D1	0.0005	0.0050	YL	07/26/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054922**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 06:29	Account Number : Stormwater
Approval Date : 08/14/2019 14:36	Temperature : 28.9 Deg. C
Received Date/Time: 07/24/2019 10:23	pH : 6.96
Sample Type : COMPOS	Sampled by : Ken Fossum
	Delivered : Ken Fossum
	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Nickel - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	YL	07/26/2019 00:00
Lead - Dissolved	EPA 200.8	0.0005	mg/L	5	D1;E4	0.00010	0.0050	YL	07/26/2019 00:00
Antimony - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00030	0.0050	YL	07/26/2019 00:00
Selenium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00055	0.0050	YL	07/26/2019 00:00
Thallium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	YL	07/26/2019 00:00
Zinc - Dissolved	EPA 200.8	0.0694	mg/L	5	D1	0.00330	0.050	YL	07/26/2019 00:00
Metals Prep - TR	SM22 3030 F ☐	COMPLETE						CG	08/02/2019 11:12
Mercury - Diss	EPA 245.1	<0.0002	mg/L	2	D2	0.000042	0.0002	CG	08/02/2019 13:46
Mercury - Diss Case Narrative: Batch LFM 54906 %R = 67.1%. Acceptance range 70-130%. Batch LFM 56411 %R = 57.4%. Acceptance range 70-130%.									
pH<2Verification	pH <2 Verification	COMPLETE						SS	07/25/2019 14:07

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054923**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 06:29	Account Number : Stormwater
Approval Date : 08/20/2019 10:53	Sampled by : Ken Fossum
Received Date/Time: 07/24/2019 10:23	Delivered : Ken Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Ammonia	EPA 350.1	1.4	mg/L	1		0.043	0.20	LG	08/13/2019 11:01
Total Kjeldahl Nitrogen	EPA 351.2	5.0	mg/L	1		0.19	0.25	LG	08/07/2019 11:31

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054924**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 06:29	Account Number : Stormwater
Approval Date : 08/05/2019 11:27	Temperature : 28.9 Deg. C
Received Date/Time: 07/24/2019 10:23	pH : 6.96
Sample Type : COMPOS	Sampled by : Ken Fossum
	Delivered : Ken Fossum
	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
BOD, 5 Day	SM22 5210 B BOD, 5 Day Case Narrative: DW = 0.34mg/L: C.L. = <0.20 mg/L	38 mg/L	1	K5	2	2	BM	07/25/2019 10:51
COD	HACH-8000	170 mg/L	1		6	50	DT	07/25/2019 07:45
Suspended Solids	SM22 2540 D	208 mg/L	20		50	50	LM	07/26/2019 09:43
Total Dissolved Solids	SM22 2540 C	114 mg/L	1		10	10	DT	07/29/2019 13:10

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054925**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 06:29	Account Number : Stormwater
Approval Date : 08/07/2019 07:50	Sampled by : Ken Fossum
Received Date/Time: 07/24/2019 10:23	Delivered : Ken Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
O-Phosphate-P	EPA 300.0	0.3 mg/L	1		0.0027	0.1	GA	07/24/2019 18:25
Nitrate-N	EPA 300.0	0.7 mg/L	1		0.0012	0.1	GA	07/24/2019 18:25
Nitrite-N	EPA 300.0	<0.1 mg/L	1		0.0003	0.1	GA	07/24/2019 18:25

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054926**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 06:29	Account Number : Stormwater
Approval Date : 08/08/2019 10:56	Temperature : 28.9 Deg. C
Received Date/Time: 07/24/2019 10:23	pH : 6.96
Sample Type : COMPOS	Sampled by : Ken Fossum
	Delivered : Ken Fossum
	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Phosphorus - Total	SM 4500 P E	0.67	mg/L	1			0.10	TAM	07/25/2019 16:16

Phosphorus - Total Case Narrative: The COC has a sampling date of 7/29/19, which is in the future. The client was notified of this issue and the laboratory used 7/24/19 as the sample collection date. 2019054926 (550-126635-1) and 2019054931 (550-126635-2)

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054927**

Sample ID : SC046	Temperature : 28.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 09:00	pH : 6.96	Account Number : Stormwater
Approval Date : 08/16/2019 12:44		Sampled by : Ken Fossum
Received Date/Time: 07/24/2019 10:23		Delivered : Ken Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		07/26/2019 23:05
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		07/26/2019 23:05
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		07/26/2019 23:05
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		07/26/2019 23:05
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		07/26/2019 23:05
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		07/26/2019 23:05
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		07/26/2019 23:05
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		07/26/2019 23:05
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		07/26/2019 23:05
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		07/26/2019 23:05
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		07/26/2019 23:05
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		07/26/2019 23:05
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		07/26/2019 23:05
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		07/26/2019 23:05
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		07/26/2019 23:05
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		07/26/2019 23:05
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		07/26/2019 23:05
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		07/26/2019 23:05
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		07/26/2019 23:05
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		07/26/2019 23:05
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		07/26/2019 23:05
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		07/26/2019 23:05
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		07/26/2019 23:05
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		07/26/2019 23:05
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		07/26/2019 23:05

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054927**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 09:00	Account Number : Stormwater
Approval Date : 08/16/2019 12:44	Sampled by : Ken Fossum
Received Date/Time: 07/24/2019 10:23	Delivered : Ken Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		07/26/2019 23:05
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		07/26/2019 23:05
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		07/26/2019 23:05
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		07/26/2019 23:05
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		07/26/2019 23:05
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		07/26/2019 23:05
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		07/26/2019 23:05
	Pentafluorobenzene (Surrogate1)	108	% Recovery	1					07/26/2019 23:05
	Fluorobenzene (Surrogate2)	103	% Recovery	1					07/26/2019 23:05
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					07/26/2019 23:05
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		07/26/2019 23:05
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		07/26/2019 23:05
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		07/26/2019 23:05
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		07/26/2019 23:05
	Pentafluorobenzene (Surrogate1)	108	% Recovery	1					07/26/2019 23:05
	Fluorobenzene (Surrogate2)	103	% Recovery	1					07/26/2019 23:05
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					07/26/2019 23:05

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054928**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 09:00	Temperature : 28.9 Deg. C
Approval Date : 08/16/2019 12:42	pH : 6.96
Received Date/Time: 07/24/2019 10:23	Account Number : Stormwater
Sample Type : GRAB	Sampled by : Ken Fossum
	Delivered : Ken Fossum
	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ☒							AL	
Acrolein		1.6	ug/L	1	N1	0.55	1.0		07/26/2019 14:42
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		07/26/2019 14:42
Pentafluorobenzene (Surrogate1)		101	% Recovery	1					07/26/2019 14:42
Fluorobenzene (Surrogate2)		101	% Recovery	1					07/26/2019 14:42
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					07/26/2019 14:42
GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only.									
GC/MS-Method 624-for 2-	EPA 624 ☒							AL	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		07/26/2019 14:42
Pentafluorobenzene (Surrogate1)		101	% Recovery	1					07/26/2019 14:42
Fluorobenzene (Surrogate2)		101	% Recovery	1					07/26/2019 14:42
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					07/26/2019 14:42

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054929**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 09:00	Account Number : Stormwater
Approval Date : 07/29/2019 08:45	Sampled by : Ken Fossum
Received Date/Time: 07/24/2019 10:23	Delivered : Ken Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Coliform - E. Coli	SM22 9223 B							MB	
	Total Coliform	>2419.6	MPN/100mL	1		1	1		07/24/2019 13:15
	E. coli	90.8	MPN/100mL	1		1	1		07/24/2019 13:15

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054930**

Sample ID : SC046	Temperature : 28.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 09:00	pH : 6.96	Account Number : Stormwater
Approval Date : 07/30/2019 15:01		Sampled by : Ken Fossum
Received Date/Time: 07/24/2019 10:23		Delivered : Ken Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Cyanide	EPA 335.4	<0.005 mg/L	1		0.0011	0.005	LG	07/29/2019 12:00

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054931**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 09:00	Account Number : Stormwater
Approval Date : 08/08/2019 10:56	Temperature : 28.9 Deg. C
Received Date/Time: 07/24/2019 10:23	pH : 6.96
Sample Type : GRAB	Sampled by : Ken Fossum
	Delivered : Ken Fossum
	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 1664 With Silica Gel	EPA 1664B							TAM	
	Hexane Extractable Material	<5.9	mg/L	1			5.9		07/29/2019 14:05
	Hexane Extractable Material - Silica Gel	<5.9	mg/L	1			5.9		07/29/2019 14:05
EPA 1664 With Silica Gel Treatment Case Narrative: Method(s) 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 280-465950 and analytical batch 280-465974.									

The COC has a sampling date of 7/29/19, which is in the future. The client was notified of this issue and the laboratory used 7/24/19 as the sample collection date. 2019054926 (550-126635-1) and 2019054931 (550-126635-2)

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054932**

Sample ID : SC046 Trip Blank
 Sampling Date/Time: 07/24/2019 09:00
 Approval Date : 08/16/2019 12:44
 Received Date/Time: 07/24/2019 10:23
 Sample Type : TIME

Temperature : 28.9 Deg. C
 pH : 6.96

Project Link Code : Stormwater
 Account Number : Stormwater
 Sampled by : Ken Fossum
 Delivered : Ken Fossum
 Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		07/26/2019 22:03
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		07/26/2019 22:03
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		07/26/2019 22:03
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		07/26/2019 22:03
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		07/26/2019 22:03
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		07/26/2019 22:03
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		07/26/2019 22:03
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		07/26/2019 22:03
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		07/26/2019 22:03
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		07/26/2019 22:03
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		07/26/2019 22:03
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		07/26/2019 22:03
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		07/26/2019 22:03
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		07/26/2019 22:03
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		07/26/2019 22:03
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		07/26/2019 22:03
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		07/26/2019 22:03
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		07/26/2019 22:03
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		07/26/2019 22:03
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		07/26/2019 22:03
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		07/26/2019 22:03
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		07/26/2019 22:03
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		07/26/2019 22:03
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		07/26/2019 22:03
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		07/26/2019 22:03

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054932**

Sample ID : SC046 Trip Blank
 Sampling Date/Time: 07/24/2019 09:00
 Approval Date : 08/16/2019 12:44
 Received Date/Time: 07/24/2019 10:23
 Sample Type : TIME

Temperature : 28.9 Deg. C
 pH : 6.96

Project Link Code : Stormwater
 Account Number : Stormwater
 Sampled by : Ken Fossum
 Delivered : Ken Fossum
 Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		07/26/2019 22:03
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		07/26/2019 22:03
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		07/26/2019 22:03
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		07/26/2019 22:03
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		07/26/2019 22:03
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		07/26/2019 22:03
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		07/26/2019 22:03
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					07/26/2019 22:03
	Fluorobenzene (Surrogate2)	102	% Recovery	1					07/26/2019 22:03
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					07/26/2019 22:03
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		07/26/2019 22:03
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		07/26/2019 22:03
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		07/26/2019 22:03
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		07/26/2019 22:03
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					07/26/2019 22:03
	Fluorobenzene (Surrogate2)	102	% Recovery	1					07/26/2019 22:03
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					07/26/2019 22:03

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019054933**

Sample ID : SC046 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 07/24/2019 09:00	Account Number : Stormwater
Approval Date : 08/16/2019 12:42	Temperature : 28.9 Deg. C
Received Date/Time: 07/24/2019 10:23	pH : 6.96
Sample Type : TIME	Sampled by : Ken Fossum
	Delivered : Ken Fossum
	Receipt Temperature (°C) : 3.0-3.4

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ☒							AL	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		07/26/2019 14:18
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		07/26/2019 14:18
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					07/26/2019 14:18
Fluorobenzene (Surrogate2)		101	% Recovery	1					07/26/2019 14:18
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					07/26/2019 14:18
GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only.									
GC/MS-Method 624-for 2-	EPA 624 ☒							AL	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		07/26/2019 14:18
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					07/26/2019 14:18
Fluorobenzene (Surrogate2)		101	% Recovery	1					07/26/2019 14:18
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					07/26/2019 14:18

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

ANALYTICAL REPORT

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

Laboratory Job ID: 550-126635-1

Client Project/Site: Water Services Department

For:

City of Phoenix Water Services
2474 South 22nd Ave
Bld. 31
Phoenix, Arizona 85009

Attn: Britney Dempster



Authorized for release by:
8/2/2019 2:12:17 PM

Rachel Sester, Project Manager I
(602)659-7615
rachel.sester@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



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www.testamericainc.com

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

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



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Definitions/Glossary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-126635-1

Glossary

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

Case Narrative

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-126635-1

Job ID: 550-126635-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

**Job Narrative
550-126635-1**

Comments

No additional comments.

Receipt

The samples were received on 7/24/2019 2:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.9° C.

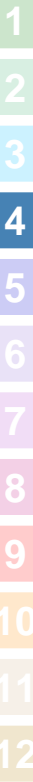
Receipt Exceptions

The COC has a sampling date of 7/29/19, which is in the future. The client was notified of this issue and the laboratory used 7/24/19 as the sample collection date. 2019054926 (550-126635-1) and 2019054931 (550-126635-2)

General Chemistry

Method(s) 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 280-465950 and analytical batch 280-465974.

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



Sample Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-126635-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-126635-1	2019054926	Water	07/24/19 06:29	07/24/19 14:20	
550-126635-2	2019054931	Water	07/24/19 09:00	07/24/19 14:20	

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Client Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-126635-1

Client Sample ID: 2019054926
 Date Collected: 07/24/19 06:29
 Date Received: 07/24/19 14:20

Lab Sample ID: 550-126635-1
 Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	0.67		0.10		mg/L		07/25/19 10:35	07/25/19 16:16	1

Client Sample ID: 2019054931
 Date Collected: 07/24/19 09:00
 Date Received: 07/24/19 14:20

Lab Sample ID: 550-126635-2
 Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil and Grease)	ND		5.9		mg/L		07/29/19 11:12	07/29/19 14:05	1



QC Sample Results

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-126635-1

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 280-465950/3-A
Matrix: Water
Analysis Batch: 465974

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 465950

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil and Grease)	ND		5.0		mg/L		07/29/19 11:12	07/29/19 14:05	1

Lab Sample ID: LCS 280-465950/1-A
Matrix: Water
Analysis Batch: 465974

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 465950

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
HEM (Oil and Grease)	40.0	38.50		mg/L		96	78 - 114

Lab Sample ID: LCSD 280-465950/2-A
Matrix: Water
Analysis Batch: 465974

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 465950

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
HEM (Oil and Grease)	40.0	36.80		mg/L		92	78 - 114	5	18

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 550-184495/3-A
Matrix: Water
Analysis Batch: 184574

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 184495

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	ND		0.10		mg/L		07/25/19 10:35	07/25/19 16:16	1

Lab Sample ID: LCS 550-184495/4-A
Matrix: Water
Analysis Batch: 184574

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 184495

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Phosphorus	0.300	0.307		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-184495/5-A
Matrix: Water
Analysis Batch: 184574

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 184495

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Total Phosphorus	0.300	0.311		mg/L		104	90 - 110	1	20

Lab Sample ID: 550-126280-P-1-C MS
Matrix: Water
Analysis Batch: 184574

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 184495

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Total Phosphorus	0.47		0.300	0.764		mg/L		100	80 - 120

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-126635-1

Method: SM 4500 P E - Phosphorus (Continued)

Lab Sample ID: 550-126280-P-1-D MSD
Matrix: Water
Analysis Batch: 184574

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 184495

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Total Phosphorus	0.47		0.300	0.758		mg/L		98	80 - 120	1	20

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Lab Chronicle

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-126635-1

Client Sample ID: 2019054926

Date Collected: 07/24/19 06:29

Date Received: 07/24/19 14:20

Lab Sample ID: 550-126635-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			184495	07/25/19 10:35	MDS	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	184574	07/25/19 16:16	MDS	TAL PHX

Client Sample ID: 2019054931

Date Collected: 07/24/19 09:00

Date Received: 07/24/19 14:20

Lab Sample ID: 550-126635-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			465950	07/29/19 11:12	BWH	TAL DEN
Total/NA	Analysis	1664B		1	465974	07/29/19 14:05	BWH	TAL DEN

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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

Accreditation/Certification Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-126635-1

Laboratory: Eurofins TestAmerica, Phoenix

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Arizona	State Program	9	AZ0728	06-09-20

Laboratory: Eurofins TestAmerica, Denver

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Arizona	State Program	9	AZ0713	12-20-19

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Method Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-126635-1

Method	Method Description	Protocol	Laboratory
1664B	HEM and SGT-HEM	1664B	TAL DEN
SM 4500 P E	Phosphorus	SM	TAL PHX
1664B	HEM and SGT-HEM (SPE)	1664B	TAL DEN
SM 4500 P B	Phosphorous, Total and Ortho	SM	TAL PHX

Protocol References:

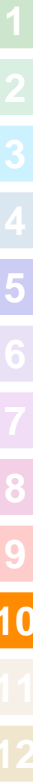
1664B = EPA-821-98-002

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

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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



TestAmerica Phoenix
 4625 East Cotton Center Boulevard
 Suite 189

Phoenix, AZ 85040-4807
 phone 602.437.3340 fax 602.454.9303

Chain of Custody Record



TestAmerica Laboratories, Inc.

Regulatory Program: DW NPDES RCRA Other:

Project Manager: Rachel Sester

Client Contact: City of Phoenix, 2474 S 22nd Ave, Phoenix, AZ 85009, (602) 534-2960

Site Contact: Lab Contact: EPA 1664-HEM

Analysis Turnaround Time: CALENDAR DAYS WORKING DAYS

TAT if different from Below: 2 weeks 1 week 2 days 1 day

Sample Identification:

Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.
-01	2019054926	0629	G	Storm	1
-02	2019054931	0900	C	Storm	3

Filtered Sample (Y/N) Perform MS/MSD (Y/N) Total Phosphorous X

Carrier: _____ Date: _____

COC No: 1 of 1 COCs

Sampler: _____

For Lab Use Only:
 Walk-in Client: _____
 Lab Sampling: _____

Job / SDG No.: _____

Sample Specific Notes: _____



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

Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Special Instructions/QC Requirements & Comments: _____

Relinquished by: <i>[Signature]</i>	Company: City of Phoenix	Date/Time: 7/24/19 14:20	Received by: <i>[Signature]</i>	Company: ATZEMAN DCS	Date/Time: 7/24/19 14:20
Relinquished by: <i>[Signature]</i>	Company: Phoenix	Date/Time: 7/24/19 14:55	Received by: <i>[Signature]</i>	Company: ATZEMAN DCS	Date/Time: 7/24/19 14:55
Relinquished by: _____	Company: _____	Date/Time: _____	Received in Laboratory by: <i>[Signature]</i>	Company: Phoenix	Date/Time: 7-24-19 14:55

Chain of Custody Record

TestAmerica Laboratories, Inc.
COC No: 1 of 1 COCs

Regulatory Program: DW NPDES RCRA Other:

Project Manager: Rachel Sester		Site Contact:		Date:	
Tel/Fax:		Lab Contact:		Carrier:	
Analysis Turnaround Time		Filtered Sample (Y/N)		Sample Specific Notes:	
<input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Perform MS / MSD (Y/N) EPA 1664-HEM			
Sample Identification	Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Cont.
2019054926	7/24/19	0629	G Storm		1
2019054931	7/24/19	0900	C Storm		3
		AC 7/25/19			

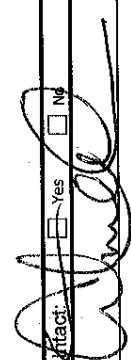
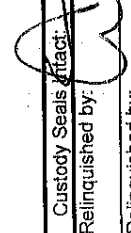
Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.


Non-Hazard Flammable Bkn Irritant Poison B Unknown


Return to Client Disposal by Lab Archive for _____ Months


Special Instructions/QC Requirements & Comments:

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

Custody Seal No.: Yes No
 Relinquished by: 
 Relinquished by: 
 Relinquished by: _____

Company: City of Phoenix
 Company: 
 Company: _____

Received by: 
 Received by: _____

Company: 
 Company: _____

Therm ID No.: _____
 Date/Time: 7/24/19 14:20
 Date/Time: _____
 Date/Time: _____

Form No. CA-C-WI-002, Rev. 4.8, dated 11/04/2015





Chain of Custody Record

Client Information (Sub Contract Lab) Company: TestAmerica Laboratories, Inc. Address: 4955 Yarrow Street, Avada, CO 80002 Phone: 303-736-0100(Tel) 303-431-7171(Fax) Email: [Redacted] Project Name: Water Services Department Site: [Redacted]		Lab PM: Sester, Rachel E. E-Mail: rachel.sester@testamericainc.com State of Origin: Arizona Accreditations Required (See note): State Program - Arizona		Camer Tracking No(s): 550-25215.1 Page: Page 1 of 1 Job #: 550-126635-1	
Due Date Requested: 7/31/2019 TAT Requested (days):	Perform MS/MSD (Yes or No): 164B/164B_SPE 164B - HEM	Field Filtered Sample (Yes or No): X	Total Number of Containers: 3	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Sample Date: 7/24/19 Sample Time: 09:00 Sample Location: Arizona	Sample Type: G=grab Matrix: Water	Preservation Code:	Analysis Requested:	Special Instructions/Note:	
Sample Identification - Client ID (Lab ID): 2019054931 (550-126635-2)					
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.					
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2					
Empty Kit Relinquished by: [Redacted] Date: [Redacted] Time: [Redacted] Method of Shipment: [Redacted]					
Relinquished by: [Redacted] Date/Time: 07-25-19 16:50 Company: [Redacted]					
Relinquished by: [Redacted] Date/Time: [Redacted] Company: [Redacted]					
Relinquished by: [Redacted] Date/Time: [Redacted] Company: [Redacted]					
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Custody Seal No.: [Redacted]					



Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-126635-1

Login Number: 126635

List Source: Eurofins TestAmerica, Phoenix

List Number: 1

Creator: Gravlin, Andrea

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

Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-126635-1

Login Number: 126635

List Number: 2

Creator: Wourms, Hannah M

List Source: Eurofins TestAmerica, Denver

List Creation: 07/26/19 01:59 PM

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



OUTFALL IB008

Storm of August 28, 2019

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To: Joshua Blakey
Environmental Quality Specialist - Stormwater

Date: 09/25/2019

From: Kristi McFarlin
Environmental Quality Specialist-Laboratory

Subject: Stormwater Summer Season June 1-October 31, 2019

Attached are laboratory reports and COCs for samples collected 8/28/19 at IB008.

Please call me at (602) 262-5012 if you have any questions about these reports.
Attached:

LIMS:
2019065138-2019065152

I certify that these test reports are in compliance with the terms and conditions of Laboratory agreements and all referenced methods, both technically and for completeness, except for any noted conditions. Release of the data in this original printed test report and any alternate means of electronic communication and transmission have been authorized by the Laboratory Superintendent, or his acknowledged designee, as verified by the following signature.



Kristi McFarlin
Environmental Quality Specialist

Date: 9/25/19

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Sample # Sample ID

2019065138



City of Phoenix, Water Services
Environmental Services Division
Chain of Custody Report



Project ID: **STORMWATER**

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
	Stormwater	IB008	608-STORM	1	8/28/19		ICE
	Stormwater	IB008	625-STORM	1			ICE
	Stormwater	IB008	TOTAL METALS STORMWATER	1			HNO3
	Stormwater	IB008	METALS DISSOLVED STORMWATER	1			HNO3/FIELD FILTERED
	Stormwater	IB008	NH3-WC and TKN-WC	1			H2SO4
	Stormwater	IB008	Group A with TDS	1			ICE
	Stormwater	IB008	IC300 Nitrate, Nitrite, Orthophosphate	1			ICE
	Stormwater	IB008	TOTAL PHOSPHOROUS	1			H2SO4

COMPOSITE SAMPLES

Sample # Sample ID

2019065138 - IB008

2019065139 - IB008

2019065140 - IB008

2019065141 - IB008

2019065142 - IB008

2019065143 - IB008

2019065144 - IB008

2019065145 - IB008

Sampler Print & Sign/Relinquished By	RECEIVED time	Received By	Condition (Lab Use Only)
KENNETH FOSSUM <i>[Signature]</i>	8/29/19 140	IN FRIDGE <i>[Signature]</i>	C
In Fridge	AUG 29 2019		
	TIME: 0708		
	TEMP °C: 1.9		

Sample # Sample ID
 2019065146 

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report



Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
	Stormwater	IB008	8260B-Storm 624-Storm	6	8/29/19	0050	HCL
	Stormwater	IB008	624 ACAC 624 CEVE	6	↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	ICE
	Stormwater	IB008	COLILERT - MPN	1			NaSO4
	Stormwater	IB008	CYANIDE	1			NaOH
	Stormwater	IB008	1664 HEMSGT	3			H2SO4
	Stormwater	IB008 Trip Blank	8260B-Storm 624-Storm	2			HCL
	Stormwater	IB008 Trip Blank	624 ACAC 624 CEVE	2			ICE

GRAB SAMPLES

pH 7.39 Air Temp 25.5 Water Temp 29.7 Specific Conductance 118
 Barometric Pressure 725 Dissolved Oxygen 6.57

2019065146 - IB008
 2019065147 - IB008

Sample # Sample ID
 2019065148 - IB008
 2019065149 - IB008
 2019065150 - IB008
 2019065151 - IB008 Trip Blank
 2019065152 - IB008 Trip Blank

RECEIVED

Sampler Print & Sign/Relinquished By <u>KENNETH FOSSUM</u> <u>In Fridge</u>	Time <u>8/29/19 0140</u> AUG 29 2019	Received By <u>Jam Cur</u>	Condition (Lab Use Only) <u>C</u>
	TIME: <u>0708</u>		
	TEMP °C: <u>14</u>		



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065138**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time : 08/28/2019 21:34	Account Number : Stormwater
Approval Date : 09/23/2019 13:23	Sampled by : USGS
Received Date/Time : 08/29/2019 07:08	Delivered : USGS
Sample Type : COMPOS	Receipt Temperature (°C) : 1.4-1.9
Temperature : 29.7 Deg. C	
pH : 7.39	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
608-STORM	EPA 608							JG	
	alpha-BHC	<0.012	ug/L	1	E8	0.012	0.1		09/11/2019 22:43
	gamma-BHC	<0.013	ug/L	1	E8	0.013	0.1		09/11/2019 22:43
	beta-BHC	<0.099	ug/L	1	E8	0.099	0.1		09/11/2019 22:43
	d-BHC	<0.045	ug/L	1	E8	0.045	0.1		09/11/2019 22:43
	Heptachlor	<0.011	ug/L	1	E8	0.011	0.1		09/11/2019 22:43
	Aldrin	<0.010	ug/L	1	E8	0.010	0.1		09/11/2019 22:43
	Heptachlor Epoxide	<0.012	ug/L	1	E8	0.012	0.1		09/11/2019 22:43
	4,4'-DDE	<0.015	ug/L	1	E8	0.015	0.1		09/11/2019 22:43
	Endosulfan I	<0.020	ug/L	1	E8	0.020	0.1		09/11/2019 22:43
	Dieldrin	<0.012	ug/L	1	E8	0.012	0.1		09/11/2019 22:43
	Endrin	<0.042	ug/L	1	E8	0.042	0.1		09/11/2019 22:43
	4,4'-DDD	<0.017	ug/L	1	E8	0.017	0.1		09/11/2019 22:43
	Endosulfan II	<0.014	ug/L	1	E8	0.014	0.1		09/11/2019 22:43
	4,4'-DDT	<0.009	ug/L	1	E8	0.009	0.1		09/11/2019 22:43
	Endrin Aldehyde	<0.068	ug/L	1	E8	0.068	0.1		09/11/2019 22:43
	Endosulfan Sulfate	<0.017	ug/L	1	E8	0.017	0.1		09/11/2019 22:43
	Chlordane	<0.33	ug/L	1	E8	0.33	1.0		09/11/2019 22:43
	Toxaphene	<0.482	ug/L	1	E8	0.482	2.0		09/11/2019 22:43
	Arochlor-1016	<0.40	ug/L	1	E8	0.40	1.0		09/11/2019 22:43
	Arochlor-1221	<0.50	ug/L	1	E8	0.50	2.0		09/11/2019 22:43
	Arochlor-1232	<0.48	ug/L	1	E8	0.48	1.0		09/11/2019 22:43
	Arochlor-1242	<0.28	ug/L	1	E8	0.28	1.0		09/11/2019 22:43
	Arochlor-1248	<0.35	ug/L	1	E8	0.35	1.0		09/11/2019 22:43
	Arochlor-1254	<0.21	ug/L	1	E8	0.21	1.0		09/11/2019 22:43
	Arochlor-1260	<0.28	ug/L	1	E8	0.28	1.0		09/11/2019 22:43

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065138**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:34	Temperature : 29.7 Deg. C
Approval Date : 09/23/2019 13:23	pH : 7.39
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : COMPOS	Sampled by : USGS
	Delivered : USGS
	Receipt Temperature (°C) : 1.4-1.9

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
608-STORM	EPA 608							JG	
	Decachlorobiphenyl	82	% Recovery	1					09/11/2019 22:43
	Total Endosulfan	<0.020	ug/L	1	E8	0.020	0.1		09/11/2019 22:43
	TOTAL PCB	<0.50	ug/L	1	E8	0.50	2.0		09/11/2019 22:43
	Aldrin/Dieldrin	<0.012	ug/L	1	E8	0.012	0.1		09/11/2019 22:43
Extraction - 608	EPA 608	COMPLETE						DC	09/03/2019 00:00

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065139**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time : 08/28/2019 21:34	Account Number : Stormwater
Approval Date : 09/16/2019 14:17	Sampled by : USGS
Received Date/Time : 08/29/2019 07:08	Delivered : USGS
Sample Type : COMPOS	Receipt Temperature (°C) : 1.4-1.9
Temperature : 29.7 Deg. C	
pH : 7.39	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
	Acenaphthene	<1.19	ug/L	1	E8	1.19	10		09/05/2019 16:41
	Acenaphthylene	<1.41	ug/L	1	E8	1.41	10		09/05/2019 16:41
	Anthracene	<1.20	ug/L	1	E8	1.20	10		09/05/2019 16:41
	Benzo(a)anthracene	<1.02	ug/L	1	E8	1.02	10		09/05/2019 16:41
	Benzo(a)pyrene	<1.08	ug/L	1	E8	1.08	10		09/05/2019 16:41
	Benzo(b)fluoranthene	<0.38	ug/L	1	E8	0.38	10		09/05/2019 16:41
	Benzo(ghi)perylene	<1.14	ug/L	1	E8	1.14	10		09/05/2019 16:41
	Benzo(k)fluoranthene	<1.03	ug/L	1	E8	1.03	10		09/05/2019 16:41
	Chrysene	<1.16	ug/L	1	E8	1.16	10		09/05/2019 16:41
	Dibenzo(a,h)anthracene	<1.02	ug/L	1	E8	1.02	10		09/05/2019 16:41
	1,2-Dichlorobenzene	<1.43	ug/L	1	E8	1.43	10		09/05/2019 16:41
	1,3-Dichlorobenzene	<1.39	ug/L	1	E8	1.39	10		09/05/2019 16:41
	1,4-Dichlorobenzene	<1.48	ug/L	1	E8	1.48	10		09/05/2019 16:41
	3,3'-Dichlorobenzidine	<6.99	ug/L	1	E8	6.99	50		09/05/2019 16:41
	Diethyl phthalate	<1.08	ug/L	1	E8	1.08	10		09/05/2019 16:41
	Dimethyl phthalate	<1.17	ug/L	1	E8	1.17	20		09/05/2019 16:41
	Di-n-butyl phthalate	<1.12	ug/L	1	E8	1.12	10		09/05/2019 16:41
	2,4-Dinitrotoluene	<1.17	ug/L	1	E8	1.17	10		09/05/2019 16:41
	2,6-Dinitrotoluene	<1.13	ug/L	1	E8	1.13	10		09/05/2019 16:41
	Di-n-octyl phthalate	<2.05	ug/L	1	E8	2.05	10		09/05/2019 16:41
	1,2-Diphenyl hydrazine (as azobenzene)	<1.11	ug/L	1	E8	1.11	10		09/05/2019 16:41
	Fluoranthene	<1.27	ug/L	1	E8	1.27	10		09/05/2019 16:41
	Fluorene	<1.18	ug/L	1	E8	1.18	10		09/05/2019 16:41
	Hexachlorobenzene	<1.01	ug/L	1	E8	1.01	10		09/05/2019 16:41
	Hexachlorobutadiene	<1.20	ug/L	1	E8	1.20	10		09/05/2019 16:41

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065139**

Sample ID : IB008	Temperature : 29.7 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:34	pH : 7.39	Account Number : Stormwater
Approval Date : 09/16/2019 14:17		Sampled by : USGS
Received Date/Time: 08/29/2019 07:08		Delivered : USGS
Sample Type : COMPOS		Receipt Temperature (°C) : 1.4-1.9

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625						AM	
	Hexachlorocyclopentadiene	<3.07 ug/L	1	E8	3.07	10		09/05/2019 16:41
	Hexachloroethane	<1.35 ug/L	1	E8	1.35	10		09/05/2019 16:41
	Indeno(1,2,3-cd)pyrene	<1.07 ug/L	1	E8	1.07	10		09/05/2019 16:41
	Isophorone	<1.32 ug/L	1	E8	1.32	10		09/05/2019 16:41
	Naphthalene	<1.48 ug/L	1	E8	1.48	10		09/05/2019 16:41
	Nitrobenzene	<1.55 ug/L	1	E8	1.55	10		09/05/2019 16:41
	N-Nitrosodimethylamine	<1.67 ug/L	1	E8	1.67	10		09/05/2019 16:41
	N-Nitrosodi-n-propylamine	<1.65 ug/L	1	E8	1.65	10		09/05/2019 16:41
	N-Nitrosodiphenylamine	<1.07 ug/L	1	E8	1.07	10		09/05/2019 16:41
	Phenanthrene	<1.33 ug/L	1	E8	1.33	10		09/05/2019 16:41
	Pyrene	<1.20 ug/L	1	E8	1.20	10.0		09/05/2019 16:41
	1,2,4-Trichlorobenzene	<1.34 ug/L	1	E8	1.34	10		09/05/2019 16:41
	2-Chlorophenol	<4.52 ug/L	1	E8	4.52	10		09/05/2019 16:41
	2,4-Dichlorophenol	<4.77 ug/L	1	E8	4.77	10		09/05/2019 16:41
	2,4-Dimethylphenol	<2.04 ug/L	1	E8	2.04	10		09/05/2019 16:41
	2-Methyl-4,6-dinitrophenol	<3.36 ug/L	1	E8	3.36	10		09/05/2019 16:41
	2,4-Dinitrophenol	<3.41 ug/L	1	E8	3.41	10		09/05/2019 16:41
	2-Nitrophenol	<4.68 ug/L	1	E8	4.68	10		09/05/2019 16:41
	4-Nitrophenol	<3.52 ug/L	1	E8	3.52	10		09/05/2019 16:41
	4-Chloro-3-methylphenol	<4.76 ug/L	1	E8	4.76	10		09/05/2019 16:41
	Pentachlorophenol	<4.00 ug/L	1	E8	4.00	10		09/05/2019 16:41
	Phenol	<4.08 ug/L	1	E8	4.08	10		09/05/2019 16:41
	2,4,6-Trichlorophenol	<5.27 ug/L	1	E8	5.27	10		09/05/2019 16:41
	2,4,6-Tribromophenol	100 % Recovery	1					09/05/2019 16:41
	Dibromooctafluorobiphenyl	59 % Recovery	1					09/05/2019 16:41

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065139**

Sample ID : IB008	Temperature : 29.7 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:34	pH : 7.39	Account Number : Stormwater
Approval Date : 09/16/2019 14:17		Sampled by : USGS
Received Date/Time: 08/29/2019 07:08		Delivered : USGS
Sample Type : COMPOS		Receipt Temperature (°C) : 1.4-1.9

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625 4,4-Dibromobiphenyl	65 % Recovery			1		AM	09/05/2019 16:41
Extraction - 625	EPA 625	COMPLETE					AA	09/03/2019 00:00

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065140**

Sample ID : IB008	Temperature : 29.7 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:34	pH : 7.39	Account Number : Stormwater
Approval Date : 09/17/2019 15:20		Sampled by : USGS
Received Date/Time: 08/29/2019 07:08		Delivered : USGS
Sample Type : COMPOS		Receipt Temperature (°C) : 1.4-1.9

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Silver - Total Recoverable	EPA 200.8	0.0002 mg/L	5	D1;E4	0.00015	0.0050	YL	09/09/2019 00:00
Arsenic - Total Recoverable	EPA 200.8	0.0043 mg/L	5	D1;E4	0.00035	0.0050	YL	09/09/2019 00:00
Barium - Total Recoverable	EPA 200.8	0.157 mg/L	5	D1	0.00030	0.0050	YL	09/09/2019 00:00
Beryllium - Total Recoverable	EPA 200.8	0.00041 mg/L	5	D1;E4	0.00015	0.0050	YL	09/09/2019 00:00
Cadmium - Total Recoverable	EPA 200.8	<0.00025 mg/L	5	D1;E8	0.00025	0.0050	YL	09/09/2019 00:00
Chromium - Total Recoverable	EPA 200.8	0.0121 mg/L	5	D1;B1	0.00045	0.0050	YL	09/09/2019 00:00
Chromium - Total Recoverable Case Narrative: LRB = 0.00075 mg/L, acceptance limit <0.00045 mg/L.								
Copper - Total Recoverable	EPA 200.8	0.0708 mg/L	5	D1	0.0005	0.0050	YL	09/09/2019 00:00
Nickel - Total Recoverable	EPA 200.8	0.0132 mg/L	5	D1	0.00015	0.0050	YL	09/09/2019 00:00
Lead - Total Recoverable	EPA 200.8	0.0214 mg/L	5	D1;B1	0.00010	0.0050	YL	09/09/2019 00:00
Lead - Total Recoverable Case Narrative: LRB = 0.0001 mg/L, acceptance limit <0.0001 mg/L.								
Antimony - Total Recoverable	EPA 200.8	0.0023 mg/L	5	D1;E4	0.00030	0.0050	YL	09/09/2019 00:00
Selenium - Total Recoverable	EPA 200.8	<0.00055 mg/L	5	D1;E8	0.00055	0.0050	YL	09/09/2019 00:00
Thallium - Total Recoverable	EPA 200.8	0.00015 mg/L	5	D1;E4	0.00015	0.0050	YL	09/09/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065140**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:34	Temperature : 29.7 Deg. C
Approval Date : 09/17/2019 15:20	pH : 7.39
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : COMPOS	Sampled by : USGS
	Delivered : USGS
	Receipt Temperature (°C) : 1.4-1.9

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Zinc - Total Recoverable	EPA 200.8	0.279 mg/L	5	D1;B1	0.00330	0.050	YL	09/09/2019 00:00
Zinc - Total Recoverable Case Narrative: LRB = 0.0042 mg/L, acceptance limit <0.0033 mg/L.								
Metals Prep - TR	SM22 3030 F α	COMPLETE					SS	09/05/2019 14:52
Mercury - Total	EPA 245.1	<0.000042 mg/L	2	D2;E4	0.000042	0.0002	CG	09/11/2019 13:15
pH<2Verification	pH <2 Verification	COMPLETE					SS	08/30/2019 13:25

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065141**

Sample ID	: IB008	Project Link Code	: Stormwater
Sampling Date/Time	: 08/28/2019 21:34	Temperature	: 29.7 Deg. C
Approval Date	: 09/17/2019 15:20	pH	: 7.39
Received Date/Time	: 08/29/2019 07:08	Account Number	: Stormwater
Sample Type	: COMPOS	Sampled by	: USGS
		Delivered	: USGS
		Receipt Temperature (°C)	: 1.4-1.9

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Filtration Prep Dissolved Metals	SM22 3030 B	NOT RUN						SS	09/03/2019 08:05
Filtration Prep Dissolved Metals Case Narrative: COC states field filtered.									
Hardness - Total	SM22 2340 B							GA	
	Hardness - Total	38.5	mg/L	1		0.79	16.6		09/06/2019 21:08
	Calcium Hardness	31.2	mg/L	1		0.61	12.5		09/06/2019 21:08
Calcium - Total Recoverable	EPA 200.7	12.5	mg/L	1		0.244	5.00	GA	09/06/2019 21:08
Magnesium - Total Recoverable	EPA 200.7	1.76	mg/L	1		0.043	1.00	GA	09/06/2019 21:08
Silver - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	YL	09/09/2019 00:00
Arsenic - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00035	0.0050	YL	09/09/2019 00:00
Barium - Dissolved	EPA 200.8	0.026	mg/L	5	D1	0.00030	0.0050	YL	09/09/2019 00:00
Beryllium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	YL	09/09/2019 00:00
Cadmium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00025	0.0050	YL	09/09/2019 00:00
Chromium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00045	0.0050	YL	09/09/2019 00:00
Copper - Dissolved	EPA 200.8	0.0157	mg/L	5	D1	0.0005	0.0050	YL	09/09/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065141**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:34	Account Number : Stormwater
Approval Date : 09/17/2019 15:20	Temperature : 29.7 Deg. C
Received Date/Time: 08/29/2019 07:08	pH : 7.39
Sample Type : COMPOS	Sampled by : USGS
	Delivered : USGS
	Receipt Temperature (°C) : 1.4-1.9

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Nickel - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	YL	09/09/2019 00:00
Lead - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00010	0.0050	YL	09/09/2019 00:00
Antimony - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00030	0.0050	YL	09/09/2019 00:00
Selenium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00055	0.0050	YL	09/09/2019 00:00
Thallium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	YL	09/09/2019 00:00
Zinc - Dissolved	EPA 200.8	<0.050	mg/L	5	D1	0.00330	0.050	YL	09/09/2019 00:00
Metals Prep - TR	SM22 3030 F ☐	COMPLETE						SS	09/05/2019 14:52
Mercury - Diss	EPA 245.1	<0.0002	mg/L	2	D2	0.000042	0.0002	CG	09/11/2019 14:06
pH<2Verification	pH <2 Verification	COMPLETE						SS	08/30/2019 13:25

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065142**

Sample ID : IB008	Temperature : 29.7 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:34	pH : 7.39	Account Number : Stormwater
Approval Date : 09/09/2019 11:27		Sampled by : USGS
Received Date/Time: 08/29/2019 07:08		Delivered : USGS
Sample Type : COMPOS		Receipt Temperature (°C) : 1.4-1.9

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Ammonia	EPA 350.1	1.7 mg/L	1		0.043	0.20	LG	09/05/2019 11:06
Total Kjeldahl Nitrogen	EPA 351.2	4.5 mg/L	1		0.19	0.25	LG	09/04/2019 11:37

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065143**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:34	Temperature : 29.7 Deg. C
Approval Date : 09/10/2019 06:01	pH : 7.39
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : COMPOS	Sampled by : USGS
	Delivered : USGS
	Receipt Temperature (°C) : 1.4-1.9

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
BOD, 5 Day	SM22 5210 B	26 mg/L	1		2	2	LG	08/29/2019 10:23
COD	HACH-8000	280 mg/L	1		6	50	LM	08/29/2019 09:24
Suspended Solids	SM22 2540 D	452 mg/L	10		25	25	BM	08/29/2019 09:28
Total Dissolved Solids	SM22 2540 C	116 mg/L	1		10	10	LG	09/06/2019 08:05

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065144**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:34	Account Number : Stormwater
Approval Date : 09/03/2019 14:23	Sampled by : USGS
Received Date/Time: 08/29/2019 07:08	Delivered : USGS
Sample Type : COMPOS	Receipt Temperature (°C) : 1.4-1.9

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
O-Phosphate-P	EPA 300.0	0.2	mg/L	1		0.0027	0.1	CG	08/29/2019 17:33
Nitrate-N	EPA 300.0	0.9	mg/L	1		0.0012	0.1	CG	08/29/2019 17:33
Nitrite-N	EPA 300.0	<0.1	mg/L	1		0.0003	0.1	CG	08/29/2019 17:33

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065145**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:34	Temperature : 29.7 Deg. C
Approval Date : 09/10/2019 07:58	pH : 7.39
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : COMPOS	Sampled by : USGS
	Delivered : USGS
	Receipt Temperature (°C) : 1.4-1.9

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Phosphorus - Total	SM 4500 P E	0.67 mg/L	1			0.10	TAM	08/31/2019 08:37

Phosphorus - Total Case Narrative: The following samples 2019065145 (550-128788-1) and 2019065160 (550-128788-3) were received without collection times listed on the COC or the container. The client contacted the laboratory to supply the collection times and the login was updated.

Method(s) SM 4500 P E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 550-188270 were outside control limits for Phosphorus. Sample matrix interference and/or non-homogeneity were suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) recoveries and precision were within acceptance limits.

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065146**

Sample ID	: IB008	Project Link Code	: Stormwater
Sampling Date/Time	: 08/29/2019 00:50	Account Number	: Stormwater
Approval Date	: 09/13/2019 14:56	Sampled by	: USGS
Received Date/Time	: 08/29/2019 07:08	Delivered	: USGS
Sample Type	: GRAB	Receipt Temperature (°C)	: 1.4-1.9
Temperature	: 29.7 Deg. C		
pH	: 7.39		

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							TH	
	Chloromethane	<3.3	ug/L	10	D1;E8	3.3	10		09/04/2019 17:53
	Vinyl Chloride	<3.5	ug/L	10	D1;E8	3.5	10		09/04/2019 17:53
	Bromomethane	<3.3	ug/L	10	D1;E8	3.3	10		09/04/2019 17:53
	Chloroethane	<3.3	ug/L	10	D1;E8	3.3	10		09/04/2019 17:53
	Trichlorofluoromethane	<4.0	ug/L	10	D1;E8	4.0	10		09/04/2019 17:53
	1,1-Dichloroethylene	<4.0	ug/L	10	D1;E8	4.0	10		09/04/2019 17:53
	Methylene chloride	14	ug/L	10	D1;N1	4.4	10		09/04/2019 17:53
	Methylene chloride Case Narrative: LRB has a detect about MDL (0.67 ug/L), but below RL.								
	trans-1,2-Dichloroethene	<3.2	ug/L	10	D1;E8	3.2	10		09/04/2019 17:53
	1,1-Dichloroethane	<3.2	ug/L	10	D1;E8	3.2	10		09/04/2019 17:53
	Chloroform	<3.1	ug/L	10	D1;E8	3.1	10		09/04/2019 17:53
	1,2-Dichloroethane	<2.8	ug/L	10	D1;E8	2.8	10		09/04/2019 17:53
	1,1,1-Trichloroethane	<3.1	ug/L	10	D1;E8	3.1	10		09/04/2019 17:53
	Carbon Tetrachloride	<2.7	ug/L	10	D1;E8	2.7	10		09/04/2019 17:53
	Benzene	<3.3	ug/L	10	D1;E8	3.3	10		09/04/2019 17:53
	1,2-Dichloropropane	<9.3	ug/L	10	D1;E8	9.3	10		09/04/2019 17:53
	Trichloroethene	<4.6	ug/L	10	D1;E8	4.6	10		09/04/2019 17:53
	Bromodichloromethane	<5.2	ug/L	10	D1;E8	5.2	10		09/04/2019 17:53
	cis-1,3-Dichloropropene	<4.3	ug/L	10	D1;E8	4.3	10		09/04/2019 17:53
	trans-1,3-Dichloropropene	<5.2	ug/L	10	D1;E8	5.2	10		09/04/2019 17:53
	1,1,2-Trichloroethane	<6.8	ug/L	10	D1;E8	6.8	10		09/04/2019 17:53
	Toluene	<3.8	ug/L	10	D1;E8	3.8	10		09/04/2019 17:53
	Dibromochloromethane	<7.0	ug/L	10	D1;E8	7.0	10		09/04/2019 17:53
	Tetrachloroethylene	<3.8	ug/L	10	D1;E8	3.8	10		09/04/2019 17:53
	Chlorobenzene	<7.0	ug/L	10	D1;E8	7.0	10		09/04/2019 17:53

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065146**

Sample ID	: IB008	Project Link Code	: Stormwater
Sampling Date/Time	: 08/29/2019 00:50	Account Number	: Stormwater
Approval Date	: 09/13/2019 14:56	Sampled by	: USGS
Received Date/Time	: 08/29/2019 07:08	Delivered	: USGS
Sample Type	: GRAB	Receipt Temperature (°C)	: 1.4-1.9

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							TH	
	Ethylbenzene	<6.1	ug/L	10	D1;E8	6.1	10		09/04/2019 17:53
	m- & p-Xylene	<12.2	ug/L	10	D1;E8	12.2	20		09/04/2019 17:53
	Bromoform	<8.1	ug/L	10	D1;E8	8.1	10		09/04/2019 17:53
	o-Xylene	<7.0	ug/L	10	D1;E8	7.0	10		09/04/2019 17:53
	1,1,2,2-Tetrachloroethane	<8.3	ug/L	10	D1;E8	8.3	10		09/04/2019 17:53
	1,3-Dichlorobenzene	<8.7	ug/L	10	D1;E8	8.7	10		09/04/2019 17:53
	1,2-Dichlorobenzene	<9.3	ug/L	10	D1;E8	9.3	10		09/04/2019 17:53
	1,4-Dichlorobenzene	<9.1	ug/L	10	D1;E8	9.1	10		09/04/2019 17:53
	Pentafluorobenzene (Surrogate1)	100	% Recovery	1					09/04/2019 17:53
	Fluorobenzene (Surrogate2)	103	% Recovery	1					09/04/2019 17:53
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					09/04/2019 17:53
	Total Xylene	<7.0	ug/L	10	D1;E8	7.0	10		09/04/2019 17:53
	1,3-Dichloropropene (cis & trans)	<4.3	ug/L	10	D1;E8	4.3	10		09/04/2019 17:53
624-STORM Case Narrative: DF=10									
Method 8260B Stormwater	EPA 8260B							TH	
	1,3,5-Trimethylbenzene	<10	ug/L	10	D1	7.5	10		09/04/2019 17:53
	1,2,4-Trimethylbenzene	<10	ug/L	10	D1	8.0	10		09/04/2019 17:53
	Pentafluorobenzene (Surrogate1)	100	% Recovery	10					09/04/2019 17:53
	Fluorobenzene (Surrogate2)	103	% Recovery	10					09/04/2019 17:53
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	10					09/04/2019 17:53
Method 8260B Stormwater Analysis Case Narrative: DF=10									

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065147**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 08/29/2019 00:50	Account Number : Stormwater
Approval Date : 09/24/2019 15:20	Sampled by : USGS
Received Date/Time: 08/29/2019 07:08	Delivered : USGS
Sample Type : GRAB	Receipt Temperature (°C) : 1.4-1.9
Temperature : 29.7 Deg. C	
pH : 7.39	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ☒							AL	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		08/30/2019 13:09
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		08/30/2019 13:09
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					08/30/2019 13:09
Fluorobenzene (Surrogate2)		101	% Recovery	1					08/30/2019 13:09
4-Bromofluorobenzene (Surrogate)		100	% Recovery	1					08/30/2019 13:09
GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only.									
GC/MS-Method 624-for 2-	EPA 624 ☒							AL	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		08/30/2019 13:09
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					08/30/2019 13:09
Fluorobenzene (Surrogate2)		101	% Recovery	1					08/30/2019 13:09
4-Bromofluorobenzene (Surrogate)		100	% Recovery	1					08/30/2019 13:09

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065148**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 08/29/2019 00:50	Temperature : 29.7 Deg. C
Approval Date : 09/02/2019 11:43	pH : 7.39
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : GRAB	Sampled by : USGS
	Delivered : USGS
	Receipt Temperature (°C) : 1.4-1.9

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Coliform - E. Coli	SM22 9223 B							GM	
	Total Coliform	>241960	MPN/100mL	1		1	1		08/29/2019 07:41
	E. coli	26130	MPN/100mL	1		1	1		08/29/2019 07:41

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065149**

Sample ID	: IB008	Project Link Code	: Stormwater
Sampling Date/Time	: 08/29/2019 00:50	Temperature	: 29.7 Deg. C
Approval Date	: 09/05/2019 16:43	pH	: 7.39
Received Date/Time	: 08/29/2019 07:08	Account Number	: Stormwater
Sample Type	: GRAB	Sampled by	: USGS
		Delivered	: USGS
		Receipt Temperature (°C)	: 1.4-1.9

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Cyanide	EPA 335.4	<0.005 mg/L	1	N1	0.0011	0.005	CA	08/29/2019 11:44
Cyanide Case Narrative: LFM (LIMS # 2019064821) %Rec.= 87% CL= 90-110%. Cal Bk= 0.0016 MDL= 0.0011. Cal Bk > MDL but < RL								

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065150**

Sample ID	: IB008	Project Link Code	: Stormwater
Sampling Date/Time	: 08/29/2019 00:50	Temperature	: 29.7 Deg. C
Approval Date	: 09/10/2019 07:58	pH	: 7.39
Received Date/Time	: 08/29/2019 07:08	Account Number	: Stormwater
Sample Type	: GRAB	Sampled by	: USGS
		Delivered	: USGS
		Receipt Temperature (°C)	: 1.4-1.9

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 1664 With Silica Gel	EPA 1664B							TAM	
	Hexane Extractable Material	<5.8	mg/L	1			5.8		09/03/2019 09:20
	Hexane Extractable Material - Silica Gel	NOT RUN	mg/L	1					09/03/2019 09:20

EPA 1664 With Silica Gel Treatment Case Narrative: Method(s) 1664A, 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-566655 and analytical batch 440-566694. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch. Method 1664.

Method(s) 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019065150 (550-128788-2) and 2019065165 (550-128788-4). Since the HEM results was below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All quality control criteria were met.

Method(s) 1664A, 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for method 1664 preparation/analysis: 2019065150 (550-128788-2) and 2019065165 (550-128788-4).

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



AZ1000002



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065151**

Sample ID : IB008 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 08/29/2019 00:50	Temperature : 29.7 Deg. C
Approval Date : 09/13/2019 14:56	pH : 7.39
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : TIME	Sampled by : USGS
	Delivered : USGS
	Receipt Temperature (°C) : 1.4-1.9

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							TH	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		09/04/2019 18:23
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		09/04/2019 18:23
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		09/04/2019 18:23
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		09/04/2019 18:23
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		09/04/2019 18:23
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		09/04/2019 18:23
	Methylene chloride	<0.44	ug/L	1	E8;N1	0.44	1.0		09/04/2019 18:23
	Methylene chloride Case Narrative: LRB has a detect about MDL (0.67 ug/L), but below RL.								
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		09/04/2019 18:23
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		09/04/2019 18:23
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		09/04/2019 18:23
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		09/04/2019 18:23
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		09/04/2019 18:23
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		09/04/2019 18:23
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		09/04/2019 18:23
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		09/04/2019 18:23
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		09/04/2019 18:23
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		09/04/2019 18:23
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		09/04/2019 18:23
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		09/04/2019 18:23
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		09/04/2019 18:23
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		09/04/2019 18:23
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		09/04/2019 18:23
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		09/04/2019 18:23
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		09/04/2019 18:23

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065151**

Sample ID : IB008 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 08/29/2019 00:50	Temperature : 29.7 Deg. C
Approval Date : 09/13/2019 14:56	pH : 7.39
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : TIME	Sampled by : USGS
	Delivered : USGS
	Receipt Temperature (°C) : 1.4-1.9

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							TH	
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		09/04/2019 18:23
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		09/04/2019 18:23
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		09/04/2019 18:23
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		09/04/2019 18:23
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		09/04/2019 18:23
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		09/04/2019 18:23
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		09/04/2019 18:23
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		09/04/2019 18:23
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					09/04/2019 18:23
	Fluorobenzene (Surrogate2)	103	% Recovery	1					09/04/2019 18:23
	4-Bromofluorobenzene (Surrogate)	100	% Recovery	1					09/04/2019 18:23
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		09/04/2019 18:23
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		09/04/2019 18:23
Method 8260B Stormwater	EPA 8260B							TH	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		09/04/2019 18:23
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		09/04/2019 18:23
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					09/04/2019 18:23
	Fluorobenzene (Surrogate2)	103	% Recovery	1					09/04/2019 18:23
	4-Bromofluorobenzene (Surrogate)	100	% Recovery	1					09/04/2019 18:23

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065152**

Sample ID : IB008 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 08/29/2019 00:50	Account Number : Stormwater
Approval Date : 09/24/2019 15:20	Sampled by : USGS
Received Date/Time: 08/29/2019 07:08	Delivered : USGS
Sample Type : TIME	Receipt Temperature (°C) : 1.4-1.9
Temperature : 29.7 Deg. C	
pH : 7.39	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ☒							AL	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		08/30/2019 13:32
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		08/30/2019 13:32
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					08/30/2019 13:32
Fluorobenzene (Surrogate2)		100	% Recovery	1					08/30/2019 13:32
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					08/30/2019 13:32
GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only.									
GC/MS-Method 624-for 2-	EPA 624 ☒							AL	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		08/30/2019 13:32
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					08/30/2019 13:32
Fluorobenzene (Surrogate2)		100	% Recovery	1					08/30/2019 13:32
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					08/30/2019 13:32

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

* SM20 = Standard Methods 20th Edition SM21 = Standard Methods 21st Edition SM22 = Standard Methods 22nd Edition

§ = Not licensed by ADHS

☒ = Non NELAP accredited

ANALYTICAL REPORT

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

Laboratory Job ID: 550-128788-1

Client Project/Site: Water Services Department

For:

City of Phoenix Water Services
2474 South 22nd Ave
Bld. 31
Phoenix, Arizona 85009

Attn: Britney Dempster



Authorized for release by:
9/6/2019 4:58:19 PM

Rachel Sester, Project Manager I
(602)659-7615

rachel.sester@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

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

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



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Definitions/Glossary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-128788-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
R13	MS/MSD RPD exceeded the method acceptance limit. Matrix spike recovery was outside acceptance criteria. Batch precision and accuracy were demonstrated.

Glossary

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

Case Narrative

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-128788-1

Job ID: 550-128788-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative 550-128788-1

Comments

No additional comments.

Receipt

The samples were received on 8/29/2019 11:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

Receipt Exceptions

The following samples 2019065145 (550-128788-1) and 2019065160 (550-128788-3) were received without collection times listed on the COC or the container. The client contacted the laboratory to supply the collection times and the login was updated.

General Chemistry

Method(s) SM 4500 P E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 550-188270 were outside control limits for Phosphorus. Sample matrix interference and/or non-homogeneity were suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) recoveries and precision were within acceptance limits.

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

Organic Prep

Method(s) 1664A, 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-566655 and analytical batch 440-566694. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch. Method 1664.

Method(s) 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019065150 (550-128788-2) and 2019065165 (550-128788-4). Since the HEM results was below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All quality control criteria were met.

Method(s) 1664A, 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for method 1664 preparation/analysis: 2019065150 (550-128788-2) and 2019065165 (550-128788-4).

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

Sample Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-128788-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-128788-1	2019065145	Water	08/28/19 21:34	08/29/19 11:55	
550-128788-2	2019065150	Water	08/29/19 00:50	08/29/19 11:55	
550-128788-3	2019065160	Water	08/28/19 21:50	08/29/19 11:55	
550-128788-4	2019065165	Water	08/28/19 23:55	08/29/19 11:55	

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Client Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-128788-1

Client Sample ID: 2019065145

Lab Sample ID: 550-128788-1

Date Collected: 08/28/19 21:34

Matrix: Water

Date Received: 08/29/19 11:55

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	0.67		0.10		mg/L		08/30/19 13:45	08/31/19 08:37	1

Client Sample ID: 2019065150

Lab Sample ID: 550-128788-2

Date Collected: 08/29/19 00:50

Matrix: Water

Date Received: 08/29/19 11:55

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.8		mg/L		09/03/19 06:19	09/03/19 09:20	1

Client Sample ID: 2019065160

Lab Sample ID: 550-128788-3

Date Collected: 08/28/19 21:50

Matrix: Water

Date Received: 08/29/19 11:55

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	0.64		0.10		mg/L		08/30/19 13:45	08/31/19 08:37	1

Client Sample ID: 2019065165

Lab Sample ID: 550-128788-4

Date Collected: 08/28/19 23:55

Matrix: Water

Date Received: 08/29/19 11:55

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		6.0		mg/L		09/03/19 06:19	09/03/19 09:20	1

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-128788-1

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 440-566655/1-A
 Matrix: Water
 Analysis Batch: 566694

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 566655

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0		mg/L		09/03/19 06:19	09/03/19 09:20	1

Lab Sample ID: LCS 440-566655/2-A
 Matrix: Water
 Analysis Batch: 566694

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 566655

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
HEM	40.0	33.70		mg/L		84	78 - 114
SGT-HEM	20.0	16.40		mg/L		82	64 - 132

Lab Sample ID: LCSD 440-566655/3-A
 Matrix: Water
 Analysis Batch: 566694

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 566655

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
HEM	40.0	34.90		mg/L		87	78 - 114	3	11
SGT-HEM	20.0	16.30		mg/L		82	64 - 132	1	28

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 550-188227/3-A
 Matrix: Water
 Analysis Batch: 188270

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 188227

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	ND		0.10		mg/L		08/30/19 13:45	08/31/19 08:37	1

Lab Sample ID: LCS 550-188227/4-A
 Matrix: Water
 Analysis Batch: 188270

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 188227

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Phosphorus	0.300	0.300		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-188227/5-A
 Matrix: Water
 Analysis Batch: 188270

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 188227

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Total Phosphorus	0.300	0.318		mg/L		106	90 - 110	6	20

Lab Sample ID: 550-128603-C-2-B MS
 Matrix: Water
 Analysis Batch: 188270

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 188227

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Total Phosphorus	0.91	M2 R13	0.300	1.06	E2 M2 R13	mg/L		48	80 - 120

Eurofins TestAmerica, Phoenix

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-128788-1

Method: SM 4500 P E - Phosphorus (Continued)

Lab Sample ID: 550-128603-C-2-C MSD
 Matrix: Water
 Analysis Batch: 188270

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 188227

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Total Phosphorus	0.91	M2 R13	0.300	0.654	M2 R13	mg/L		-87	80 - 120	47	20

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Lab Chronicle

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-128788-1

Client Sample ID: 2019065145

Date Collected: 08/28/19 21:34

Date Received: 08/29/19 11:55

Lab Sample ID: 550-128788-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			188227	08/30/19 13:45	MDS	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	188270	08/31/19 08:37	MDS	TAL PHX

Client Sample ID: 2019065150

Date Collected: 08/29/19 00:50

Date Received: 08/29/19 11:55

Lab Sample ID: 550-128788-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			566655	09/03/19 06:19	JC1	TAL IRV
Total/NA	Analysis	1664B		1	566694	09/03/19 09:20	JC1	TAL IRV

Client Sample ID: 2019065160

Date Collected: 08/28/19 21:50

Date Received: 08/29/19 11:55

Lab Sample ID: 550-128788-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			188227	08/30/19 13:45	MDS	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	188270	08/31/19 08:37	MDS	TAL PHX

Client Sample ID: 2019065165

Date Collected: 08/28/19 23:55

Date Received: 08/29/19 11:55

Lab Sample ID: 550-128788-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			566655	09/03/19 06:19	JC1	TAL IRV
Total/NA	Analysis	1664B		1	566694	09/03/19 09:20	JC1	TAL IRV

Laboratory References:

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

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

Accreditation/Certification Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-128788-1

Laboratory: Eurofins TestAmerica, Phoenix

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0728	06-09-20

Laboratory: Eurofins TestAmerica, Irvine

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0671	10-14-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Method Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-128788-1

Method	Method Description	Protocol	Laboratory
1664B	HEM and SGT-HEM	1664B	TAL IRV
SM 4500 P E	Phosphorus	SM	TAL PHX
1664B	HEM and SGT-HEM (SPE)	1664B	TAL IRV
SM 4500 P B	Phosphorous, Total and Ortho	SM	TAL PHX

Protocol References:

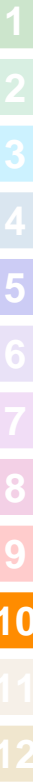
1664B = EPA-821-98-002

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

Laboratory References:

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

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



128788

Regulatory Program: DW NPDES RCRA Other:

Project Manager: Rachel Sester
City of Phoenix
2474 S 22nd Ave
Phoenix, AZ 85009
(602) 534-2960

Project Name: IPP
Site:
P O #

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
TAT if different from Below _____
 2 weeks
 1 week
 2 days
 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Site Contact:		Date:
						Lab Contact:	Carrier:	
2019065145	8/28/19		C Storm		1	Phosphorous	EPA 1664-HEM	
2019065150	8/29/19	0050	G Storm		3			
2019065160	8/28/19		C Storm		1			
2019065165	8/28/19	2355	G Storm		3			



Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other
Possible Hazard Identification: _____
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:
Cooler Temp: 3.4°C R
 Return to Client Disposal by Lab Archive for _____ Months

Custody Seal No.:		Cooler Temp (°C): Obs'd:	
Relinquished by: <i>R. Sester</i>	Company: City of Phoenix	Received by: <i>SCOTT DARRIN</i>	Company: <i>SCOTT DARRIN</i>
Relinquished by: <i>SCOTT DARRIN</i>	Company: <i>SCOTT DARRIN</i>	Received by: <i>SCOTT DARRIN</i>	Company: <i>SCOTT DARRIN</i>
Relinquished by: <i>SCOTT DARRIN</i>	Company: <i>SCOTT DARRIN</i>	Received by: <i>SCOTT DARRIN</i>	Company: <i>SCOTT DARRIN</i>





Chain of Custody Record

Client Information (Sub Contract Lab)		Company TestAmerica Laboratories, Inc	Lab PM Sester, Rachel E	Carrier Tracking No(s)	COC No 550-25647.1		
Shipping/Receiving		Client Contact rachel.sester@testamericainc.com	E-Mail rachel.sester@testamericainc.com	State of Origin Arizona	Page Page 1 of 1		
Address 17461 Denan Ave, Suite 100, Irvine State, Zip CA, 92614-5817 Phone 949-261-1022(Tel) 949-260-3297(Fax) Email		Project # 55002151 SSOW#	Due Date Requested: 9/6/2019 TAT Requested (days):	Accreditations Required (See note) State Program - Arizona	Job # 550-128788-1		
Analysis Requested							
Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 L - EDTA Z - other (specify) Other:							
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=Solid, O=Organic, BT=Trace Acid)	Field Filtered Sample (Yes or No)	Total Number of Containers	Special Instructions/Note:
2019065150 (550-128788-2)	8/29/19	00:50 Arizona	Water	Water	X	3	
2019065165 (550-128788-4)	8/28/19	23:55 Arizona	Water	Water	X	3	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/mainx being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification

Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements: 3.3 / 3.7 / 1E29

Empty Kit Relinquished by	Date	Time	Method of Shipment
Relinquished by <i>[Signature]</i>	8/29/19	15:00	Company
Relinquished by <i>[Signature]</i>			Company
Relinquished by <i>[Signature]</i>			Company

Custody Seal No.: 1283810 6610

Cooler Temperature(s) and Other Remarks: 8/31/19 1100



Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-128788-1

Login Number: 128788

List Source: Eurofins TestAmerica, Phoenix

List Number: 1

Creator: Gravlin, Andrea

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

Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-128788-1

Login Number: 128788

List Number: 2

Creator: Ornelas, Olga

List Source: Eurofins TestAmerica, Irvine

List Creation: 08/31/19 12:36 PM

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

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OUTFALL AC033

Storm of August 28, 2019

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To: Joshua Blakey
Environmental Quality Specialist - Stormwater

Date: 09/25/2019

From: Kristi McFarlin
Environmental Quality Specialist-Laboratory

Subject: Stormwater Summer Season June 1-October 31, 2019

Attached are laboratory reports and COCs for samples collected 8/28/19 at AC033.

Please call me at (602) 262-5012 if you have any questions about these reports.
Attached:

LIMS:
2019065153-2019056167

I certify that these test reports are in compliance with the terms and conditions of Laboratory agreements and all referenced methods, both technically and for completeness, except for any noted conditions. Release of the data in this original printed test report and any alternate means of electronic communication and transmission have been authorized by the Laboratory Superintendent, or his acknowledged designee, as verified by the following signature.



Kristi McFarlin
Environmental Quality Specialist

Date: 9/25/19

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Sample # Sample ID
 2019065153

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report



Project ID: **STORMWATER**

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
	Stormwater	AC033	608-STORM	2	8/28/19		ICE
	Stormwater	AC033	625-STORM	2			ICE
	Stormwater	AC033	TOTAL METALS STORMWATER	1			HNO3
	Stormwater	AC033	METALS DISSOLVED STORMWATER	1			HNO3/FIELD FILTERED
	Stormwater	AC033	NH3-WC and TKN-WC	1			H2SO4
	Stormwater	AC033	Group A with TDS	1			ICE
	Stormwater	AC033	IC300 Nitrate, Nitrite, Orthophosphate	1			ICE
	Stormwater	AC033	TOTAL PHOSPHOROUS	1			H2SO4

Ac 8/27/19
 Ac 8/28/19
 8/28/19

COMPOSITE SAMPLES

- Sample # Sample ID
 2019065153 - AC033
 2019065154 - AC033
 2019065155 - AC033
 2019065156 - AC033
 2019065157 - AC033
 2019065158 - AC033
 2019065159 - AC033
 2019065160 - AC033

Sampler Print & Sign/Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
KENNETH Fossum	RECEIVED	0140	IN FRIDGE	
IN Fridge	WSP/AB			
	AUG 29 2019			C

TIME: 0708
 TEMP °C: 27

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report

Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
	Stormwater	AC033	8260B-Storm 624-Storm	6	8/28/19	2355	HCL
	Stormwater	AC033	624 ACAC 624 CEVE	6	↓	↓	ICE
	Stormwater	AC033	COLILERT - MPN	1			NaSO4
	Stormwater	AC033	CYANIDE	1			NaOH
	Stormwater	AC033	1664 HEMSGT	3			H2SO4
	Stormwater	AC033 Trip Blank	8260B-Storm 624-Storm	2			HCL
	Stormwater	AC033 Trip Blank	624 ACAC 624 CEVE	2			ICE

GRAB SAMPLES

pH 6.98 Air Temp 28.5 Water Temp 29.9 Specific Conductance 145
 Barometric Pressure 7.29 Dissolved Oxygen 6.19

Sample # 2019065163 Sample ID AC033

- 2019065163 - AC033
- 2019065164 - AC033
- 2019065165 - AC033
- 2019065166 - AC033 Trip Blank
- 2019065167 - AC033 Trip Blank

2019065161 - AC033
 2019065162 - AC033

Sampler Print & Sign/Relinquished By <u>Kenneth Fossum</u> <u>IN Fridge</u>	Date RECEIVED <u>8/29/2019</u> AUG 29 2019	Received By <u>[Signature]</u>	Condition (Lab Use Only) <u>C</u>
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TIME: 0708
 TEMP °C: 0.9



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065153**

Sample ID : AC033	Temperature : 29.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time : 08/28/2019 21:50	pH : 6.98	Account Number : Stormwater
Approval Date : 09/23/2019 13:23		Sampled by : Kenneth Fossum
Received Date/Time : 08/29/2019 07:08		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
608-STORM	EPA 608							JG	
	alpha-BHC	<0.012	ug/L	1	E8	0.012	0.1		09/11/2019 23:05
	gamma-BHC	<0.013	ug/L	1	E8	0.013	0.1		09/11/2019 23:05
	beta-BHC	<0.099	ug/L	1	E8	0.099	0.1		09/11/2019 23:05
	d-BHC	<0.045	ug/L	1	E8	0.045	0.1		09/11/2019 23:05
	Heptachlor	<0.011	ug/L	1	E8	0.011	0.1		09/11/2019 23:05
	Aldrin	<0.010	ug/L	1	E8	0.010	0.1		09/11/2019 23:05
	Heptachlor Epoxide	<0.012	ug/L	1	E8	0.012	0.1		09/11/2019 23:05
	4,4'-DDE	<0.015	ug/L	1	E8	0.015	0.1		09/11/2019 23:05
	Endosulfan I	<0.020	ug/L	1	E8	0.020	0.1		09/11/2019 23:05
	Dieldrin	<0.012	ug/L	1	E8	0.012	0.1		09/11/2019 23:05
	Endrin	<0.042	ug/L	1	E8	0.042	0.1		09/11/2019 23:05
	4,4'-DDD	<0.017	ug/L	1	E8	0.017	0.1		09/11/2019 23:05
	Endosulfan II	<0.014	ug/L	1	E8	0.014	0.1		09/11/2019 23:05
	4,4'-DDT	<0.009	ug/L	1	E8	0.009	0.1		09/11/2019 23:05
	Endrin Aldehyde	<0.068	ug/L	1	E8	0.068	0.1		09/11/2019 23:05
	Endosulfan Sulfate	<0.017	ug/L	1	E8	0.017	0.1		09/11/2019 23:05
	Chlordane	<0.33	ug/L	1	E8	0.33	1.0		09/11/2019 23:05
	Toxaphene	<0.482	ug/L	1	E8	0.482	2.0		09/11/2019 23:05
	Arochlor-1016	<0.40	ug/L	1	E8	0.40	1.0		09/11/2019 23:05
	Arochlor-1221	<0.50	ug/L	1	E8	0.50	2.0		09/11/2019 23:05
	Arochlor-1232	<0.48	ug/L	1	E8	0.48	1.0		09/11/2019 23:05
	Arochlor-1242	<0.28	ug/L	1	E8	0.28	1.0		09/11/2019 23:05
	Arochlor-1248	<0.35	ug/L	1	E8	0.35	1.0		09/11/2019 23:05
	Arochlor-1254	<0.21	ug/L	1	E8	0.21	1.0		09/11/2019 23:05
	Arochlor-1260	<0.28	ug/L	1	E8	0.28	1.0		09/11/2019 23:05

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065153**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:50	Temperature : 29.9 Deg. C
Approval Date : 09/23/2019 13:23	pH : 6.98
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
608-STORM	EPA 608						JG	
	Decachlorobiphenyl	79 % Recovery	1					09/11/2019 23:05
	Total Endosulfan	<0.020 ug/L	1	E8	0.020	0.1		09/11/2019 23:05
	TOTAL PCB	<0.50 ug/L	1	E8	0.50	2.0		09/11/2019 23:05
	Aldrin/Dieldrin	<0.012 ug/L	1	E8	0.012	0.1		09/11/2019 23:05
Extraction - 608	EPA 608	COMPLETE					DC	09/03/2019 00:00

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065154**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time : 08/28/2019 21:50	Temperature : 29.9 Deg. C
Approval Date : 09/16/2019 14:17	pH : 6.98
Received Date/Time : 08/29/2019 07:08	Account Number : Stormwater
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
	Acenaphthene	<1.19	ug/L	1	E8	1.19	10		09/05/2019 17:05
	Acenaphthylene	<1.41	ug/L	1	E8	1.41	10		09/05/2019 17:05
	Anthracene	<1.20	ug/L	1	E8	1.20	10		09/05/2019 17:05
	Benzo(a)anthracene	<1.02	ug/L	1	E8	1.02	10		09/05/2019 17:05
	Benzo(a)pyrene	<1.08	ug/L	1	E8	1.08	10		09/05/2019 17:05
	Benzo(b)fluoranthene	<0.38	ug/L	1	E8	0.38	10		09/05/2019 17:05
	Benzo(ghi)perylene	<1.14	ug/L	1	E8	1.14	10		09/05/2019 17:05
	Benzo(k)fluoranthene	<1.03	ug/L	1	E8	1.03	10		09/05/2019 17:05
	Chrysene	<1.16	ug/L	1	E8	1.16	10		09/05/2019 17:05
	Dibenzo(a,h)anthracene	<1.02	ug/L	1	E8	1.02	10		09/05/2019 17:05
	1,2-Dichlorobenzene	<1.43	ug/L	1	E8	1.43	10		09/05/2019 17:05
	1,3-Dichlorobenzene	<1.39	ug/L	1	E8	1.39	10		09/05/2019 17:05
	1,4-Dichlorobenzene	<1.48	ug/L	1	E8	1.48	10		09/05/2019 17:05
	3,3'-Dichlorobenzidine	<6.99	ug/L	1	E8	6.99	50		09/05/2019 17:05
	Diethyl phthalate	<1.08	ug/L	1	E8	1.08	10		09/05/2019 17:05
	Dimethyl phthalate	<1.17	ug/L	1	E8	1.17	20		09/05/2019 17:05
	Di-n-butyl phthalate	<1.12	ug/L	1	E8	1.12	10		09/05/2019 17:05
	2,4-Dinitrotoluene	<1.17	ug/L	1	E8	1.17	10		09/05/2019 17:05
	2,6-Dinitrotoluene	<1.13	ug/L	1	E8	1.13	10		09/05/2019 17:05
	Di-n-octyl phthalate	<2.05	ug/L	1	E8	2.05	10		09/05/2019 17:05
	1,2-Diphenyl hydrazine (as azobenzene)	<1.11	ug/L	1	E8	1.11	10		09/05/2019 17:05
	Fluoranthene	<1.27	ug/L	1	E8	1.27	10		09/05/2019 17:05
	Fluorene	<1.18	ug/L	1	E8	1.18	10		09/05/2019 17:05
	Hexachlorobenzene	<1.01	ug/L	1	E8	1.01	10		09/05/2019 17:05
	Hexachlorobutadiene	<1.20	ug/L	1	E8	1.20	10		09/05/2019 17:05

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065154**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:50	Temperature : 29.9 Deg. C
Approval Date : 09/16/2019 14:17	pH : 6.98
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
	Hexachlorocyclopentadiene	<3.07	ug/L	1	E8	3.07	10		09/05/2019 17:05
	Hexachloroethane	<1.35	ug/L	1	E8	1.35	10		09/05/2019 17:05
	Indeno(1,2,3-cd)pyrene	4.5	ug/L	1	E4	1.07	10		09/05/2019 17:05
	Isophorone	<1.32	ug/L	1	E8	1.32	10		09/05/2019 17:05
	Naphthalene	<1.48	ug/L	1	E8	1.48	10		09/05/2019 17:05
	Nitrobenzene	<1.55	ug/L	1	E8	1.55	10		09/05/2019 17:05
	N-Nitrosodimethylamine	<1.67	ug/L	1	E8	1.67	10		09/05/2019 17:05
	N-Nitrosodi-n-propylamine	<1.65	ug/L	1	E8	1.65	10		09/05/2019 17:05
	N-Nitrosodiphenylamine	<1.07	ug/L	1	E8	1.07	10		09/05/2019 17:05
	Phenanthrene	<1.33	ug/L	1	E8	1.33	10		09/05/2019 17:05
	Pyrene	<1.20	ug/L	1	E8	1.20	10.0		09/05/2019 17:05
	1,2,4-Trichlorobenzene	<1.34	ug/L	1	E8	1.34	10		09/05/2019 17:05
	2-Chlorophenol	<4.52	ug/L	1	E8	4.52	10		09/05/2019 17:05
	2,4-Dichlorophenol	<4.77	ug/L	1	E8	4.77	10		09/05/2019 17:05
	2,4-Dimethylphenol	<2.04	ug/L	1	E8	2.04	10		09/05/2019 17:05
	2-Methyl-4,6-dinitrophenol	<3.36	ug/L	1	E8	3.36	10		09/05/2019 17:05
	2,4-Dinitrophenol	<3.41	ug/L	1	E8	3.41	10		09/05/2019 17:05
	2-Nitrophenol	<4.68	ug/L	1	E8	4.68	10		09/05/2019 17:05
	4-Nitrophenol	<3.52	ug/L	1	E8	3.52	10		09/05/2019 17:05
	4-Chloro-3-methylphenol	<4.76	ug/L	1	E8	4.76	10		09/05/2019 17:05
	Pentachlorophenol	<4.00	ug/L	1	E8	4.00	10		09/05/2019 17:05
	Phenol	<4.08	ug/L	1	E8	4.08	10		09/05/2019 17:05
	2,4,6-Trichlorophenol	<5.27	ug/L	1	E8	5.27	10		09/05/2019 17:05
	2,4,6-Tribromophenol	93	% Recovery	1					09/05/2019 17:05
	Dibromooctafluorobiphenyl	46	% Recovery	1					09/05/2019 17:05

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065154**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:50	Temperature : 29.9 Deg. C
Approval Date : 09/16/2019 14:17	pH : 6.98
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625 4,4-Dibromobiphenyl	53	% Recovery			1		AM	09/05/2019 17:05
Extraction - 625	EPA 625	COMPLETE						AA	09/03/2019 00:00

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065155**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:50	Temperature : 29.9 Deg. C
Approval Date : 09/17/2019 15:20	pH : 6.98
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Silver - Total Recoverable	EPA 200.8	0.0002	mg/L	5	D1;E4	0.00015	0.0050	YL	09/09/2019 00:00
Arsenic - Total Recoverable	EPA 200.8	0.0045	mg/L	5	D1;E4	0.00035	0.0050	YL	09/09/2019 00:00
Barium - Total Recoverable	EPA 200.8	0.160	mg/L	5	D1	0.00030	0.0050	YL	09/09/2019 00:00
Beryllium - Total Recoverable	EPA 200.8	0.00035	mg/L	5	D1;E4	0.00015	0.0050	YL	09/09/2019 00:00
Cadmium - Total Recoverable	EPA 200.8	<0.00025	mg/L	5	D1;E8	0.00025	0.0050	YL	09/09/2019 00:00
Chromium - Total Recoverable	EPA 200.8	0.0134	mg/L	5	D1;B1	0.00045	0.0050	YL	09/09/2019 00:00
Chromium - Total Recoverable Case Narrative: LRB = 0.00075 mg/L, acceptance limit <0.00045 mg/L.									
Copper - Total Recoverable	EPA 200.8	0.0716	mg/L	5	D1	0.0005	0.0050	YL	09/09/2019 00:00
Nickel - Total Recoverable	EPA 200.8	0.0184	mg/L	5	D1	0.00015	0.0050	YL	09/09/2019 00:00
Lead - Total Recoverable	EPA 200.8	0.0272	mg/L	5	D1;B1	0.00010	0.0050	YL	09/09/2019 00:00
Lead - Total Recoverable Case Narrative: LRB = 0.0001 mg/L, acceptance limit <0.0001 mg/L.									
Antimony - Total Recoverable	EPA 200.8	0.0030	mg/L	5	D1;E4	0.00030	0.0050	YL	09/09/2019 00:00
Selenium - Total Recoverable	EPA 200.8	0.00057	mg/L	5	D1;E4	0.00055	0.0050	YL	09/09/2019 00:00
Thallium - Total Recoverable	EPA 200.8	<0.00015	mg/L	5	D1;E8	0.00015	0.0050	YL	09/09/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065155**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:50	Temperature : 29.9 Deg. C
Approval Date : 09/17/2019 15:20	pH : 6.98
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Zinc - Total Recoverable	EPA 200.8	0.439 mg/L	5	D1;B1	0.00330	0.050	YL	09/09/2019 00:00
Zinc - Total Recoverable Case Narrative: LRB = 0.0042 mg/L, acceptance limit <0.0033 mg/L.								
Metals Prep - TR	SM22 3030 F ‡	COMPLETE					SS	09/05/2019 14:52
Mercury - Total	EPA 245.1	<0.000042 mg/L	2	D2;E4	0.000042	0.0002	CG	09/11/2019 13:17
pH<2Verification	pH <2 Verification	COMPLETE					SS	08/30/2019 13:25

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065156**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:50	Temperature : 29.9 Deg. C
Approval Date : 09/17/2019 15:20	pH : 6.98
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Filtration Prep Dissolved Metals	SM22 3030 B	NOT RUN						SS	09/03/2019 08:05
Filtration Prep Dissolved Metals Case Narrative: COC states field filtered.									
Hardness - Total	SM22 2340 B							GA	
	Hardness - Total	51.5	mg/L	1		0.79	16.6		09/06/2019 21:25
	Calcium Hardness	45.0	mg/L	1		0.61	12.5		09/06/2019 21:25
Calcium - Total Recoverable	EPA 200.7	18.0	mg/L	1		0.244	5.00	GA	09/06/2019 21:25
Magnesium - Total Recoverable	EPA 200.7	1.60	mg/L	1		0.043	1.00	GA	09/06/2019 21:25
Silver - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	YL	09/09/2019 00:00
Arsenic - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00035	0.0050	YL	09/09/2019 00:00
Barium - Dissolved	EPA 200.8	0.036	mg/L	5	D1	0.00030	0.0050	YL	09/09/2019 00:00
Beryllium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	YL	09/09/2019 00:00
Cadmium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00025	0.0050	YL	09/09/2019 00:00
Chromium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00045	0.0050	YL	09/09/2019 00:00
Copper - Dissolved	EPA 200.8	0.0417	mg/L	5	D1	0.0005	0.0050	YL	09/09/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065156**

Sample ID : AC033	Temperature : 29.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:50	pH : 6.98	Account Number : Stormwater
Approval Date : 09/17/2019 15:20		Sampled by : Kenneth Fossum
Received Date/Time: 08/29/2019 07:08		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Nickel - Dissolved	EPA 200.8	0.0068 mg/L	5	D1	0.00015	0.0050	YL	09/09/2019 00:00
Lead - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00010	0.0050	YL	09/09/2019 00:00
Antimony - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00030	0.0050	YL	09/09/2019 00:00
Selenium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00055	0.0050	YL	09/09/2019 00:00
Thallium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	YL	09/09/2019 00:00
Zinc - Dissolved	EPA 200.8	0.161 mg/L	5	D1	0.00330	0.050	YL	09/09/2019 00:00
Metals Prep - TR	SM22 3030 F ☐	COMPLETE					SS	09/05/2019 14:52
Mercury - Diss	EPA 245.1	<0.0002 mg/L	2	D2	0.000042	0.0002	CG	09/11/2019 14:08
pH<2Verification	pH <2 Verification	COMPLETE					SS	08/30/2019 13:25

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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 Water Services Laboratory
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 (602) 534-2960



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065157**

Sample ID : AC033	Temperature : 29.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:50	pH : 6.98	Account Number : Stormwater
Approval Date : 09/09/2019 11:27		Sampled by : Kenneth Fossum
Received Date/Time: 08/29/2019 07:08		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Ammonia	EPA 350.1	2.7 mg/L	1		0.043	0.20	LG	09/05/2019 11:06
Total Kjeldahl Nitrogen	EPA 351.2	6.6 mg/L	1		0.19	0.25	LG	09/04/2019 11:37

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065158**

Sample ID : AC033	Temperature : 29.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:50	pH : 6.98	Account Number : Stormwater
Approval Date : 09/10/2019 06:01		Sampled by : Kenneth Fossum
Received Date/Time: 08/29/2019 07:08		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
BOD, 5 Day	SM22 5210 B	<17 mg/L	1	K1	17	17	LG	08/29/2019 10:23
COD	HACH-8000	340 mg/L	1		6	50	LM	08/29/2019 09:24
Suspended Solids	SM22 2540 D	258 mg/L	10		25	25	BM	08/29/2019 09:28
Total Dissolved Solids	SM22 2540 C	194 mg/L	1		10	10	LG	09/06/2019 08:05

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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 /S/K. McFarlin

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065159**

Sample ID : AC033	Temperature : 29.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:50	pH : 6.98	Account Number : Stormwater
Approval Date : 09/03/2019 14:23		Sampled by : Kenneth Fossum
Received Date/Time: 08/29/2019 07:08		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
O-Phosphate-P	EPA 300.0	0.4 mg/L	1		0.0027	0.1	CG	08/29/2019 21:50
Nitrate-N	EPA 300.0	1.3 mg/L	1		0.0012	0.1	CG	08/29/2019 21:50
Nitrite-N	EPA 300.0	<0.1 mg/L	1		0.0003	0.1	CG	08/29/2019 21:50

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065160**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 21:50	Temperature : 29.9 Deg. C
Approval Date : 09/10/2019 07:58	pH : 6.98
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : COMPOS	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Phosphorus - Total	SM 4500 P E	0.64 mg/L	1			0.10	TAM	08/31/2019 08:37

Phosphorus - Total Case Narrative: The following samples 2019065145 (550-128788-1) and 2019065160 (550-128788-3) were received without collection times listed on the COC or the container. The client contacted the laboratory to supply the collection times and the login was updated.

Method(s) SM 4500 P E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 550-188270 were outside control limits for Phosphorus. Sample matrix interference and/or non-homogeneity were suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) recoveries and precision were within acceptance limits.

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065161**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 23:55	Temperature : 29.9 Deg. C
Approval Date : 09/13/2019 14:56	pH : 6.98
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624						TH	
	Chloromethane	<3.3 ug/L	10	D1;E8	3.3	10		09/04/2019 18:54
	Vinyl Chloride	<3.5 ug/L	10	D1;E8	3.5	10		09/04/2019 18:54
	Bromomethane	<3.3 ug/L	10	D1;E8	3.3	10		09/04/2019 18:54
	Chloroethane	<3.3 ug/L	10	D1;E8	3.3	10		09/04/2019 18:54
	Trichlorofluoromethane	<4.0 ug/L	10	D1;E8	4.0	10		09/04/2019 18:54
	1,1-Dichloroethylene	<4.0 ug/L	10	D1;E8	4.0	10		09/04/2019 18:54
	Methylene chloride	15 ug/L	10	D1;N1	4.4	10		09/04/2019 18:54
	Methylene chloride Case Narrative: LRB has a detect about MDL (0.67 ug/L), but below RL.							
	trans-1,2-Dichloroethene	<3.2 ug/L	10	D1;E8	3.2	10		09/04/2019 18:54
	1,1-Dichloroethane	<3.2 ug/L	10	D1;E8	3.2	10		09/04/2019 18:54
	Chloroform	<3.1 ug/L	10	D1;E8	3.1	10		09/04/2019 18:54
	1,2-Dichloroethane	<2.8 ug/L	10	D1;E8	2.8	10		09/04/2019 18:54
	1,1,1-Trichloroethane	<3.1 ug/L	10	D1;E8	3.1	10		09/04/2019 18:54
	Carbon Tetrachloride	<2.7 ug/L	10	D1;E8	2.7	10		09/04/2019 18:54
	Benzene	<3.3 ug/L	10	D1;E8	3.3	10		09/04/2019 18:54
	1,2-Dichloropropane	<9.3 ug/L	10	D1;E8	9.3	10		09/04/2019 18:54
	Trichloroethene	<4.6 ug/L	10	D1;E8	4.6	10		09/04/2019 18:54
	Bromodichloromethane	<5.2 ug/L	10	D1;E8	5.2	10		09/04/2019 18:54
	cis-1,3-Dichloropropene	<4.3 ug/L	10	D1;E8	4.3	10		09/04/2019 18:54
	trans-1,3-Dichloropropene	<5.2 ug/L	10	D1;E8	5.2	10		09/04/2019 18:54
	1,1,2-Trichloroethane	<6.8 ug/L	10	D1;E8	6.8	10		09/04/2019 18:54
	Toluene	<3.8 ug/L	10	D1;E8	3.8	10		09/04/2019 18:54
	Dibromochloromethane	<7.0 ug/L	10	D1;E8	7.0	10		09/04/2019 18:54
	Tetrachloroethylene	<3.8 ug/L	10	D1;E8	3.8	10		09/04/2019 18:54
	Chlorobenzene	<7.0 ug/L	10	D1;E8	7.0	10		09/04/2019 18:54

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065161**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 23:55	Temperature : 29.9 Deg. C
Approval Date : 09/13/2019 14:56	pH : 6.98
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							TH	
	Ethylbenzene	<6.1	ug/L	10	D1;E8	6.1	10		09/04/2019 18:54
	m- & p-Xylene	<12.2	ug/L	10	D1;E8	12.2	20		09/04/2019 18:54
	Bromoform	<8.1	ug/L	10	D1;E8	8.1	10		09/04/2019 18:54
	o-Xylene	<7.0	ug/L	10	D1;E8	7.0	10		09/04/2019 18:54
	1,1,2,2-Tetrachloroethane	<8.3	ug/L	10	D1;E8	8.3	10		09/04/2019 18:54
	1,3-Dichlorobenzene	<8.7	ug/L	10	D1;E8	8.7	10		09/04/2019 18:54
	1,2-Dichlorobenzene	<9.3	ug/L	10	D1;E8	9.3	10		09/04/2019 18:54
	1,4-Dichlorobenzene	<9.1	ug/L	10	D1;E8	9.1	10		09/04/2019 18:54
	Pentafluorobenzene (Surrogate1)	100	% Recovery	1					09/04/2019 18:54
	Fluorobenzene (Surrogate2)	104	% Recovery	1					09/04/2019 18:54
	4-Bromofluorobenzene (Surrogate)	101	% Recovery	1					09/04/2019 18:54
	Total Xylene	<7.0	ug/L	10	D1;E8	7.0	10		09/04/2019 18:54
	1,3-Dichloropropene (cis & trans)	<4.3	ug/L	10	D1;E8	4.3	10		09/04/2019 18:54
624-STORM Case Narrative: DF=10									
Method 8260B Stormwater	EPA 8260B							TH	
	1,3,5-Trimethylbenzene	<10	ug/L	10	D1	7.5	10		09/04/2019 18:54
	1,2,4-Trimethylbenzene	<10	ug/L	10	D1	8.0	10		09/04/2019 18:54
	Pentafluorobenzene (Surrogate1)	100	% Recovery	10					09/04/2019 18:54
	Fluorobenzene (Surrogate2)	104	% Recovery	10					09/04/2019 18:54
	4-Bromofluorobenzene (Surrogate)	101	% Recovery	10					09/04/2019 18:54
Method 8260B Stormwater Analysis Case Narrative: DF=10									

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065162**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 23:55	Account Number : Stormwater
Approval Date : 09/24/2019 15:20	Sampled by : Kenneth Fossum
Received Date/Time: 08/29/2019 07:08	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 0.9-2.7
Temperature : 29.9 Deg. C	
pH : 6.98	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ☐							AL	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		08/30/2019 13:56
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		08/30/2019 13:56
Pentafluorobenzene (Surrogate1)		101	% Recovery	1					08/30/2019 13:56
Fluorobenzene (Surrogate2)		101	% Recovery	1					08/30/2019 13:56
4-Bromofluorobenzene (Surrogate)		100	% Recovery	1					08/30/2019 13:56
GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only.									
GC/MS-Method 624-for 2-	EPA 624 ☐							AL	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		08/30/2019 13:56
Pentafluorobenzene (Surrogate1)		101	% Recovery	1					08/30/2019 13:56
Fluorobenzene (Surrogate2)		101	% Recovery	1					08/30/2019 13:56
4-Bromofluorobenzene (Surrogate)		100	% Recovery	1					08/30/2019 13:56

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065163**

Sample ID : AC033	Temperature : 29.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 23:55	pH : 6.98	Account Number : Stormwater
Approval Date : 09/02/2019 11:43		Sampled by : Kenneth Fossum
Received Date/Time: 08/29/2019 07:08		Delivered : Kenneth Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Coliform - E. Coli	SM22 9223 B						GM	
	Total Coliform	>2419.6 MPN/100mL	1		1	1		08/29/2019 07:41
	E. coli	>2419.6 MPN/100mL	1		1	1		08/29/2019 07:41

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065164**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 23:55	Account Number : Stormwater
Approval Date : 09/05/2019 16:43	Sampled by : Kenneth Fossum
Received Date/Time: 08/29/2019 07:08	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 0.9-2.7
Temperature : 29.9 Deg. C	
pH : 6.98	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Cyanide	EPA 335.4	<0.005 mg/L	1	N1	0.0011	0.005	CA	08/29/2019 11:44
Cyanide Case Narrative: LFM (LIMS # 2019064821) %Rec.= 87% CL= 90-110%. Cal Bik= 0.0016 MDL= 0.0011. Cal Bik > MDL but < RL								

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065165**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 23:55	Temperature : 29.9 Deg. C
Approval Date : 09/10/2019 07:58	pH : 6.98
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 1664 With Silica Gel	EPA 1664B						TAM	
	Hexane Extractable Material	<6.0 mg/L	1			6.0		09/03/2019 09:20
	Hexane Extractable Material - Silica Gel	NOT RUN mg/L	1					09/03/2019 09:20

EPA 1664 With Silica Gel Treatment Case Narrative: Method(s) 1664A, 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-566655 and analytical batch 440-566694. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch. Method 1664.

Method(s) 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019065150 (550-128788-2) and 2019065165 (550-128788-4). Since the HEM results was below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All quality control criteria were met.

Method(s) 1664A, 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for method 1664 preparation/analysis: 2019065150 (550-128788-2) and 2019065165 (550-128788-4).

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065166**

Sample ID : AC033 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time : 08/28/2019 23:55	Temperature : 29.9 Deg. C
Approval Date : 09/13/2019 14:56	pH : 6.98
Received Date/Time : 08/29/2019 07:08	Account Number : Stormwater
Sample Type : TIME	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							TH	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		09/04/2019 19:24
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		09/04/2019 19:24
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		09/04/2019 19:24
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		09/04/2019 19:24
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		09/04/2019 19:24
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		09/04/2019 19:24
	Methylene chloride	<0.44	ug/L	1	E8;N1	0.44	1.0		09/04/2019 19:24
	Methylene chloride Case Narrative: LRB has a detect about MDL (0.67 ug/L), but below RL.								
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		09/04/2019 19:24
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		09/04/2019 19:24
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		09/04/2019 19:24
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		09/04/2019 19:24
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		09/04/2019 19:24
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		09/04/2019 19:24
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		09/04/2019 19:24
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		09/04/2019 19:24
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		09/04/2019 19:24
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		09/04/2019 19:24
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		09/04/2019 19:24
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		09/04/2019 19:24
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		09/04/2019 19:24
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		09/04/2019 19:24
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		09/04/2019 19:24
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		09/04/2019 19:24
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		09/04/2019 19:24

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065166**

Sample ID : AC033 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 23:55	Temperature : 29.9 Deg. C
Approval Date : 09/13/2019 14:56	pH : 6.98
Received Date/Time: 08/29/2019 07:08	Account Number : Stormwater
Sample Type : TIME	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							TH	
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		09/04/2019 19:24
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		09/04/2019 19:24
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		09/04/2019 19:24
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		09/04/2019 19:24
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		09/04/2019 19:24
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		09/04/2019 19:24
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		09/04/2019 19:24
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		09/04/2019 19:24
	Pentafluorobenzene (Surrogate1)	100	% Recovery	1					09/04/2019 19:24
	Fluorobenzene (Surrogate2)	105	% Recovery	1					09/04/2019 19:24
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					09/04/2019 19:24
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		09/04/2019 19:24
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		09/04/2019 19:24
Method 8260B Stormwater	EPA 8260B							TH	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		09/04/2019 19:24
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		09/04/2019 19:24
	Pentafluorobenzene (Surrogate1)	100	% Recovery	1					09/04/2019 19:24
	Fluorobenzene (Surrogate2)	105	% Recovery	1					09/04/2019 19:24
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					09/04/2019 19:24

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019065167**

Sample ID : AC033 Trip Blank	Temperature : 29.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 08/28/2019 23:55	pH : 6.98	Account Number : Stormwater
Approval Date : 09/24/2019 15:20		Sampled by : Kenneth Fossum
Received Date/Time: 08/29/2019 07:08		Delivered : Kenneth Fossum
Sample Type : TIME		Receipt Temperature (°C) : 0.9-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ☐							AL	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		08/30/2019 14:19
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		08/30/2019 14:19
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					08/30/2019 14:19
Fluorobenzene (Surrogate2)		101	% Recovery	1					08/30/2019 14:19
4-Bromofluorobenzene (Surrogate)		100	% Recovery	1					08/30/2019 14:19
GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only.									
GC/MS-Method 624-for 2-	EPA 624 ☐							AL	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		08/30/2019 14:19
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					08/30/2019 14:19
Fluorobenzene (Surrogate2)		101	% Recovery	1					08/30/2019 14:19
4-Bromofluorobenzene (Surrogate)		100	% Recovery	1					08/30/2019 14:19

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

* SM20 = Standard Methods 20th Edition SM21 = Standard Methods 21st Edition SM22 = Standard Methods 22nd Edition

§ = Not licensed by ADHS ☐ = Non NELAP accredited

QUALITY CONTROL DATA

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Comment:

Operator: J. Galassi

Data Path: C:\msdchem\1\DATA\081219\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

08/22/19
JG

8/22/19 JG

Method Sections To Run

- (X) Full Method
- () Reprocessing Only

Sequence Barcode Options

- (X) On Mismatch, Inject Anyway
- () On Mismatch, Don't Inject
- () Barcode Disabled

Line

Sample Name/Misc Info

Line	Sample Name	Misc Info
1)	Sample 1	0812001 608NEW Hexane
2)	Sample 2	0812002 608NEW DDT/Endrin Breakdown
3)	Sample 3	0812003 608NEW 608 CCV1 @ 2.0ug/L
4)	Sample 4	0812004 608NEW 608 CHAR CCV1 @ 2.0ug/L
5)	Sample 5	0812005 608NEW PCB-1016 CCV1 @ 20.0ug/L
6)	Sample 6	0812006 608NEW PCB-1221 CCV1 @ 20.0ug/L
7)	Sample 7	0812007 608NEW Chlordane CCV1 @ 20.0ug/L
8)	Sample 8	0812008 608NEW Toxaphene CCV1 @ 20.0ug/L
9)	Sample 9	0812009 608NEW LRB
10)	Sample 10	0812010 608NEW 608 LFB
11)	Sample 11	0812011 608NEW 608 LFB
12)	Sample 12	0812012 608NEW PCB-1016 LFB
13)	Sample 13	0812013 608NEW PCB-1016 LFB
14)	Sample 14	0812014 608NEW 54245 10X
15)	Sample 15	0812015 608NEW 54919
16)	Sample 16	0812016 608NEW Chlordane MDL 2
17)	Sample 17	0812017 608NEW LRB
18)	Sample 18	0812018 608NEW 608 LFB
19)	Sample 19	0812019 608NEW PCB-1221 LFB
20)	Sample 20	0812020 608NEW PCB-1221 LFB
21)	Sample 21	0812021 608NEW 56066 10X
22)	Sample 22	0812022 608NEW 56884
23)	Sample 23	0812023 608NEW 56971 10X
24)	Sample 24	0812024 608NEW 56971 LFM 10X
25)	Sample 25	0812025 608NEW 56971 LFMD 10X
26)	Sample 26	0812026 608NEW 57585
27)	Sample 27	0812027 608NEW 57836 10X
28)	Sample 28	0812028 608NEW 608 CCV2 @ 2.0ug/L
29)	Sample 29	0812029 608NEW 608 CHAR CCV2 @ 2.0ug/L
30)	Sample 30	0812030 608NEW PCB-1016 CCV2 @ 20.0ug/L
31)	Sample 31	0812031 608NEW PCB-1221 CCV2 @ 20.0ug/L
32)	Sample 32	0812032 608NEW Chlordane CCV2 @ 20.0ug/L
33)	Sample 33	0812033 608NEW Toxaphene CCV2 @ 20.0ug/L

ES
8/22/19

Operator J. Galassi
 Sample Name 608 CCV1 @ 2.0ug/L
 Data File Name 0812003.D
 Date Acquired 12 Aug 2019 12:43 pm
 Instrument Name ECD #4

Name	Amount	Units	% Recovery
alpha-BHC	1.993	ug/L	100
gamma-BHC	1.994	ug/L	100
beta-BHC	2.099	ug/L	105
delta-BHC	2.047	ug/L	102
Heptachlor	1.958	ug/L	98
Aldrin	1.988	ug/L	99
Heptachlor epoxide	1.950	ug/L	97
4,4'-DDE	1.904	ug/L	95
Endosulfan I	1.950	ug/L	97
Dieldrin	1.923	ug/L	96
Endrin	1.751	ug/L	88
4,4'-DDD	1.786	ug/L	89
Endosulfan II	1.976	ug/L	99
4,4'-DDT	2.053	ug/L	103
Endrin aldehyde	2.054	ug/L	103
Endosulfan sulfate	1.808	ug/L	90
Decachlorobiphenyl	1.807	ug/L	90
Signal #2			
alpha-BHC #2	2.069	ug/L	103
gamma-BHC #2	2.091	ug/L	105
beta-BHC #2	2.128	ug/L	106
delta-BHC #2	2.096	ug/L	105
Heptachlor #2	1.900	ug/L	95
Aldrin #2	2.017	ug/L	101
Heptachlor epoxide #2	2.005	ug/L	100
4,4'-DDE #2	2.002	ug/L	100
Endosulfan I #2	1.998	ug/L	100
Dieldrin #2	2.010	ug/L	101
Endrin #2	1.801	ug/L	90
4,4'-DDD #2	1.784	ug/L	89
Endosulfan II #2	1.949	ug/L	97
4,4'-DDT #2	2.044	ug/L	102
Endrin aldehyde #2	2.104	ug/L	105
Endosulfan sulfate #2	2.106	ug/L	105
Decachlorobiphenyl #2	1.916	ug/L	96

CL=85-115%
 08/22/19
 JHJ

J. Galassi

EJ
 8/27/19

Data File Name 0812005.D
Data File Path C:\msdchem\1\data\081219\
Operator J. Galassi
Date Acquired 12 Aug 2019 1:28 pm
Sample Name PCB-1016 CCV1 @ 20.0ug/L
Sample Multiplier 1

CL = 85-115%
08/22/19
JHJ

Aroclor 1016

Name	Amount	Units
Aroclor 1016 Peak-1	22.76	ug/L
Aroclor 1016 Peak-2	22.83	ug/L
Aroclor 1016 Peak-3	23.83	ug/L
Aroclor 1016 Peak-4	23.37	ug/L
Aroclor 1016 Peak-5	23.81	ug/L

Aroclor 1016 Average 23.32 ug/L

117% ↑

Doc & Flag

Signal #2

Aroclor 1016 Peak-1 #2	22.47	ug/L
Aroclor 1016 Peak-2 #2	22.25	ug/L
Aroclor 1016 Peak-3 #2	21.29	ug/L
Aroclor 1016 Peak-4 #2	23.75	ug/L
Aroclor 1016 Peak-5 #2	23.42	ug/L

Aroclor 1016 Average 22.64 ug/L

113%

08/22/19

Data File Name 0812007.D
Data File Path C:\msdchem\1\data\081219\
Operator J. Galassi
Date Acquired 12 Aug 2019 2:13 pm
Sample Name Chlordane CCV1 @ 20.0ug/L
Sample Multiplier 1

Name	Amount	Units
Chlordane Peak-1	21.54	ug/L
Chlordane Peak-2	22.50	ug/L
Chlordane Peak-3	22.20	ug/L
Chlordane Peak-4	21.34	ug/L
Chlordane Peak-5	19.09	ug/L
Chlordane Average	21.33	ug/L 107%

cc = 85-115%
08/22/19
JHJ

8/22/19 AM

Signal #2	Amount	Units
Chlordane Peak-1 #2	21.20	ug/L
Chlordane Peak-2 #2	22.46	ug/L
Chlordane Peak-3 #2	21.27	ug/L
Chlordane Peak-4 #2	19.88	ug/L
Chlordane Peak-5 #2	20.47	ug/L
Chlordane Average	21.06	ug/L 105%

JHJ
8/22/19

Data File Name 0812009.D
 Sample Name LRB
 Date Acquired 12 Aug 2019 2:58 pm
 Sample Multiplier 1
 Misc Info ext. 07/29/19
 Operator J. Galassi

2019063497/63498

WJG 08/22/19

Name	Amount	Report	Units
Primary column			
alpha-BHC	0.000	<0.012	ug/L < MDL
gamma-BHC	0.000	<0.013	ug/L
beta-BHC	0.000	<0.099	ug/L
delta-BHC	0.000	<0.045	ug/L
Heptachlor	0.000	<0.011	ug/L
Aldrin	0.000	<0.010	ug/L
Heptachlor epoxide	0.000	<0.012	ug/L
4,4'-DDE	0.000	<0.015	ug/L
Endosulfan I	0.000	<0.020	ug/L
Dieldrin	0.000	<0.012	ug/L
Endrin	0.000	<0.042	ug/L
4,4'-DDD	0.000	<0.017	ug/L
Endosulfan II	0.000	<0.014	ug/L
4,4'-DDT	0.000	<0.009	ug/L
Endrin aldehyde	0.000	<0.068	ug/L
Endosulfan sulfate	0.000	<0.017	ug/L
Decachlorobiphenyl	9.840	98	%

for MEL study
 08/22/19
 JGJ

Secondary column			
alpha-BHC #2	0.000		
gamma-BHC #2	0.000		
beta-BHC #2	0.000		
delta-BHC #2	0.000		
Heptachlor #2	0.000		
Aldrin #2	0.000		
Heptachlor epoxide #2	0.000		
4,4'-DDE #2	0.000		
Endosulfan I #2	0.000		
Dieldrin #2	0.000		
Endrin #2	0.000		
4,4'-DDD #2	0.000		
Endosulfan II #2	0.000		
4,4'-DDT #2	0.000		
Endrin aldehyde #2	0.000		
Endosulfan sulfate #2	0.000		
Decachlorobiphenyl #2	10.208	102	%

ND for MEL study

est. alertis

*= Greater than 40% RPD between Primary and Secondary column results

Operator J. Galassi
 Sample Name 608 LFB
 Data File Name 0812010.D
 Date Acquired 12 Aug 2019 3:20 pm
 Instrument Name ECD #4

08/22/19

08/22/19
 JG

08/22/19

Name	Amount Units	% Recovery
alpha-BHC	1.872 ug/L	94
gamma-BHC	1.881 ug/L	94
beta-BHC	2.134 ug/L	107
delta-BHC	2.074 ug/L	104
Heptachlor	1.776 ug/L	89
Aldrin	1.738 ug/L	87
Heptachlor epoxide	1.883 ug/L	94
4,4'-DDE	1.811 ug/L	91
Endosulfan I	1.901 ug/L	95
Dieldrin	1.869 ug/L	93
Endrin	1.833 ug/L	92
4,4'-DDD	1.935 ug/L	97
Endosulfan II	2.027 ug/L	101
4,4'-DDT	2.000 ug/L	100
Endrin aldehyde	2.317 ug/L	116
Endosulfan sulfate	1.898 ug/L	95
Decachlorobiphenyl	9.966 ug/L	100
Signal #2		
alpha-BHC #2	1.952 ug/L	98
gamma-BHC #2	2.012 ug/L	101
beta-BHC #2	2.208 ug/L	110
delta-BHC #2	2.131 ug/L	107
Heptachlor #2	1.789 ug/L	89
Aldrin #2	1.765 ug/L	88
Heptachlor epoxide #2	1.990 ug/L	99
4,4'-DDE #2	1.907 ug/L	95
Endosulfan I #2	2.035 ug/L	102
Dieldrin #2	1.923 ug/L	96
Endrin #2	1.906 ug/L	95
4,4'-DDD #2	1.915 ug/L	96
Endosulfan II #2	2.002 ug/L	100
4,4'-DDT #2	2.200 ug/L	110
Endrin aldehyde #2	2.395 ug/L	120
Endosulfan sulfate #2	2.188 ug/L	109
Decachlorobiphenyl #2	10.386 ug/L	104

Operator J. Galassi
 Sample Name 608 LFB
 Data File Name 0812011.D
 Date Acquired 12 Aug 2019 3:43 pm
 Instrument Name ECD #4

2019/08/12

Name	Amount Units	% Recovery
alpha-BHC	1.788 ug/L	89
gamma-BHC	1.803 ug/L	90
beta-BHC	2.062 ug/L	103
delta-BHC	2.004 ug/L	100
Heptachlor	1.720 ug/L	86
Aldrin	1.676 ug/L	84
Heptachlor epoxide	1.834 ug/L	92
4,4'-DDE	1.775 ug/L	89
Endosulfan I	1.849 ug/L	92
Dieldrin	1.828 ug/L	91
Endrin	1.631 ug/L	82
4,4'-DDD	1.825 ug/L	91
Endosulfan II	1.994 ug/L	100
4,4'-DDT	2.019 ug/L	101
Endrin aldehyde	2.208 ug/L	110
Endosulfan sulfate	1.869 ug/L	93
Decachlorobiphenyl	9.879 ug/L	99
Signal #2		
alpha-BHC #2	1.875 ug/L	94
gamma-BHC #2	1.934 ug/L	97
beta-BHC #2	2.128 ug/L	106
delta-BHC #2	2.056 ug/L	103
Heptachlor #2	1.754 ug/L	88
Aldrin #2	1.714 ug/L	86
Heptachlor epoxide #2	1.942 ug/L	97
4,4'-DDE #2	1.880 ug/L	94
Endosulfan I #2	1.988 ug/L	99
Dieldrin #2	1.884 ug/L	94
Endrin #2	1.710 ug/L	85
4,4'-DDD #2	1.886 ug/L	94
Endosulfan II #2	1.915 ug/L	96
4,4'-DDT #2	2.191 ug/L	110
Endrin aldehyde #2	2.275 ug/L	114
Endosulfan sulfate #2	2.181 ug/L	109
Decachlorobiphenyl #2	10.305 ug/L	103

08/22/19
JH

EW
8/22/19

Data File Name 0812011.D
 Sample Name 608 LFB
 Date Acquired 12 Aug 2019 3:43 pm
 Sample Multiplier 1
 Misc Info ext. 07/29/19
 Operator J. Galassi

8/20/19 AM

Name	Amount	Duplicate	RPD
Primary column			
alpha-BHC	1.872	1.788	5
gamma-BHC	1.881	1.803	4
beta-BHC	2.134	2.062	3
delta-BHC	2.074	2.004	3
Heptachlor	1.776	1.720	3
Aldrin	1.738	1.676	4
Heptachlor epoxide	1.883	1.834	3
4,4'-DDE	1.811	1.775	2
Endosulfan I	1.901	1.849	3
Dieldrin	1.869	1.828	2
Endrin	1.833	1.631	12
4,4'-DDD	1.935	1.825	6
Endosulfan II	2.027	1.994	2
4,4'-DDT	2.000	2.019	1
Endrin aldehyde	2.317	2.208	5
Endosulfan sulfate	1.898	1.869	2
Decachlorobiphenyl	9.966	9.879	1
Secondary column			
alpha-BHC #2	1.952	1.875	4
gamma-BHC #2	2.012	1.934	4
beta-BHC #2	2.208	2.128	4
delta-BHC #2	2.131	2.056	4
Heptachlor #2	1.789	1.754	2
Aldrin #2	1.765	1.714	3
Heptachlor epoxide #2	1.990	1.942	2
4,4'-DDE #2	1.907	1.880	1
Endosulfan I #2	2.035	1.988	2
Dieldrin #2	1.923	1.884	2
Endrin #2	1.906	1.710	11
4,4'-DDD #2	1.915	1.886	2
Endosulfan II #2	2.002	1.915	4
4,4'-DDT #2	2.200	2.191	0
Endrin aldehyde #2	2.395	2.275	5
Endosulfan sulfate #2	2.188	2.181	0
Decachlorobiphenyl #2	10.386	10.305	1

ca 200%
 08/22/19
 JG

as
 8/22/19

Data File Name 0812012.D
Data File Path C:\msdchem\1\data\081219\
Operator J. Galassi
Date Acquired 12 Aug 2019 4:05 pm
Sample Name PCB-1016 LFB
Sample Multiplier 1

8/20/19 AM

cc = 50-114%
08/22/19
JH

Name	Amount	Units	
Aroclor 1016 Peak-1	48.25	ug/L	
Aroclor 1016 Peak-2	52.29	ug/L	
Aroclor 1016 Peak-3	55.70	ug/L	
Aroclor 1016 Peak-4	54.46	ug/L	
Aroclor 1016 Peak-5	53.48	ug/L	
Aroclor 1016 Average	52.84	ug/L	106%
Signal #2			
Aroclor 1016 Peak-1 #2	47.15	ug/L	
Aroclor 1016 Peak-2 #2	48.26	ug/L	
Aroclor 1016 Peak-3 #2	51.73	ug/L	
Aroclor 1016 Peak-4 #2	53.04	ug/L	
Aroclor 1016 Peak-5 #2	52.74	ug/L	
Aroclor 1016 Average	50.58	ug/L	101%

JH
8/22/19

Data File Name 0812013.D
Data File Path C:\msdchem\1\data\081219\
Operator J. Galassi
Date Acquired 12 Aug 2019 4:27 pm
Sample Name PCB-1016 LFBD
Sample Multiplier 1

8/22/19 AM

Name	Amount	Units
Aroclor 1016 Peak-1	48.66	ug/L
Aroclor 1016 Peak-2	53.52	ug/L
Aroclor 1016 Peak-3	56.63	ug/L
Aroclor 1016 Peak-4	55.32	ug/L
Aroclor 1016 Peak-5	54.40	ug/L
Aroclor 1016 Average	53.70	ug/L <i>157%</i>
Signal #2		
Aroclor 1016 Peak-1 #2	47.15	ug/L
Aroclor 1016 Peak-2 #2	48.60	ug/L
Aroclor 1016 Peak-3 #2	49.80	ug/L
Aroclor 1016 Peak-4 #2	53.71	ug/L
Aroclor 1016 Peak-5 #2	53.45	ug/L
Aroclor 1016 Average	50.54	ug/L <i>101%</i>

CL = 50-114%
guy 08/22/19

% RPD < 20%
10 = 1.6% ✓
20 = 0.08% ✓

2/27/19

Operator J. Galassi
 Sample Name 608 CCV2 @ 2.0ug/L
 Data File Name 0812028.D
 Date Acquired 12 Aug 2019 10:03 pm
 Instrument Name ECD #4

8/22/19 AM

Name	Amount	Units	% Recovery
alpha-BHC	1.973	ug/L	99
gamma-BHC	1.944	ug/L	97
beta-BHC	2.047	ug/L	102
delta-BHC	1.994	ug/L	100
Heptachlor	1.735	ug/L	87
Aldrin	1.942	ug/L	97
Heptachlor epoxide	1.899	ug/L	95
4,4'-DDE	1.873	ug/L	94
Endosulfan I	1.879	ug/L	94
Dieldrin	1.881	ug/L	94
Endrin	1.411	ug/L	71
4,4'-DDD	2.210	ug/L	111
Endosulfan II	1.971	ug/L	99
4,4'-DDT	1.151	ug/L	58
Endrin aldehyde	1.526	ug/L	76
Endosulfan sulfate	1.765	ug/L	88
Decachlorobiphenyl	1.836	ug/L	92
Signal #2			
alpha-BHC #2	2.026	ug/L	101
gamma-BHC #2	2.018	ug/L	101
beta-BHC #2	2.044	ug/L	102
delta-BHC #2	2.023	ug/L	101
Heptachlor #2	1.793	ug/L	90
Aldrin #2	1.947	ug/L	97
Heptachlor epoxide #2	1.942	ug/L	97
4,4'-DDE #2	1.892	ug/L	95
Endosulfan I #2	1.947	ug/L	97
Dieldrin #2	1.923	ug/L	96
Endrin #2	1.477	ug/L	74
4,4'-DDD #2	2.122	ug/L	106
Endosulfan II #2	1.870	ug/L	94
4,4'-DDT #2	1.248	ug/L	62
Endrin aldehyde #2	1.588	ug/L	79
Endosulfan sulfate #2	2.073	ug/L	104
Decachlorobiphenyl #2	1.864	ug/L	93

08/22/19
JG

outside range CL = 80-138%
Doc's flag

outside range CL = 71-153%
Doc. only

08/22/19

Data File Name 0812030.D
Data File Path C:\msdchem\1\data\081219\
Operator J. Galassi
Date Acquired 12 Aug 2019 10:48 pm
Sample Name PCB-1016 CCV2 @ 20.0ug/L
Sample Multiplier 1

Steel tank

Name	Amount	Units
Aroclor 1016 Peak-1	22.73	ug/L
Aroclor 1016 Peak-2	22.79	ug/L
Aroclor 1016 Peak-3	24.53	ug/L
Aroclor 1016 Peak-4	24.40	ug/L
Aroclor 1016 Peak-5	23.63	ug/L

CL = 85-115%
08/22/19
JHY

Aroclor 1016 Average 23.62 ug/L

118% ↑ Doc's Aug

Signal #2

Aroclor 1016 Peak-1 #2	22.08	ug/L
Aroclor 1016 Peak-2 #2	21.19	ug/L
Aroclor 1016 Peak-3 #2	21.82	ug/L
Aroclor 1016 Peak-4 #2	23.35	ug/L
Aroclor 1016 Peak-5 #2	23.32	ug/L

Aroclor 1016 Average 22.35 ug/L

112%

08/22/19

Data File Name 0812032.D
Data File Path C:\msdchem\1\data\081219\
Operator J. Galassi
Date Acquired 13 Aug 2019 7:51 am
Sample Name Chlordane CCV2 @ 20.0ug/L
Sample Multiplier 1

Galassi

Name	Amount	Units
Chlordane Peak-1	21.36	ug/L
Chlordane Peak-2	21.05	ug/L
Chlordane Peak-3	40.04	ug/L
Chlordane Peak-4	19.92	ug/L
Chlordane Peak-5	17.75	ug/L

CL=95-115%
08/22/19
gty

Chlordane Average 24.02 ug/L

120% ↑

Doc & flag

Signal #2	Amount	Units
Chlordane Peak-1 #2	20.93	ug/L
Chlordane Peak-2 #2	20.04	ug/L
Chlordane Peak-3 #2	23.31	ug/L
Chlordane Peak-4 #2	21.11	ug/L
Chlordane Peak-5 #2	20.07	ug/L

Chlordane Average 21.09 ug/L

105%

ed 8/27/19

Operator J. Galassi
 Sample Name 608 SSV @ 2.0ug/L
 Data File Name 0911012.D
 Date Acquired 11 Sep 2019 4:00 pm
 Instrument Name ECD #4

CL = 70-130%
09/17/19
gty

Name	Amount	Units	% Recovery
alpha-BHC	2.235	ug/L	112
gamma-BHC	2.095	ug/L	105
beta-BHC	2.343	ug/L	117 ✓
delta-BHC	2.233	ug/L	112
Heptachlor	2.174	ug/L	109
Aldrin	2.125	ug/L	106
Heptachlor epoxide	2.137	ug/L	107
4,4'-DDE	2.117	ug/L	106
Endosulfan I	2.185	ug/L	109
Dieldrin	2.085	ug/L	104
Endrin	2.136	ug/L	107
4,4'-DDD	2.181	ug/L	109
Endosulfan II	2.143	ug/L	107
4,4'-DDT	2.165	ug/L	108
Endrin aldehyde	2.341	ug/L	117
Endosulfan sulfate	2.255	ug/L	113
Decachlorobiphenyl	2.339	ug/L	117 ✓
Signal #2			
alpha-BHC #2	2.116	ug/L	106
gamma-BHC #2	2.112	ug/L	106
beta-BHC #2	2.198	ug/L	110
delta-BHC #2	2.284	ug/L	114
Heptachlor #2	2.199	ug/L	110
Aldrin #2	2.139	ug/L	107
Heptachlor epoxide #2	2.158	ug/L	108
4,4'-DDE #2	2.131	ug/L	107
Endosulfan I #2	2.241	ug/L	112 ✓
Dieldrin #2	2.103	ug/L	105
Endrin #2	2.146	ug/L	107
4,4'-DDD #2	2.190	ug/L	109
Endosulfan II #2	2.158	ug/L	108
4,4'-DDT #2	2.219	ug/L	111
Endrin aldehyde #2	2.363	ug/L	118
Endosulfan sulfate #2	2.155	ug/L	108
Decachlorobiphenyl #2	2.121	ug/L	106 ✓

09/23/19

09/23/19

Data File Name 0911020.D
Data File Path C:\msdchem\1\data\091119\
Operator J. Galassi
Date Acquired 11 Sep 2019 6:59 pm
Sample Name PCB-1254 SSV @ 20.0ug/L
Sample Multiplier 1

Name	Amount	Units
Aroclor 1254 Peak-1	19.71	ug/L
Aroclor 1254 Peak-2	19.72	ug/L
Aroclor 1254 Peak-3	20.15	ug/L
Aroclor 1254 Peak-4	19.81	ug/L
Aroclor 1254 Peak-5	19.74	ug/L

CL = 70-130%
09/17/19
JH

Aroclor 1254 Average 19.83 *99%* /

Signal #2	Amount	Units
Aroclor 1254 Peak-1 #2	19.52	ug/L
Aroclor 1254 Peak-2 #2	19.05	ug/L
Aroclor 1254 Peak-3 #2	20.36	ug/L
Aroclor 1254 Peak-4 #2	19.78	ug/L
Aroclor 1254 Peak-5 #2	20.09	ug/L

Aroclor 1254 Average 19.76 *99%*

9/20/19

9/23/19

Operator J. Galassi
 Sample Name 608 CCV1 @ 2.0ug/L
 Data File Name 0911021.D
 Date Acquired 11 Sep 2019 7:22 pm
 Instrument Name ECD #4

CC=85-115%
09/17/19
JHY

Name	Amount	Units	% Recovery
alpha-BHC	2.230	ug/L	111
gamma-BHC	2.106	ug/L	105
beta-BHC	2.249	ug/L	112 ✓
delta-BHC	2.204	ug/L	110
Heptachlor	2.116	ug/L	106
Aldrin	2.100	ug/L	105
Heptachlor epoxide	2.118	ug/L	106
4,4'-DDE	2.118	ug/L	106
Endosulfan I	2.102	ug/L	105
Dieldrin	2.108	ug/L	105
Endrin	2.134	ug/L	107
4,4'-DDD	2.111	ug/L	106
Endosulfan II	2.115	ug/L	106
4,4'-DDT	2.138	ug/L	107
Endrin aldehyde	2.048	ug/L	102
Endosulfan sulfate	2.201	ug/L	110 ✓
Decachlorobiphenyl	2.389	ug/L	119 ✓
Signal #2			
alpha-BHC #2	2.068	ug/L	103
gamma-BHC #2	2.083	ug/L	104
beta-BHC #2	2.067	ug/L	103
delta-BHC #2	2.216	ug/L	111
Heptachlor #2	2.137	ug/L	107
Aldrin #2	2.095	ug/L	105
Heptachlor epoxide #2	2.097	ug/L	105/
4,4'-DDE #2	2.107	ug/L	105
Endosulfan I #2	2.121	ug/L	106
Dieldrin #2	2.099	ug/L	105
Endrin #2	2.140	ug/L	107
4,4'-DDD #2	2.112	ug/L	106
Endosulfan II #2	2.103	ug/L	105
4,4'-DDT #2	2.179	ug/L	109
Endrin aldehyde #2	2.052	ug/L	103
Endosulfan sulfate #2	2.074	ug/L	104
Decachlorobiphenyl #2	2.115	ug/L	106 ✓

outside range Doc. only

09/23/19

09/23/19

Data File Name 0911022.D
Data File Path C:\msdchem\1\data\091119\
Operator J. Galassi
Date Acquired 11 Sep 2019 7:44 pm
Sample Name PCB-1254 CCV1 @ 20.0ug/L
Sample Multiplier 1

Name	Amount	Units
Aroclor 1254 Peak-1	20.27	ug/L
Aroclor 1254 Peak-2	20.15	ug/L
Aroclor 1254 Peak-3	20.41	ug/L
Aroclor 1254 Peak-4	20.43	ug/L
Aroclor 1254 Peak-5	21.04	ug/L

Aroclor 1254 Average 20.46 *102%*

Signal #2	Amount	Units
Aroclor 1254 Peak-1 #2	19.63	ug/L
Aroclor 1254 Peak-2 #2	19.64	ug/L
Aroclor 1254 Peak-3 #2	20.41	ug/L
Aroclor 1254 Peak-4 #2	20.01	ug/L
Aroclor 1254 Peak-5 #2	21.00	ug/L

Aroclor 1254 Average 20.14 *101%*

CC = 85-115%
09/17/19
JG

09/20/19

09/23/19

Data File Name 0911025.D
 Sample Name LRB
 Date Acquired 11 Sep 2019 8:51 pm
 Sample Multiplier 1
 Misc Info ext. 09/03/19
 Operator J. Galassi

Name	Amount	Report	Units
Primary column			
alpha-BHC	0.000	<0.1	ug/L <i>LR</i>
gamma-BHC	0.000	<0.1	ug/L
beta-BHC	0.000	<0.1	ug/L
delta-BHC	0.000	<0.1	ug/L
Heptachlor	0.000	<0.1	ug/L
Aldrin	0.000	<0.1	ug/L
Heptachlor epoxide	0.000	<0.1	ug/L
4,4'-DDE	0.000	<0.1	ug/L
Endosulfan I	0.000	<0.1	ug/L
Dieldrin	0.000	<0.1	ug/L
Endrin	0.000	<0.1	ug/L
4,4'-DDD	0.000	<0.1	ug/L
Endosulfan II	0.000	<0.1	ug/L
4,4'-DDT	0.000	<0.1	ug/L
Endrin aldehyde	0.000	<0.1	ug/L
Endosulfan sulfate	0.000	<0.1	ug/L
Decachlorobiphenyl	9.928	99	%

*09/17/19
 JG*

Secondary column			
alpha-BHC #2	0.000		
gamma-BHC #2	0.000		
beta-BHC #2	0.000		
delta-BHC #2	0.000		
Heptachlor #2	0.000		
Aldrin #2	0.000		
Heptachlor epoxide #2	0.000		
4,4'-DDE #2	0.000		
Endosulfan I #2	0.000		
Dieldrin #2	0.000		
Endrin #2	0.000		
4,4'-DDD #2	0.000		
Endosulfan II #2	0.000		
4,4'-DDT #2	0.000		
Endrin aldehyde #2	0.000		
Endosulfan sulfate #2	0.000		
Decachlorobiphenyl #2	9.474	95	%

09/23/19

01/23/19

*= Greater than 40% RPD between Primary and Secondary column results

Operator J. Galassi
 Sample Name 608 LFB
 Data File Name 0911026.D
 Date Acquired 11 Sep 2019 9:14 pm
 Instrument Name ECD #4

Name	Amount	Units	% Recovery
alpha-BHC	2.180	ug/L	109
gamma-BHC	2.063	ug/L	103
beta-BHC	2.361	ug/L	118
delta-BHC	2.279	ug/L	114
Heptachlor	1.988	ug/L	99
Aldrin	1.951	ug/L	98
Heptachlor epoxide	2.140	ug/L	107
4,4'-DDE	2.099	ug/L	105
Endosulfan I	1.788	ug/L	89
Dieldrin	2.109	ug/L	105
Endrin	2.355	ug/L	118 ✓
4,4'-DDD	2.246	ug/L	112
Endosulfan II	1.487	ug/L	74
4,4'-DDT	2.196	ug/L	110
Endrin aldehyde	2.146	ug/L	107
Endosulfan sulfate	2.324	ug/L	116 ✓
Decachlorobiphenyl	10.283	ug/L	103
Signal #2			
alpha-BHC #2	1.990	ug/L	99
gamma-BHC #2	2.033	ug/L	102
beta-BHC #2	2.325	ug/L	116
delta-BHC #2	2.242	ug/L	112
Heptachlor #2	2.003	ug/L	100
Aldrin #2	1.921	ug/L	96
Heptachlor epoxide #2	2.121	ug/L	106
4,4'-DDE #2	2.072	ug/L	104
Endosulfan I #2	1.802	ug/L	90
Dieldrin #2	2.079	ug/L	104
Endrin #2	2.299	ug/L	115
4,4'-DDD #2	2.739	ug/L	137 ✓
Endosulfan II #2	1.456	ug/L	73
4,4'-DDT #2	2.241	ug/L	112
Endrin aldehyde #2	2.215	ug/L	111
Endosulfan sulfate #2	2.154	ug/L	108 /
Decachlorobiphenyl #2	9.744	ug/L	97

09/17/19
 JY

09/23/19

09/20/19

Operator J. Galassi
 Sample Name 608 LFB
 Data File Name 0911027.D
 Date Acquired 11 Sep 2019 9:36 pm
 Instrument Name ECD #4

Name	Amount Units	% Recovery
alpha-BHC	2.136 ug/L	107
gamma-BHC	2.037 ug/L	102
beta-BHC	2.340 ug/L	117 ✓
delta-BHC	2.314 ug/L	116
Heptachlor	1.944 ug/L	97
Aldrin	1.913 ug/L	96
Heptachlor epoxide	2.118 ug/L	106
4,4'-DDE	2.000 ug/L	100
Endosulfan I	1.653 ug/L	83
Dieldrin	2.090 ug/L	105
Endrin	2.439 ug/L	122
4,4'-DDD	2.238 ug/L	112
Endosulfan II	1.325 ug/L	66
4,4'-DDT	2.104 ug/L	105
Endrin aldehyde	2.141 ug/L	107
Endosulfan sulfate	2.330 ug/L	116
Decachlorobiphenyl	10.000 ug/L	100 ✓
Signal #2		
alpha-BHC #2	1.956 ug/L	98
gamma-BHC #2	1.997 ug/L	100
beta-BHC #2	2.233 ug/L	112
delta-BHC #2	2.221 ug/L	111
Heptachlor #2	1.964 ug/L	98
Aldrin #2	1.883 ug/L	94
Heptachlor epoxide #2	2.100 ug/L	105
4,4'-DDE #2	1.977 ug/L	99
Endosulfan I #2	1.674 ug/L	84
Dieldrin #2	2.073 ug/L	104
Endrin #2	2.373 ug/L	119
4,4'-DDD #2	2.945 ug/L	147 ✓
Endosulfan II #2	1.302 ug/L	65
4,4'-DDT #2	2.140 ug/L	107
Endrin aldehyde #2	2.238 ug/L	112
Endosulfan sulfate #2	2.154 ug/L	108
Decachlorobiphenyl #2	9.411 ug/L	94 ✓

09/17/19
 JH

09/23/19

CC=31-141%
 outside range ↑ Doc. only

09/20/19

Data File Name 0911027.D
 Sample Name 608 LFBD
 Date Acquired 11 Sep 2019 9:36 pm
 Sample Multiplier 1
 Misc Info ext. 09/03/19
 Operator J. Galassi

Name	Amount	Duplicate	RPD
Primary column			
alpha-BHC	2.180	2.136	2
gamma-BHC	2.063	2.037	1
beta-BHC	2.361	2.340	1
delta-BHC	2.279	2.314	2
Heptachlor	1.988	1.944	2
Aldrin	1.951	1.913	2
Heptachlor epoxide	2.140	2.118	1
4,4'-DDE	2.099	2.000	5
Endosulfan I	1.788	1.653	8
Dieldrin	2.109	2.090	1
Endrin	2.355	2.439	4
4,4'-DDD	2.246	2.238	0
Endosulfan II	1.487	1.325	11
4,4'-DDT	2.196	2.104	4
Endrin aldehyde	2.146	2.141	0
Endosulfan sulfate	2.324	2.330	0
Decachlorobiphenyl	10.283	10.000	3
Secondary column			
alpha-BHC #2	1.990	1.956	2
gamma-BHC #2	2.033	1.997	2
beta-BHC #2	2.325	2.233	4
delta-BHC #2	2.242	2.221	1
Heptachlor #2	2.003	1.964	2
Aldrin #2	1.921	1.883	2
Heptachlor epoxide #2	2.121	2.100	1
4,4'-DDE #2	2.072	1.977	5
Endosulfan I #2	1.802	1.674	7
Dieldrin #2	2.079	2.073	0
Endrin #2	2.299	2.373	3
4,4'-DDD #2	2.739	2.945	7
Endosulfan II #2	1.456	1.302	11
4,4'-DDT #2	2.241	2.140	5
Endrin aldehyde #2	2.215	2.238	1
Endosulfan sulfate #2	2.154	2.154	0
Decachlorobiphenyl #2	9.744	9.411	3

09/18/19
 JY
 CL-20%

09/23/19

09/23/19

Data File Name 0911028.D
Data File Path C:\msdchem\1\data\091119\
Operator J. Galassi
Date Acquired 11 Sep 2019 9:58 pm
Sample Name PCB-1254 LFB
Sample Multiplier 1

Name	Amount	Units
Aroclor 1254 Peak-1	45.04	ug/L
Aroclor 1254 Peak-2	46.05	ug/L
Aroclor 1254 Peak-3	47.00	ug/L
Aroclor 1254 Peak-4	45.84	ug/L
Aroclor 1254 Peak-5	46.44	ug/L
Aroclor 1254 Average	46.07	

92%

CL = 29-131%
09/17/19
JH

Signal #2	Amount	Units
Aroclor 1254 Peak-1 #2	43.29	ug/L
Aroclor 1254 Peak-2 #2	41.93	ug/L
Aroclor 1254 Peak-3 #2	41.88	ug/L
Aroclor 1254 Peak-4 #2	44.18	ug/L
Aroclor 1254 Peak-5 #2	44.84	ug/L

Aroclor 1254 Average 43.22

86%

SD
9/23/19

CL
9/20/19

Data File Name 0911029.D
Data File Path C:\msdchem\1\data\091119\
Operator J. Galassi
Date Acquired 11 Sep 2019 10:21 pm
Sample Name PCB-1254 LFBD
Sample Multiplier 1

Name	Amount	Units
Aroclor 1254 Peak-1	46.99	ug/L
Aroclor 1254 Peak-2	48.07	ug/L
Aroclor 1254 Peak-3	48.96	ug/L
Aroclor 1254 Peak-4	48.08	ug/L
Aroclor 1254 Peak-5	49.17	ug/L
Aroclor 1254 Average	48.26	97%

CL = 29-131%
09/17/19
JH

Signal #2	Amount	Units
Aroclor 1254 Peak-1 #2	44.91	ug/L
Aroclor 1254 Peak-2 #2	43.48	ug/L
Aroclor 1254 Peak-3 #2	43.86	ug/L
Aroclor 1254 Peak-4 #2	45.08	ug/L
Aroclor 1254 Peak-5 #2	46.22	ug/L
Aroclor 1254 Average	44.71	89%

% RPD < 20%
1° = 5%
2° = 3%

09/23/19

09/23/19

Operator J. Galassi
 Sample Name 608 CCV2 @ 2.0ug/L
 Data File Name 0911032.D
 Date Acquired 11 Sep 2019 11:28 pm
 Instrument Name ECD #4

Name	Amount	Units	% Recovery
alpha-BHC	2.230	ug/L	111
gamma-BHC	2.098	ug/L	105
beta-BHC	2.245	ug/L	112
delta-BHC	2.228	ug/L	111
Heptachlor	2.131	ug/L	107
Aldrin	2.064	ug/L	103
Heptachlor epoxide	2.073	ug/L	104 ✓
4,4'-DDE	2.090	ug/L	105
Endosulfan I	2.059	ug/L	103
Dieldrin	2.050	ug/L	103
Endrin	2.319	ug/L	116
4,4'-DDD	2.120	ug/L	106
Endosulfan II	2.086	ug/L	104
4,4'-DDT	2.161	ug/L	108
Endrin aldehyde	1.922	ug/L	96
Endosulfan sulfate	2.204	ug/L	110 ✓
Decachlorobiphenyl	2.308	ug/L	115 ✓
Signal #2			
alpha-BHC #2	2.026	ug/L	101
gamma-BHC #2	2.043	ug/L	102
beta-BHC #2	2.015	ug/L	101
delta-BHC #2	2.198	ug/L	110
Heptachlor #2	2.152	ug/L	108
Aldrin #2	2.019	ug/L	101
Heptachlor epoxide #2	2.023	ug/L	101
4,4'-DDE #2	2.067	ug/L	103
Endosulfan I #2	2.036	ug/L	102
Dieldrin #2	2.026	ug/L	101 ✓
Endrin #2	2.296	ug/L	115 ✓
4,4'-DDD #2	2.069	ug/L	103
Endosulfan II #2	2.026	ug/L	101
4,4'-DDT #2	2.183	ug/L	109
Endrin aldehyde #2	1.901	ug/L	95
Endosulfan sulfate #2	2.039	ug/L	102 ✓
Decachlorobiphenyl #2	1.999	ug/L	100 ✓

09/17/19
 JY

ed
 9/23/19

ca
 9/23/19

Data File Name 0911033.D
Data File Path C:\msdchem\1\data\091119\
Operator J. Galassi
Date Acquired 11 Sep 2019 11:50 pm
Sample Name PCB-1254 CCV2 @ 20.0ug/L
Sample Multiplier 1

Name	Amount	Units
Aroclor 1254 Peak-1	19.51	ug/L
Aroclor 1254 Peak-2	19.57	ug/L
Aroclor 1254 Peak-3	19.74	ug/L
Aroclor 1254 Peak-4	19.76	ug/L
Aroclor 1254 Peak-5	20.42	ug/L

CL=85-115%
09/17/19
JG

Aroclor 1254 Average 19.80 *99%*

Signal #2	Amount	Units
Aroclor 1254 Peak-1 #2	18.77	ug/L
Aroclor 1254 Peak-2 #2	18.76	ug/L
Aroclor 1254 Peak-3 #2	19.55	ug/L
Aroclor 1254 Peak-4 #2	19.25	ug/L
Aroclor 1254 Peak-5 #2	20.24	ug/L

Aroclor 1254 Average 19.31 *97%*

09/23/19

09/20/19

Method 624
PTMSD #3
LFMD RPD

PTMSD #1 Control Chart Masters 3026R0wks

Method 624	RPD
Date	7/26/2019
CHLOROMETHANE	1
VINYL CHLORIDE	1
BROMOMETHANE	2
CHLOROETHANE	3
TRICHLOROFLUOROMETHANE	1
1,1-DICHLOROETHYLENE	2
METHYLENE CHLORIDE	3
TRANS-1,2-DICHLOROETHENE	0
MTBE **	3
1,1-DICHLOROETHANE	1
CHLOROFORM	1
1,2-DICHLOROETHANE	1
1,1,1-TRICHLOROETHANE	1
CARBON TETRACHLORIDE	1
BENZENE	1
1,2-DICHLOROPROPANE	0
TRICHLOROETHYLENE	1
BROMODICHLOROMETHANE	1
CIS-1,3-DICHLOROPROPENE	0
TRANS-1,3-DICHLOROPROPENE	0
1,1,2-TRICHLOROETHANE	2
TOLUENE	1
DIBROMOCHLOROMETHANE	1
TETRACHLOROETHYLENE (PCE)	0
CHLOROBENZENE	2
ETHYLBENZENE	2
M,P-XYLENE	2
BROMOFORM	4
O-XYLENE	3
1,1,2,2-TETRACHLOROETHANE	7
1,3,5-TRIMETHYLBENZENE	3
1,2,4-TRIMETHYLBENZENE	3
1,3-DCB	0
1,4-DCB	0
1,2-DCB	3

4081218

Mellel

LFMD spiked at 20.0 ug/L for all except m,p-xylene at 40.0 ug/L.

3026R0wks

Data File Name: 0801009.D 0801010.D
 Sample Name: LFB LFBD
 Misc Info: A. Martin A. Martin

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 8/1/2019 12:35
 Sample Multiplier: 1

Compound Name	Conc.	Conc.	RPD	Name	Conc.	Conc.	RPD
B01 ACENAPHTHENE	84.96	85.51	1	B31 FLUORANTHENE	89.38	90.38	1
B02 ACENAPHTHYLENE	81.60	81.36	0	B32 FLUORENE	85.21	86.02	1
B03 ANTHRACENE	99.76	103.03	3	B33 HEXACHLORO BENZENE	87.87	88.99	1
B04 BENZIDINE	35.87	33.48	7	B34 HEXACHLOROBUTADIENE	68.41	69.31	1
B05 BENZO(A)ANTHRACENE	96.80	97.83	1	B35 HEXACHLOROCYCLOPENTADIENE	53.42	58.93	10
B06 BENZO(a)PYRENE	94.00	94.10	0	B36 HEXACHLOROETHANE	68.53	66.41	3
B07 BENZO(b)FLUORANTHENE	101.48	98.76	3	B37 INDENO(1,2,3-cd)PYRENE	92.61	92.02	1
B08 BENZO(ghi)PERYLENE	102.50	102.67	0	B38 ISOPHORONE	91.98	91.26	1
B09 BENZO(k)FLUORANTHENE	92.44	93.93	2	B39 NAPHTHALENE	81.78	80.24	2
B10 BIS(2-CHLOROETHOXY)METHANE	84.51	82.92	2	B40 NITROBENZENE	86.23	84.99	1
B11 BIS(2-CHLOROETHYL)ETHER	84.96	82.42	3	B41 n-NITROSODIMETHYLAMINE	79.08	77.05	3
B12 BIS(2-CHLOROISOPROPYL)ETHER	80.71	78.19	3	B42 n-NITROSODI-N-PROPYLAMINE	86.09	83.95	3
B13 bis(2-ETHYLHEXYL)PHTHALATE	95.93	96.37	0	B43 n-NITROSODIPHENYLAMINE	77.98	78.89	1
B14 4-BROMOPHENYL PHENYL ETHER	88.95	89.90	1	B44 PHENANTHRENE	89.35	89.65	0
B15 BENZYL BUTYL PHTHALATE	100.93	101.53	1	B45 PYRENE	88.98	90.22	1
B16 2-CHLORONAPHTHALENE	81.66	81.10	1	B46 1,2,4-TRICHLORO BENZENE	75.36	74.42	1
B17 4-CHLOROPHENYLPHENYLETHER	83.31	84.43	1	A01 2-CHLOROPHENOL	63.04	68.33	8
B18 CHRYSENE	92.85	93.32	1	A02 2,4-DICHLOROPHENOL	70.09	75.12	7
B19 DIBENZO(a,h) ANTHRACENE	97.47	98.09	1	A03 2,4-DIMETHYLPHENOL	81.87	80.70	1
B20 1,2-DICHLORO BENZENE	74.83	72.78	3	A04 2-METHYL-4,6-DINITROPHENOL	82.95	94.54	13
B21 1,3-DICHLORO BENZENE	73.48	72.84	1	A05 2,4-DINITROPHENOL	67.01	80.08	18
B22 1,4-DICHLORO BENZENE	74.98	70.83	6	A06 2-NITROPHENOL	68.53	74.12	8
B23 3,3-DICHLORO BENZIDINE	30.99	35.22	13	A07 4-NITROPHENOL	72.02	81.67	13
B24 DIETHYLPHTHALATE	88.00	88.47	1	A08 4-CHLORO-3-METHYLPHENOL	78.20	82.77	6
B25 DIMETHYL PHTHALATE	87.17	87.48	0	A09 PENTACHLOROPHENOL	79.24	89.81	13
B26 DI-N-BUTYL PHTHALATE	92.47	94.07	2	A10 PHENOL	66.04	70.06	6
B27 2,4-DINITROTOLUENE	94.71	95.62	1	A11 2,4,6-TRICHLOROPHENOL	72.26	80.88	11
B28 2,6-DINITROTOLUENE	95.62	96.67	1	S06 2,4,6-TRIBROMOPHENOL SURR. #1	86.26	97.00	12
B29 Di-n-OCTYLPHTHALATE	92.96	93.20	0	S07 DIBROMOOCTAFLUOROBIPHENYL S2	49.38	49.36	0
B30 1,2-DIPHENYLHYDRAZINE(AZOBENZE	85.15	85.03	0	S08 4,4-DIBROMOBIPHENYL SURR#3	48.65	48.62	0

8/1/19

8/1/19

8/2/19

Data File Name: 0905015.D 0905016.D
 Sample Name: LFB LFBD
 Misc Info: A. Martin A. Martin

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 9/5/2019 15:28
 Sample Multiplier: 1

Compound Name	Conc.	Conc.	RPD	Name	Conc.	Conc.	RPD
B01 ACENAPHTHENE	82.42	85.10	3	B31 FLUORANTHENE	93.41	94.71	1
B02 ACENAPHTHYLENE	77.09	80.03	4	B32 FLUORENE	85.10	87.11	2
B03 ANTHRACENE	102.73	103.97	1	B33 HEXACHLORO BENZENE	88.45	90.03	2
B04 BENZIDINE	42.41	43.07	2	B34 HEXACHLORO BUTADIENE	70.38	70.55	0
B05 BENZO(A)ANTHRACENE	104.57	104.77	0	B35 HEXACHLORO CYCLOPENTADIENE	46.45	48.35	4
B06 BENZO(a)PYRENE	101.19	103.01	2	B36 HEXACHLOROETHANE	69.61	72.02	3
B07 BENZO(b)FLUORANTHENE	109.91	111.86	2	B37 INDENO(1,2,3-cd)PYRENE	102.62	104.56	2
B08 BENZO(ghi)PERYLENE	112.50	114.57	2	B38 ISOPHORONE	86.99	91.36	5
B09 BENZO(k)FLUORANTHENE	104.23	104.42	0	B39 NAPHTHALENE	76.69	79.26	3
B10 BIS(2-CHLOROETHOXY)METHANE	80.19	84.17	5	B40 NITROBENZENE	79.83	82.44	3
B11 BIS(2-CHLOROETHYL)ETHER	79.71	86.81	9	B41 n-NITROSODIMETHYLAMINE	74.72	77.09	3
B12 BIS(2-CHLOROISOPROPYL) ETHER	74.39	77.33	4	B42 n-NITROSODI-N-PROPYLAMINE	82.10	85.03	4
B13 bis(2-ETHYLHEXYL)PHTHALATE	98.95	99.38	0	B43 n-NITROSODIPHENYLAMINE	75.75	77.21	2
B14 4-BROMOPHENYL PHENYL ETHER	90.64	91.61	1	B44 PHENANTHRENE	90.52	91.98	2
B15 BENZYL BUTYL PHTHALATE	104.33	104.67	0	B45 PYRENE	93.93	94.96	1
B16 2-CHLORONAPHTHALENE	77.21	80.07	4	B46 1,2,4-TRICHLORO BENZENE	74.59	77.40	4
B17 4-CHLOROPHENYLPHENYLETHER	84.34	86.02	2	A01 2-CHLOROPHENOL	57.78	60.66	5
B18 CHRYSENE	99.89	101.15	1	A02 2,4-DICHLOROPHENOL	66.37	67.51	2
B19 DIBENZO(a,h) ANTHRACENE	108.94	110.96	2	A03 2,4-DIMETHYLPHENOL	78.92	81.03	3
B20 1,2-DICHLORO BENZENE	72.64	75.11	3	A04 2-METHYL-4,6-DINITROPHENOL	95.96	95.15	1
B21 1,3-DICHLORO BENZENE	71.15	73.62	3	A05 2,4-DINITROPHENOL	85.70	83.49	3
B22 1,4-DICHLORO BENZENE	72.19	75.06	4	A06 2-NITROPHENOL	64.42	67.05	4
B23 3,3-DICHLORO BENZIDINE	35.03	35.59	2	A07 4-NITROPHENOL	81.45	78.70	3
B24 DIETHYL PHTHALATE	89.85	90.73	1	A08 4-CHLORO-3-METHYLPHENOL	74.40	73.48	1
B25 DIMETHYL PHTHALATE	87.30	88.50	1	A09 PENTACHLOROPHENOL	90.01	88.13	2
B26 DI-N-BUTYL PHTHALATE	97.05	97.95	1	A10 PHENOL	59.69	61.65	3
B27 2,4-DINITROTOLUENE	93.99	96.31	2	A11 2,4,6-TRICHLOROPHENOL	71.75	71.20	1
B28 2,6-DINITROTOLUENE	93.42	94.56	1	S06 2,4,6-TRIBROMOPHENOL SURR. #1	91.77	87.86	4
B29 DI-n-OCTYL PHTHALATE	95.13	96.11	1	S07 DIBROMOOCTAFLUOROBIPHENYL S2	50.79	51.76	2
B30 1,2-DIPHENYLHYDRAZINE(AZOBENZE	81.54	83.26	2	S08 4,4-DIBROMOBIPHENYL SURR#3	49.89	49.94	0

9/12/19

*cm
9/16/19*

akella AM

LIMS Number	Sample Date	Method	Analyte	Required LFMD precision %RPD	Actual LFMD precision %RPD
2019054922	7/24/2019	EPA 200.8	Antimony - Dissolved	20%	1.4
2019065141	8/28/2019	EPA 200.8	Antimony - Dissolved	20%	0.7
2019065156	8/28/2019	EPA 200.8	Antimony - Dissolved	20%	0.7
2019054921	7/24/2019	EPA 200.8	Antimony - Total Recoverable	20%	0.9
2019065140	8/28/2019	EPA 200.8	Antimony - Total Recoverable	20%	1.2
2019065155	8/28/2019	EPA 200.8	Antimony - Total Recoverable	20%	1.2
2019054922	7/24/2019	EPA 200.8	Arsenic - Dissolved	20%	1.2
2019065141	8/28/2019	EPA 200.8	Arsenic - Dissolved	20%	0.7
2019065156	8/28/2019	EPA 200.8	Arsenic - Dissolved	20%	0.7
2019054921	7/24/2019	EPA 200.8	Arsenic - Total Recoverable	20%	1.2
2019065140	8/28/2019	EPA 200.8	Arsenic - Total Recoverable	20%	0.6
2019065155	8/28/2019	EPA 200.8	Arsenic - Total Recoverable	20%	0.6
2019054922	7/24/2019	EPA 200.8	Barium - Dissolved	20%	0.3
2019065141	8/28/2019	EPA 200.8	Barium - Dissolved	20%	1.3
2019065156	8/28/2019	EPA 200.8	Barium - Dissolved	20%	1.3
2019054921	7/24/2019	EPA 200.8	Barium - Total Recoverable	20%	0.6
2019065140	8/28/2019	EPA 200.8	Barium - Total Recoverable	20%	0.5
2019065155	8/28/2019	EPA 200.8	Barium - Total Recoverable	20%	0.5
2019054922	7/24/2019	EPA 200.8	Beryllium - Dissolved	20%	1.1
2019065141	8/28/2019	EPA 200.8	Beryllium - Dissolved	20%	2.1
2019065156	8/28/2019	EPA 200.8	Beryllium - Dissolved	20%	2.1
2019054921	7/24/2019	EPA 200.8	Beryllium - Total Recoverable	20%	0.6
2019065140	8/28/2019	EPA 200.8	Beryllium - Total Recoverable	20%	2.1
2019065155	8/28/2019	EPA 200.8	Beryllium - Total Recoverable	20%	2.1
2019054922	7/24/2019	EPA 200.8	Cadmium - Dissolved	20%	1.7
2019065141	8/28/2019	EPA 200.8	Cadmium - Dissolved	20%	0.1
2019065156	8/28/2019	EPA 200.8	Cadmium - Dissolved	20%	0.1
2019054921	7/24/2019	EPA 200.8	Cadmium - Total Recoverable	20%	0.2
2019065140	8/28/2019	EPA 200.8	Cadmium - Total Recoverable	20%	1.1
2019065155	8/28/2019	EPA 200.8	Cadmium - Total Recoverable	20%	1.1
2019054922	7/24/2019	SM20 2340 B	Calcium Hardness	N/A	N/A
2019065141	8/28/2019	SM20 2340 B	Calcium Hardness	N/A	N/A
2019065156	8/28/2019	SM20 2340 B	Calcium Hardness	N/A	N/A
2019054922	7/24/2019	EPA 200.7	Calcium Total	20%	0.4
2019065141	8/28/2019	EPA 200.7	Calcium Total	20%	2.1
2019065156	8/28/2019	EPA 200.7	Calcium Total	20%	2.1
2019054922	7/24/2019	EPA 200.8	Chromium - Dissolved	20%	1.4
2019065141	8/28/2019	EPA 200.8	Chromium - Dissolved	20%	0.3
2019065156	8/28/2019	EPA 200.8	Chromium - Dissolved	20%	0.3

2019054921	7/24/2019	EPA 200.8	Chromium - Total Recoverable	20%	0.0
2019065140	8/28/2019	EPA 200.8	Chromium - Total Recoverable	20%	0.1
2019065155	8/28/2019	EPA 200.8	Chromium - Total Recoverable	20%	0.1
2019054922	7/24/2019	EPA 200.8	Copper - Dissolved	20%	0.9
2019065141	8/28/2019	EPA 200.8	Copper - Dissolved	20%	0.5
2019065156	8/28/2019	EPA 200.8	Copper - Dissolved	20%	0.5
2019054921	7/24/2019	EPA 200.8	Copper - Total Recoverable	20%	0.2
2019065140	8/28/2019	EPA 200.8	Copper - Total Recoverable	20%	1.1
2019065155	8/28/2019	EPA 200.8	Copper - Total Recoverable	20%	1.1
2019054922	7/24/2019	SM20 2340 B	Hardness - Total	N/A	N/A
2019065141	8/28/2019	SM20 2340 B	Hardness - Total	N/A	N/A
2019065156	8/28/2019	SM20 2340 B	Hardness - Total	N/A	N/A
2019054922	7/24/2019	EPA 200.8	Lead - Dissolved	20%	0.7
2019065141	8/28/2019	EPA 200.8	Lead - Dissolved	20%	1.1
2019065156	8/28/2019	EPA 200.8	Lead - Dissolved	20%	1.1
2019054921	7/24/2019	EPA 200.8	Lead - Total Recoverable	20%	0.5
2019065140	8/28/2019	EPA 200.8	Lead - Total Recoverable	20%	0.4
2019065155	8/28/2019	EPA 200.8	Lead - Total Recoverable	20%	0.4
2019054922	7/24/2019	EPA 200.7	Magnesium - Total	20%	1.1
2019065141	8/28/2019	EPA 200.7	Magnesium - Total	20%	3.9
2019065156	8/28/2019	EPA 200.7	Magnesium - Total	20%	3.9
2019054922	7/24/2019	EPA 245.1	Mercury - Diss	20%	0.4
2019065141	8/28/2019	EPA 245.1	Mercury - Diss	20%	0.1
2019065156	8/28/2019	EPA 245.1	Mercury - Diss	20%	0.1
2019054921	7/24/2019	EPA 245.1	Mercury - Total	20%	0.4
2019065140	8/28/2019	EPA 245.1	Mercury - Total	20%	1.2
2019065155	8/28/2019	EPA 245.1	Mercury - Total	20%	1.5
2019054922	7/24/2019	EPA 200.8	Nickel - Dissolved	20%	2
2019065141	8/28/2019	EPA 200.8	Nickel - Dissolved	20%	0.7
2019065156	8/28/2019	EPA 200.8	Nickel - Dissolved	20%	0.7
2019054921	7/24/2019	EPA 200.8	Nickel - Total Recoverable	20%	1.3
2019065140	8/28/2019	EPA 200.8	Nickel - Total Recoverable	20%	1.6
2019065155	8/28/2019	EPA 200.8	Nickel - Total Recoverable	20%	1.6
2019054925	7/24/2019	EPA 300.0	Nitrate-N	10%	0.2
2019065144	8/28/2019	EPA 300.0	Nitrate-N	10%	0.0
2019065159	8/28/2019	EPA 300.0	Nitrate-N	10%	0.0
2019054925	7/24/2019	EPA 300.0	Nitrite-N	10%	0.5
2019065144	8/28/2019	EPA 300.0	Nitrite-N	10%	0.7
2019065159	8/28/2019	EPA 300.0	Nitrite-N	10%	0.7

2019054925	7/24/2019	EPA 300.0	O-Phosphate-P	10%	1.5
2019065144	8/28/2019	EPA 300.0	O-Phosphate-P	10%	1.2
2019065159	8/28/2019	EPA 300.0	O-Phosphate-P	10%	1.2
2019054922	7/24/2019	EPA 200.8	Selenium - Dissolved	20%	2.0
2019065141	8/28/2019	EPA 200.8	Selenium - Dissolved	20%	0.8
2019065156	8/28/2019	EPA 200.8	Selenium - Dissolved	20%	0.8
2019054921	7/24/2019	EPA 200.8	Selenium - Total Recoverable	20%	0.2
2019065140	8/28/2019	EPA 200.8	Selenium - Total Recoverable	20%	0.2
2019065155	8/28/2019	EPA 200.8	Selenium - Total Recoverable	20%	0.2
2019054922	7/24/2019	EPA 200.8	Silver - Dissolved	20%	0.7
2019065141	8/28/2019	EPA 200.8	Silver - Dissolved	20%	0.9
2019065156	8/28/2019	EPA 200.8	Silver - Dissolved	20%	0.9
2019054921	7/24/2019	EPA 200.8	Silver - Total Recoverable	20%	0.7
2019065140	8/28/2019	EPA 200.8	Silver - Total Recoverable	20%	0.9
2019065155	8/28/2019	EPA 200.8	Silver - Total Recoverable	20%	0.9
2019054922	7/24/2019	EPA 200.8	Thallium - Dissolved	20%	0.1
2019065141	8/28/2019	EPA 200.8	Thallium - Dissolved	20%	1.2
2019065156	8/28/2019	EPA 200.8	Thallium - Dissolved	20%	1.2
2019054921	7/24/2019	EPA 200.8	Thallium - Total Recoverable	20%	0.5
2019065140	8/28/2019	EPA 200.8	Thallium - Total Recoverable	20%	1.2
2019065155	8/28/2019	EPA 200.8	Thallium - Total Recoverable	20%	1.2
2019054922	7/24/2019	EPA 200.7	Zinc - Dissolved	20%	2.0
2019065141	8/28/2019	EPA 200.7	Zinc - Dissolved	20%	2.6
2019065156	8/28/2019	EPA 200.8	Zinc - Dissolved	20%	2.6
2019054921	7/24/2019	EPA 200.7	Zinc - Total Recoverable	20%	2.9
2019065140	8/28/2019	EPA 200.7	Zinc - Total Recoverable	20%	3.2
2019065155	8/28/2019	EPA 200.7	Zinc - Total Recoverable	20%	3.2

LIMS Number	Sample Date	Sample ID	Analysis Date	Method	Analyte	Required %RPD	Actual %RPD
		SR 049 SR49 - 67th Ave and the Salt River		SM20 4500 NH3 D	Ammonia	≤ 20%	
		SR003 SR03 - 35th Ave and the Salt River		SM20 4500 NH3 D	Ammonia	≤ 20%	
		SR030 SR30 - 27th Ave and the Salt River		SM20 4500 NH3 D	Ammonia	≤ 20%	
		SR045 SR45 - 40th St and the Salt River		SM20 4500 NH3 D	Ammonia	≤ 20%	
2019065142	8/28/2019	IB008 IB08 - 40th St and Indian Bend Wash	9/5/2019	SM20 4500 NH3 D	Ammonia	≤ 20%	4%
2019065157	8/28/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	9/5/2019	SM20 4500 NH3 D	Ammonia	≤ 20%	4%
2019054923	7/24/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	8/13/2019	SM20 4500 NH3 D	Ammonia	≤ 20%	1%
		SR 049 SR49 - 67th Ave and the Salt River		ASTM D3590 A, B	Total Kjeldahl Nitrogen	≤ 20%	
		SR003 SR03 - 35th Ave and the Salt River		ASTM D3590 A, B	Total Kjeldahl Nitrogen	≤ 20%	
		SR030 SR30 - 27th Ave and the Salt River		ASTM D3590 A, B	Total Kjeldahl Nitrogen	≤ 20%	
		SR045 SR45 - 40th St and the Salt River		ASTM D3590 A, B	Total Kjeldahl Nitrogen	≤ 20%	
2019065142	8/28/2019	IB008 IB08 - 40th St and Indian Bend Wash	9/4/2019	ASTM D3590 A, B	Total Kjeldahl Nitrogen	≤ 20%	1%
2019065157	8/28/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	9/4/2019	ASTM D3590 A, B	Total Kjeldahl Nitrogen	≤ 20%	1%
2019054923	7/24/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	8/7/2019	ASTM D3590 A, B	Total Kjeldahl Nitrogen	≤ 20%	3%
		SR 049 SR49 - 67th Ave and the Salt River		EPA 335.4	Cyanide	≤ 10%	
		SR003 SR03 - 35th Ave and the Salt River		EPA 335.4	Cyanide	≤ 10%	
		SR030 SR30 - 27th Ave and the Salt River		EPA 335.4	Cyanide	≤ 10%	
		SR045 SR45 - 40th St and the Salt River		EPA 335.4	Cyanide	≤ 10%	
2019065149	8/29/2019	IB008 IB08 - 40th St and Indian Bend Wash	8/29/2019	EPA 335.4	Cyanide	≤ 10%	2%
2019065164	8/28/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	8/29/2019	EPA 335.4	Cyanide	≤ 10%	2%
2019054930	7/24/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	7/29/2019	EPA 335.4	Cyanide	≤ 10%	2%
2019065143	8/28/2019	IB008 IB08 - 40th St and Indian Bend Wash	8/29/2019	SM20 5210 B	BOD, 5 Day	NA	NA
2019065158	8/28/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	8/29/2019	SM20 5210 B	BOD, 5 Day	NA	NA
2019054924	7/24/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	7/25/2019	SM20 5210 B	BOD, 5 Day	NA	NA
2019065143	8/28/2019	IB008 IB08 - 40th St and Indian Bend Wash	8/29/2019	HACH-8000	COD	≤ 20%	3%
2019065158	8/29/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	8/29/2019	HACH-8000	COD	≤ 20%	5%
2019054924	7/24/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	7/25/2019	HACH-8000	COD	≤ 20%	2%
2019065143	8/28/2019	IB008 IB08 - 40th St and Indian Bend Wash	8/29/2019	SM20 2540 D	Suspended Solids	RPD ≤ 5% for residue ≥ 20 mg; RPD ≤ 20% for residue < 20 mg.	2%
2019065158	8/29/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	8/29/2019	SM20 2540 D	Suspended Solids	RPD ≤ 5% for residue ≥ 20 mg; RPD ≤ 20% for residue < 20 mg.	2%
2019054924	7/24/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	7/26/2019	SM20 2540 D	Suspended Solids	RPD ≤ 5% for residue ≥ 20 mg; RPD ≤ 20% for residue < 20 mg.	0%
2019065143	8/28/2019	IB008 IB08 - 40th St and Indian Bend Wash	9/3/2019	SM20 2540 C	Total Dissolved Solids	<5%	7%
2019065158	8/28/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	9/3/2019	SM20 2540 C	Total Dissolved Solids	<5%	7%
2019054924	7/24/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	7/29/2019	SM20 2540 C	Total Dissolved Solids	<5%	0%
		SR049 - 67th Ave and the Salt River		SM20 9223	E. coli		
		SR003 - 35th Ave and the Salt River		SM20 9223	E. coli		
		SR030 - 27th Ave and the Salt River		SM20 9223	E. coli		
		SR045 - 40th St and the Salt River		SM20 9223	E. coli		
2019065148	8/29/2019	IB008 - 40th St and Indian Bend Wash	8/29/2019	SM20 9223	E. coli	RPD ≤ 43.85%	16.95%
2019065163	8/29/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	8/29/2019	SM20 9223	E. coli	RPD ≤ 43.85%	16.95%
2019054929	7/24/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	7/24/2019	SM20 9223	E. coli	RPD ≤ 69.44%	11.77%

WINTER SEASON

November 1, 2019 – June 30, 2020

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**OUTFALLS SR049, SR045, SR003, SR030,
AC033, SC046**

Storm of November 29, 2019

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To: Joshua Blakey
Environmental Quality Specialist - Stormwater

Date: 01/21/20

From: Kristi McFarlin
Environmental Quality Specialist-Laboratory

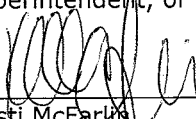
Subject: Storm water Winter Season November 2019-May 2020

Attached are laboratory reports, COCs and SWQS limit report for samples collected 11/29/19 at Outfalls SR049, SR003, SR030, SR045, AC033, SC046, and the Replicant site. and samples collected 12/07/2019 at Outfall IB008.

Please call me at (602) 534-2895 if you have any questions about these reports.
Attached:

LIMS:	Site:
2019090206-90220	SR049
2019090297-90311	SR003
2019090383-90397	SR030
2019090410-90424	SR045
2019090440-90454	AC033
2019090455-90469	SC046
2019090470-90484	Replicant
2019092284-92298	IB008

I certify that these test reports are in compliance with the terms and conditions of Laboratory agreements and all referenced methods, both technically and for completeness, except for any noted conditions. Release of the data in this original printed test report and any alternate means of electronic communication and transmission have been authorized by the Laboratory Superintendent, or his acknowledged designee, as verified by the following signature.



Kristi McFarlin
Environmental Quality Specialist

Date: 1/21/20

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Sample # Sample ID
 2019090206 

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report

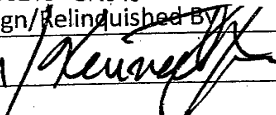
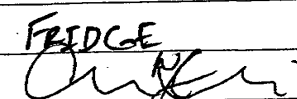


Project ID: **STORMWATER**

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
		Stormwater SR049 TAM	608-STORM	2	11/29/19	0536	ICE
		Stormwater SR049	625-STORM	2			ICE
		Stormwater SR049	TOTAL METALS STORMWATER	1			HNO3
		Stormwater SR049	METALS DISSOLVED STORMWATER	1			HNO3/FIELD FILTERED
		Stormwater SR049	NH3-WC and TKN-WC	1			H2SO4
		Stormwater SR049	Group A with TDS	1			ICE
		Stormwater SR049	IC300 Nitrate, Nitrite, Orthophosphate	1			ICE
		Stormwater SR049 TAM	TOTAL PHOSPHOROUS	1			H2SO4

COMPOSITE SAMPLES

Sample # Sample ID
 2019090206 - SR049
 2019090207 - SR049
~~2019090208 - SR049~~
~~2019090209 - SR049~~
 2019090210 - SR049
 2019090211 - SR049
~~2019090212 - SR049~~
 2019090213 - SR049

Sampler Print & Sign/Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
KENNETH FOSSUM /  FRIDGE	11/29/19	0536	FRIDGE 	B
	DEC 02 2019			

TIME: 0740
 TEMP °C: 1.0

Sample # 2019090214 Sample ID 2019090214

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report



Project ID: **STORMWATER**

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
		SR049	8260B-Storm 624-Storm	6	11/29/19	10:05	HCL
		SR049	624 ACAC 624 CEVE	6			ICE
2019090216		SR049	COLILERT - MPN	1			NaSO4
		SR049	CYANIDE	1			NaOH
		SR049 TAM	1664 HEMSGT	3			H2SO4
		SR049 Trip Blank	8260B-Storm 624-Storm	2			HCL
		SR049 Trip Blank	624 ACAC 624 CEVE	2			ICE

GRAB SAMPLES

pH 8.21 Air Temp 9.5 Water Temp 13.2 Specific Conductance 83.1

Barometric Pressure 731 Dissolved Oxygen 10.22

* 90216 - Temp = 1.2°C @ 1052 From Frig gm = C - 11-29-19

~~2019090214 - SR049~~
~~2019090215 - SR049~~

Sample # 2019090216 Sample ID SR049
2019090217 - SR049
2019090218 - SR049

Sampler Print & Sign/Relinquished By <u>KENNETH FOSSUM/Kenneth Fossu</u> <u>FRIDGE</u>	Date	Time	<u>FRIDGE</u> <u>Ch...</u>	<u>B</u>
	<u>11/29/19</u> RECEIVED WSLAB DEC 03 2019	<u>10:45</u>		

TIME: 0740
 TEMP °C: 2.7



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090206

Sample ID : SR049	Temperature : 13.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:36	pH : 8.21	Account Number : Stormwater
Approval Date : 12/11/2019 14:24		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3							TAM	
	Aldrin	<0.045	ug/L	1	E8	0.045	.052		12/04/2019 18:20
	alpha-BHC	<0.033	ug/L	1	E8	0.033	.052		12/04/2019 18:20
	beta-BHC	<0.041	ug/L	1	E8	0.041	.052		12/04/2019 18:20
	gamma-BHC	<0.034	ug/L	1	E8	0.034	.052		12/04/2019 18:20
	delta-BHC	<0.041	ug/L	1	E8	0.041	.052		12/04/2019 18:20
	Chlordane	<0.17	ug/L	1	E8	0.17	.52		12/04/2019 18:20
	4,4'-DDT	<0.032	ug/L	1	E8	0.032	.052		12/04/2019 18:20
	4,4'-DDE	<0.043	ug/L	1	E8	0.043	.052		12/04/2019 18:20
	4,4'-DDD	<0.039	ug/L	1	E8	0.039	.052		12/04/2019 18:20
	Dieldrin	<0.031	ug/L	1	E8	0.031	.052		12/04/2019 18:20
	Endosulfan I	<0.033	ug/L	1	E8;R6	0.033	.052		12/04/2019 18:20
	Endosulfan II	<0.035	ug/L	1	E8	0.035	.052		12/04/2019 18:20
	Endosulfan Sulfate	<0.035	ug/L	1	E8	0.035	.052		12/04/2019 18:20
	Endrin	<0.033	ug/L	1	E8	0.033	.052		12/04/2019 18:20
	Endrin Aldehyde	<0.090	ug/L	1	E8	0.090	0.10		12/04/2019 18:20
	Heptachlor	<0.069	ug/L	1	E8	0.069	0.10		12/04/2019 18:20
	Heptachlor Epoxide	<0.035	ug/L	1	E8;R6	0.035	.052		12/04/2019 18:20
	Arochlor-1242	<0.26	ug/L	1	E8	0.26	1		12/04/2019 16:57
	Arochlor-1254	<0.25	ug/L	1	E8	0.25	1		12/04/2019 16:57
	Arochlor-1221	<0.25	ug/L	1	E8	0.25	1		12/04/2019 16:57
	Arochlor-1232	<0.28	ug/L	1	E8	0.28	1		12/04/2019 16:57
	Arochlor-1248	<0.21	ug/L	1	E8	0.21	1		12/04/2019 16:57
	Arochlor-1260	<0.21	ug/L	1	E8	0.21	1		12/04/2019 16:57
	Arochlor-1016	<0.23	ug/L	1	E8	0.23	1		12/04/2019 16:57
	Toxaphene	<0.40	ug/L	1	E8	0.40	1		12/04/2019 18:20

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2474 S. 22nd Ave
(602) 534-2960



Results Report



Submitter: Water Services Department
200 W. Washington
Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090206

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:36	Account Number : Stormwater
Approval Date : 12/11/2019 14:24	Temperature : 13.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 8.21
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3						TAM	
	Decachlorobiphenyl	42 % Recovery	1					12/04/2019 18:20
	Tetrachloro-m-xylene (Surr)	94 % Recovery	1					12/04/2019 18:20
	Total Endosulfan	<0.033 ug/L	1		0.033			12/04/2019 18:20

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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 (602) 534-2960



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090207**

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:36	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.0-2.7
Temperature : 13.2 Deg. C	
pH : 8.21	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625						AM	
Acenaphthene		<1.19 ug/L	1	E8	1.19	10		12/05/2019 14:59
Acenaphthylene		<1.41 ug/L	1	E8	1.41	10		12/05/2019 14:59
Anthracene		<1.20 ug/L	1	E8	1.20	10		12/05/2019 14:59
Benzo(a)anthracene		<1.02 ug/L	1	E8	1.02	10		12/05/2019 14:59
Benzo(a)pyrene		<1.08 ug/L	1	E8	1.08	10		12/05/2019 14:59
Benzo(b)fluoranthene		<0.38 ug/L	1	E8	0.38	10		12/05/2019 14:59
Benzo(ghi)perylene		<1.14 ug/L	1	E8	1.14	10		12/05/2019 14:59
Benzo(k)fluoranthene		<1.03 ug/L	1	E8	1.03	10		12/05/2019 14:59
Chrysene		<1.16 ug/L	1	E8	1.16	10		12/05/2019 14:59
Dibenzo(a,h)anthracene		<1.02 ug/L	1	E8	1.02	10		12/05/2019 14:59
1,2-Dichlorobenzene		<1.43 ug/L	1	E8	1.43	10		12/05/2019 14:59
1,3-Dichlorobenzene		<1.39 ug/L	1	E8	1.39	10		12/05/2019 14:59
1,4-Dichlorobenzene		<1.48 ug/L	1	E8	1.48	10		12/05/2019 14:59
3,3'-Dichlorobenzidine		<6.99 ug/L	1	E8	6.99	50		12/05/2019 14:59
Diethyl phthalate		<1.08 ug/L	1	E8	1.08	10		12/05/2019 14:59
Dimethyl phthalate		<1.17 ug/L	1	E8	1.17	20		12/05/2019 14:59
Di-n-butyl phthalate		<1.12 ug/L	1	E8	1.12	10		12/05/2019 14:59
2,4-Dinitrotoluene		<1.17 ug/L	1	E8	1.17	10		12/05/2019 14:59
2,6-Dinitrotoluene		<1.13 ug/L	1	E8	1.13	10		12/05/2019 14:59
Di-n-octyl phthalate		<2.05 ug/L	1	E8	2.05	10		12/05/2019 14:59
1,2-Diphenyl hydrazine (as azobenzene)		<1.11 ug/L	1	E8	1.11	10		12/05/2019 14:59
Fluoranthene		<1.27 ug/L	1	E8	1.27	10		12/05/2019 14:59
Fluorene		<1.18 ug/L	1	E8	1.18	10		12/05/2019 14:59
Hexachlorobenzene		<1.01 ug/L	1	E8	1.01	10		12/05/2019 14:59
Hexachlorobutadiene		<1.20 ug/L	1	E8	1.20	10		12/05/2019 14:59

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Results Report



Submitter: Water Services Department
200 W. Washington
Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090207

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:36	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.0-2.7
Temperature : 13.2 Deg. C	
pH : 8.21	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
	Hexachlorocyclopentadiene	<3.07	ug/L	1	E8	3.07	10		12/05/2019 14:59
	Hexachloroethane	<1.35	ug/L	1	E8	1.35	10		12/05/2019 14:59
	Indeno(1,2,3-cd)pyrene	<1.07	ug/L	1	E8	1.07	10		12/05/2019 14:59
	Isophorone	<1.32	ug/L	1	E8	1.32	10		12/05/2019 14:59
	Naphthalene	<1.48	ug/L	1	E8	1.48	10		12/05/2019 14:59
	Nitrobenzene	<1.55	ug/L	1	E8	1.55	10		12/05/2019 14:59
	N-Nitrosodimethylamine	<1.67	ug/L	1	E8	1.67	10		12/05/2019 14:59
	N-Nitrosodi-n-propylamine	<1.65	ug/L	1	E8	1.65	10		12/05/2019 14:59
	N-Nitrosodiphenylamine	<1.07	ug/L	1	E8	1.07	10		12/05/2019 14:59
	Phenanthrene	<1.33	ug/L	1	E8	1.33	10		12/05/2019 14:59
	Pyrene	<1.20	ug/L	1	E8	1.20	10.0		12/05/2019 14:59
	1,2,4-Trichlorobenzene	<1.34	ug/L	1	E8	1.34	10		12/05/2019 14:59
	2-Chlorophenol	<4.52	ug/L	1	E8	4.52	10		12/05/2019 14:59
	2,4-Dichlorophenol	<4.77	ug/L	1	E8	4.77	10		12/05/2019 14:59
	2,4-Dimethylphenol	<2.04	ug/L	1	E8;N1	2.04	10		12/05/2019 14:59
	2-Methyl-4,6-dinitrophenol	<3.36	ug/L	1	E8	3.36	10		12/05/2019 14:59
	2,4-Dinitrophenol	<3.41	ug/L	1	E8	3.41	10		12/05/2019 14:59
	2-Nitrophenol	<4.68	ug/L	1	E8	4.68	10		12/05/2019 14:59
	4-Nitrophenol	<3.52	ug/L	1	E8	3.52	10		12/05/2019 14:59
	4-Chloro-3-methylphenol	<4.76	ug/L	1	E8	4.76	10		12/05/2019 14:59
	Pentachlorophenol	<4.00	ug/L	1	E8	4.00	10		12/05/2019 14:59
	Phenol	<4.08	ug/L	1	E8	4.08	10		12/05/2019 14:59
	2,4,6-Trichlorophenol	<5.27	ug/L	1	E8	5.27	10		12/05/2019 14:59
	2,4,6-Tribromophenol	85 % Recovery		1					12/05/2019 14:59
	Dibromooctafluorobiphenyl	25 % Recovery		1					12/05/2019 14:59

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090207**

Sample ID : SR049	Temperature : 13.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 05:36	pH : 8.21	Account Number : Stormwater
Approval Date : 12/11/2019 16:01		Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625	31 % Recovery					AM	12/05/2019 14:59

625-STORM Case Narrative: Batch QC did not meet laboratory acceptance criteria in the 2019090456 LFM/LFMD for 3,3-Dichlorobenzidine (0%/0%); control limits: 1-262%, n-Nitrosodimethylamine (54%/50%); control limits: 57-92% and n-Nitrosodiphenylamine (36%/34%); control limits: 49-118%. The LFMD RPD could not be calculated for 3,3-Dichlorobenzidine due to the results being zero. The closing CCV did not meet laboratory acceptance criteria for 2,4-Dimethylphenol (78%); Control Limits: 80-120%. Closing QC is not a 625 EPA method requirement.

Extraction - 625	EPA 625	COMPLETE					AA	12/03/2019 00:00
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Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090208**

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:36	Account Number : Stormwater
Approval Date : 12/17/2019 09:56	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.0-2.7
Temperature : 13.2 Deg. C	
pH : 8.21	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Silver - Total Recoverable	EPA 200.8	0.0013 mg/L	5	D1;E4;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Total Recoverable Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).								
Arsenic - Total Recoverable	EPA 200.8	0.0062 mg/L	5	D1	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Total Recoverable	EPA 200.8	0.177 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Total Recoverable	EPA 200.8	0.00062 mg/L	5	D1;E4	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Total Recoverable	EPA 200.8	0.0006 mg/L	5	D1;E4	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable	EPA 200.8	0.0241 mg/L	5	D1;B7	0.00045	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable Case Narrative: Batch LRB Cr level is 0.00066 mg/L (accept. range is < 0.00045).								
Copper - Total Recoverable	EPA 200.8	0.0488 mg/L	5	D1;B7	0.0005	0.0050	TS	12/13/2019 00:00
Copper - Total Recoverable Case Narrative: Batch LRB Cu level is 0.00050 mg/L (accept. range is < 0.00049).								
Nickel - Total Recoverable	EPA 200.8	0.0244 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Total Recoverable	EPA 200.8	0.0169 mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Total Recoverable	EPA 200.8	0.0023 mg/L	5	D1;E4	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Total Recoverable	EPA 200.8	<0.00055 mg/L	5	D1;E8	0.00055	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090208**

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 05:36	Account Number : Stormwater
Approval Date : 12/17/2019 09:56	Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.0-2.7
Temperature : 13.2 Deg. C	
pH : 8.21	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Thallium - Total Recoverable	EPA 200.8	0.00022	mg/L	5	D1;E4	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Total Recoverable	EPA 200.8	0.183	mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F ¶	COMPLETE						SS	12/06/2019 15:37
Mercury - Total	EPA 245.1	<0.000042	mg/L	1	D1;E8	0.000042	0.0002	SS	12/05/2019 12:01
pH<2Verification	pH <2 Verification	COMPLETE						SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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 /S/K. McFarlin

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090209**

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:36	Account Number : Stormwater
Approval Date : 12/23/2019 14:58	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Filtration Prep Dissolved Metals	SM22 3030 B	NOT RUN					SS	12/03/2019 11:38
Filtration Prep Dissolved Metals Case Narrative: COC states field filtered.								
Hardness - Total	SM22 2340 B						GA	
Hardness - Total		26.7 mg/L	1		0.79	16.6		12/13/2019 13:49
Calcium Hardness		22.4 mg/L	1		0.61	12.5		12/13/2019 13:49
Calcium - Total Recoverable	EPA 200.7	8.96 mg/L	1		0.244	5.00	GA	12/13/2019 13:49
Magnesium - Total Recoverable	EPA 200.7	1.05 mg/L	1		0.043	1.00	GA	12/13/2019 13:49
Silver - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Dissolved Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).								
Arsenic - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Dissolved	EPA 200.8	0.014 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00045	0.0050	TS	12/13/2019 00:00
Copper - Dissolved	EPA 200.8	0.0118 mg/L	5	D1	0.0005	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090209**

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:36	Account Number : Stormwater
Approval Date : 12/23/2019 14:58	Temperature : 13.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 8.21
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Nickel - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00055	0.0050	TS	12/13/2019 00:00
Thallium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Dissolved	EPA 200.8	<0.050 mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F ¶	COMPLETE					SS	12/06/2019 15:37
Mercury - Diss	EPA 245.1	<0.0002 mg/L	1	D1	0.000042	0.0002	SS	12/05/2019 12:03
pH<2Verification	pH <2 Verification	COMPLETE					SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090210**

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:36	Account Number : Stormwater
Approval Date : 12/13/2019 13:16	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Ammonia	EPA 350.1	0.44	mg/L	1	N1	0.13	0.20	LG	12/03/2019 11:37
Ammonia Case Narrative: Batch LFM(LIMS # 2019084654) %R=119% (Acceptance Range =90-110)									
Total Kjeldahl Nitrogen	EPA 351.2	2.1	mg/L	1		0.21	0.25	LG	12/05/2019 13:26

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090211**

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:36	Account Number : Stormwater
Approval Date : 12/13/2019 13:08	Temperature : 13.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 8.21
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
BOD, 5 Day	SM22 5210 B	9	mg/L	1	K5	2	2	BM	11/30/2019 10:34
BOD, 5 Day Case Narrative: DW= 0.30mg/l. CL < = 0.20mg/l.									
COD	HACH-8000	140	mg/L	1		11.69	50	CA	12/02/2019 09:17
Suspended Solids	SM22 2540 D	378	mg/L	20		50	50	LM	12/02/2019 11:01
Total Dissolved Solids	SM22 2540 C	86	mg/L	1		10	10	CA	12/05/2019 13:11

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090212**

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:36	Account Number : Stormwater
Approval Date : 12/18/2019 10:45	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.0-2.7
Temperature : 13.2 Deg. C	
pH : 8.21	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
O-Phosphate-P	EPA 300.0	0.1	mg/L	1		0.0027	0.1	CG	11/29/2019 20:50
Nitrate-N	EPA 300.0	0.6	mg/L	1		0.0012	0.1	CG	11/29/2019 20:50
Nitrite-N	EPA 300.0	<0.1	mg/L	1		0.0003	0.1	CG	11/29/2019 20:50

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090213**

Sample ID : SR049	Temperature : 13.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 05:36	pH : 8.21	Account Number : Stormwater
Approval Date : 12/12/2019 11:55		Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Phosphorus - Total	SM 4500 P E	1.1 mg/L	5	D2		0.50	TAM	12/06/2019 14:08

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090214**

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 10:05	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
Chloromethane		<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 21:46
Vinyl Chloride		<0.35	ug/L	1	E8	0.35	1.0		12/03/2019 21:46
Bromomethane		<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 21:46
Chloroethane		<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 21:46
Trichlorofluoromethane		<0.40	ug/L	1	E8	0.40	1.0		12/03/2019 21:46
1,1-Dichloroethylene		<0.40	ug/L	1	E8	0.40	1.0		12/03/2019 21:46
Methylene chloride		<0.44	ug/L	1	E8	0.44	1.0		12/03/2019 21:46
trans-1,2-Dichloroethane		<0.32	ug/L	1	E8	0.32	1.0		12/03/2019 21:46
1,1-Dichloroethane		<0.32	ug/L	1	E8	0.32	1.0		12/03/2019 21:46
Chloroform		<0.31	ug/L	1	E8	0.31	1.0		12/03/2019 21:46
1,2-Dichloroethane		<0.28	ug/L	1	E8	0.28	1.0		12/03/2019 21:46
1,1,1-Trichloroethane		<0.31	ug/L	1	E8	0.31	1.0		12/03/2019 21:46
Carbon Tetrachloride		<0.27	ug/L	1	E8	0.27	1.0		12/03/2019 21:46
Benzene		<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 21:46
1,2-Dichloropropane		<0.93	ug/L	1	E8	0.93	1.0		12/03/2019 21:46
Trichloroethene		<0.46	ug/L	1	E8	0.46	1.0		12/03/2019 21:46
Bromodichloromethane		<0.52	ug/L	1	E8	0.52	1.0		12/03/2019 21:46
cis-1,3-Dichloropropene		<0.43	ug/L	1	E8	0.43	1.0		12/03/2019 21:46
trans-1,3-Dichloropropene		<0.52	ug/L	1	E8	0.52	1.0		12/03/2019 21:46
1,1,2-Trichloroethane		<0.68	ug/L	1	E8	0.68	1.0		12/03/2019 21:46
Toluene		<0.38	ug/L	1	E8	0.38	1.0		12/03/2019 21:46
Dibromochloromethane		<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 21:46
Tetrachloroethylene		<0.38	ug/L	1	E8	0.38	1.0		12/03/2019 21:46
Chlorobenzene		<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 21:46
Ethylbenzene		<0.61	ug/L	1	E8	0.61	1.0		12/03/2019 21:46

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090214**

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 10:05	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Temperature : 13.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 8.21
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/03/2019 21:46
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/03/2019 21:46
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 21:46
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/03/2019 21:46
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/03/2019 21:46
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/03/2019 21:46
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/03/2019 21:46
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					12/03/2019 21:46
	Fluorobenzene (Surrogate2)	102	% Recovery	1					12/03/2019 21:46
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					12/03/2019 21:46
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 21:46
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/03/2019 21:46
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/03/2019 21:46
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/03/2019 21:46
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					12/03/2019 21:46
	Fluorobenzene (Surrogate2)	102	% Recovery	1					12/03/2019 21:46
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					12/03/2019 21:46

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090215**

Sample ID : SR049	Temperature : 13.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 10:05	pH : 8.21	Account Number : Stormwater
Approval Date : 01/03/2020 13:26		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ☒							TH	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		11/29/2019 21:34
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		11/29/2019 21:34
Pentafluorobenzene (Surrogate1)		99	% Recovery	1					11/29/2019 21:34
Fluorobenzene (Surrogate2)		100	% Recovery	1					11/29/2019 21:34
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					11/29/2019 21:34

GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%

GC/MS-Method 624-for 2-	EPA 624 ☒							TH	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		11/29/2019 21:34
Pentafluorobenzene (Surrogate1)		99	% Recovery	1					11/29/2019 21:34
Fluorobenzene (Surrogate2)		100	% Recovery	1					11/29/2019 21:34
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					11/29/2019 21:34

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090216**

Sample ID : SR049	Temperature : 13.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 10:05	pH : 8.21	Account Number : Stormwater
Approval Date : 12/03/2019 10:58		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Coliform - E. Coli	SM22 9223 B							GM	
	Total Coliform	>241960	MPN/100mL	100		100	100		11/29/2019 11:49
	E. coli	17850	MPN/100mL	100		100	100		11/29/2019 11:49

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

City of Phoenix
Water Services Laboratory
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2474 S. 22nd Ave
(602) 534-2960



Results Report



Submitter: Water Services Department
200 W. Washington
Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090217**

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 10:05	Temperature : 13.2 Deg. C
Approval Date : 12/13/2019 11:35	pH : 8.21
Received Date/Time: 12/02/2019 07:40	Account Number : Stormwater
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Cyanide	EPA 335.4	<0.005 mg/L	1	N1	0.0019	0.005	CA	12/04/2019 12:31
Cyanide Case Narrative: Batch LFM (LIMS # 2019089807) %R=85% (Acceptance Range =90-110). Batch RPD (LIMS # 2019089807) =10.2 (Acceptance Range = $\leq 10\%$)								

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
200 W. Washington
Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090218**

Sample ID : SR049	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 10:05	Account Number : Stormwater
Approval Date : 12/12/2019 11:55	Temperature : 13.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 8.21
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 1664 With Silica Gel	EPA 1664B							TAM	
	Hexane Extractable Material	<5.7	mg/L	1			5.7		12/09/2019 10:40
	Hexane Extractable Material - Silica Gel	<5.7	mg/L	1			5.7		12/09/2019 10:40

EPA 1664 With Silica Gel Treatment Case Narrative: Methods 1664A, 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation/analysis: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6), 2019090422 (550-134112-8) and 2019090452 (550-134112-10). Method 1664A/B.

Method 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6) and 2019090452 (550-134112-10). Since the HEM results was below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All quality control criteria were met. Method 1664B

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090219**

Sample ID : SR049 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 10:05	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Temperature : 13.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 8.21
Sample Type : TIME	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 22:16
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/03/2019 22:16
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 22:16
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 22:16
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/03/2019 22:16
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/03/2019 22:16
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		12/03/2019 22:16
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		12/03/2019 22:16
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/03/2019 22:16
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/03/2019 22:16
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/03/2019 22:16
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/03/2019 22:16
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/03/2019 22:16
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 22:16
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/03/2019 22:16
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/03/2019 22:16
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/03/2019 22:16
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/03/2019 22:16
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/03/2019 22:16
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/03/2019 22:16
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/03/2019 22:16
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 22:16
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/03/2019 22:16
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 22:16
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/03/2019 22:16

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090219**

Sample ID : SR049 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 10:05	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Temperature : 13.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 8.21
Sample Type : TIME	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/03/2019 22:16
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/03/2019 22:16
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 22:16
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/03/2019 22:16
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/03/2019 22:16
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/03/2019 22:16
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/03/2019 22:16
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					12/03/2019 22:16
	Fluorobenzene (Surrogate2)	102	% Recovery	1					12/03/2019 22:16
	4-Bromofluorobenzene (Surrogate)	101	% Recovery	1					12/03/2019 22:16
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 22:16
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/03/2019 22:16
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/03/2019 22:16
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/03/2019 22:16
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					12/03/2019 22:16
	Fluorobenzene (Surrogate2)	102	% Recovery	1					12/03/2019 22:16
	4-Bromofluorobenzene (Surrogate)	101	% Recovery	1					12/03/2019 22:16

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090220**

Sample ID : SR049 Trip Blank	Temperature : 13.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 10:05	pH : 8.21	Account Number : Stormwater
Approval Date : 01/03/2020 13:26		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : TIME		Receipt Temperature (°C) : 1.0-2.7

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ☒						TH	
Acrolein		<0.55 ug/L	1	N1;E8	0.55	1.0		11/29/2019 21:57
Acrylonitrile		<0.57 ug/L	1	N1;E8	0.57	1.0		11/29/2019 21:57
Pentafluorobenzene (Surrogate1)		100 % Recovery	1					11/29/2019 21:57
Fluorobenzene (Surrogate2)		100 % Recovery	1					11/29/2019 21:57
4-Bromofluorobenzene (Surrogate)		99 % Recovery	1					11/29/2019 21:57

GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for 2-Chloroethyl vinyl ether	EPA 624 ☒						TH	
2-Chloroethyl vinyl ether		<0.52 ug/L	1	E8	0.52	1.0		11/29/2019 21:57
Pentafluorobenzene (Surrogate1)		100 % Recovery	1					11/29/2019 21:57
Fluorobenzene (Surrogate2)		100 % Recovery	1					11/29/2019 21:57
4-Bromofluorobenzene (Surrogate)		99 % Recovery	1					11/29/2019 21:57

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Sample # Sample ID
 2019090297

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report



Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
		Stormwater	EPA 608 STORMWATER	$\frac{2}{1}$	11/29/19	0432	ICE
		Stormwater	EPA 625 STORMWATER	$\frac{2}{1}$			ICE
		Stormwater	TOTAL METALS STORMWATER	1			HNO3
		Stormwater	METALS DISSOLVED STORMWATER	1			HNO3/FIELD FILTERED
		Stormwater	NH3-WC and TKN-WC	1			H2SO4
		Stormwater	Group A with TDS	1			ICE
		Stormwater	IC300 Nitrate, Nitrite, Orthophosphate	1			ICE
		Stormwater	TOTAL PHOSPHOROUS	1			H2SO4

COMPOSITE SAMPLES

- Sample # Sample ID
 2019090297 - SR003
 2019090298 - SR003
~~2019090299 - SR003~~
~~2019090300 - SR003~~
 2019090301 - SR003
 2019090302 - SR003
 2019090303 - SR003
 2019090304 - SR003

Sampler Print & Sign/Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
KENNETH FOSSUM / Kenneth Fossum	DEC 03	4:55	FRIDGE	B
Fridge	DEC 03	2019		

TIME: 0740
 TEMP °C: 2.0

Sample # Sample ID
 2019090305

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report



Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
		Stormwater SR003	EPA 624/8260 STORMWATER	6	11/29/19	09:20	HCL
		Stormwater SR003	EPA 624 ACAC/CEVE	6			ICE
* 20190 90450		Stormwater SR003	COLILERT - MPN	1			NaSO4
		Stormwater SR003	CYANIDE	1			NaOH
		Stormwater SR003	FPA 1664 HFM&SGT	3			H2SO4
		Stormwater SR003 Trip Blank	EPA 624/8260 STROMWATER	2			HCL
		Stormwater SR003 Trip Blank	EPA 624 ACAC/CEVE	2			ICE

GRAB SAMPLES

pH 7.13 Air Temp 9.0 Water Temp 12.1 Specific Conductance 80.0

Barometric Pressure 729 Dissolved Oxygen 10.35

* 90450 - Temp = 0.4°C @ 1052 From Frig on 11-29-19 = 'C'

Reviewed By: JAMES

Date: 12/3/2019

Sample # Sample ID
 2019090307 - SR003
 2019090308 - SR003
 2019090309 - SR003
 2019090310 - SR003 Trip Blank
 2019090311 - SR003 Trip Blank

Sampler Print & Sign / Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
KENNETH FOSSUM / Kenneth Fridge	11/29/19	10:45	FREDGE	B
	DEC 03 2019			

TIME: 5740
 TEMP °C: 2.0



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090297**

Sample ID : SR003
 Sampling Date/Time: 11/29/2019 04:32
 Approval Date : 12/11/2019 14:24
 Received Date/Time: 12/02/2019 07:40
 Sample Type : COMPOS

Temperature : 12.1 Deg. C
 pH : 7.13

Project Link Code : Stormwater
 Account Number : Stormwater
 Sampled by : Kenneth Fossum
 Delivered : Kenneth Fossum
 Receipt Temperature (°C) : 2.0

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3						TAM	
Aldrin		<0.045 ug/L	1	E8	0.045	.052		12/04/2019 18:35
alpha-BHC		<0.033 ug/L	1	E8	0.033	.052		12/04/2019 18:35
beta-BHC		<0.041 ug/L	1	E8	0.041	.052		12/04/2019 18:35
gamma-BHC		<0.034 ug/L	1	E8	0.034	.052		12/04/2019 18:35
delta-BHC		<0.041 ug/L	1	E8	0.041	.052		12/04/2019 18:35
Chlordane		<0.17 ug/L	1	E8	0.17	.52		12/04/2019 18:35
4,4'-DDT		<0.032 ug/L	1	E8	0.032	.052		12/04/2019 18:35
4,4'-DDE		<0.043 ug/L	1	E8	0.043	.052		12/04/2019 18:35
4,4'-DDD		<0.039 ug/L	1	E8	0.039	.052		12/04/2019 18:35
Dieldrin		<0.031 ug/L	1	E8	0.031	.052		12/04/2019 18:35
Endosulfan I		<0.033 ug/L	1	E8;R6	0.033	.052		12/04/2019 18:35
Endosulfan II		<0.035 ug/L	1	E8	0.035	.052		12/04/2019 18:35
Endosulfan Sulfate		<0.035 ug/L	1	E8	0.035	.052		12/04/2019 18:35
Endrin		<0.033 ug/L	1	E8	0.033	.052		12/04/2019 18:35
Endrin Aldehyde		<0.090 ug/L	1	E8	0.090	0.10		12/04/2019 18:35
Heptachlor		<0.069 ug/L	1	E8	0.069	0.10		12/04/2019 18:35
Heptachlor Epoxide		<0.035 ug/L	1	E8;R6	0.035	.052		12/04/2019 18:35
Arochlor-1242		<0.26 ug/L	1	E8	0.26	1		12/04/2019 17:12
Arochlor-1254		<0.25 ug/L	1	E8	0.25	1		12/04/2019 17:12
Arochlor-1221		<0.25 ug/L	1	E8	0.25	1		12/04/2019 17:12
Arochlor-1232		<0.28 ug/L	1	E8	0.28	1		12/04/2019 17:12
Arochlor-1248		<0.21 ug/L	1	E8	0.21	1		12/04/2019 17:12
Arochlor-1260		<0.21 ug/L	1	E8	0.21	1		12/04/2019 17:12
Arochlor-1016		<0.23 ug/L	1	E8	0.23	1		12/04/2019 17:12
Toxaphene		<0.40 ug/L	1	E8	0.40	1		12/04/2019 18:35

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090297**

Sample ID : SR003	Temperature : 12.1 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	pH : 7.13	Account Number : Stormwater
Approval Date : 12/11/2019 14:24		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 2.0

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3							TAM	
	Decachlorobiphenyl	40	% Recovery	1					12/04/2019 18:35
	Tetrachloro-m-xylene (Surr)	91	% Recovery	1					12/04/2019 18:35
	Total Endosulfan	<0.035	ug/L	1		0.035			12/04/2019 18:35

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Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090298**

Sample ID : SR003	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.0

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625						AM	
Acenaphthene		<1.19 ug/L	1	E8	1.19	10		12/05/2019 15:23
Acenaphthylene		<1.41 ug/L	1	E8	1.41	10		12/05/2019 15:23
Anthracene		<1.20 ug/L	1	E8	1.20	10		12/05/2019 15:23
Benzo(a)anthracene		<1.02 ug/L	1	E8	1.02	10		12/05/2019 15:23
Benzo(a)pyrene		<1.08 ug/L	1	E8	1.08	10		12/05/2019 15:23
Benzo(b)fluoranthene		<0.38 ug/L	1	E8	0.38	10		12/05/2019 15:23
Benzo(ghi)perylene		<1.14 ug/L	1	E8	1.14	10		12/05/2019 15:23
Benzo(k)fluoranthene		<1.03 ug/L	1	E8	1.03	10		12/05/2019 15:23
Chrysene		<1.16 ug/L	1	E8	1.16	10		12/05/2019 15:23
Dibenzo(a,h)anthracene		<1.02 ug/L	1	E8	1.02	10		12/05/2019 15:23
1,2-Dichlorobenzene		<1.43 ug/L	1	E8	1.43	10		12/05/2019 15:23
1,3-Dichlorobenzene		<1.39 ug/L	1	E8	1.39	10		12/05/2019 15:23
1,4-Dichlorobenzene		<1.48 ug/L	1	E8	1.48	10		12/05/2019 15:23
3,3'-Dichlorobenzidine		<6.99 ug/L	1	E8	6.99	50		12/05/2019 15:23
Diethyl phthalate		<1.08 ug/L	1	E8	1.08	10		12/05/2019 15:23
Dimethyl phthalate		<1.17 ug/L	1	E8	1.17	20		12/05/2019 15:23
Di-n-butyl phthalate		<1.12 ug/L	1	E8	1.12	10		12/05/2019 15:23
2,4-Dinitrotoluene		<1.17 ug/L	1	E8	1.17	10		12/05/2019 15:23
2,6-Dinitrotoluene		<1.13 ug/L	1	E8	1.13	10		12/05/2019 15:23
Di-n-octyl phthalate		<2.05 ug/L	1	E8	2.05	10		12/05/2019 15:23
1,2-Diphenyl hydrazine (as azobenzene)		<1.11 ug/L	1	E8	1.11	10		12/05/2019 15:23
Fluoranthene		<1.27 ug/L	1	E8	1.27	10		12/05/2019 15:23
Fluorene		<1.18 ug/L	1	E8	1.18	10		12/05/2019 15:23
Hexachlorobenzene		<1.01 ug/L	1	E8	1.01	10		12/05/2019 15:23
Hexachlorobutadiene		<1.20 ug/L	1	E8	1.20	10		12/05/2019 15:23

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 (602) 534-2960



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090298**

Sample ID : SR003	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.0
Temperature : 12.1 Deg. C	
pH : 7.13	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625						AM	
	Hexachlorocyclopentadiene	<3.07 ug/L	1	E8	3.07	10		12/05/2019 15:23
	Hexachloroethane	<1.35 ug/L	1	E8	1.35	10		12/05/2019 15:23
	Indeno(1,2,3-cd)pyrene	<1.07 ug/L	1	E8	1.07	10		12/05/2019 15:23
	Isophorone	<1.32 ug/L	1	E8	1.32	10		12/05/2019 15:23
	Naphthalene	<1.48 ug/L	1	E8	1.48	10		12/05/2019 15:23
	Nitrobenzene	<1.55 ug/L	1	E8	1.55	10		12/05/2019 15:23
	N-Nitrosodimethylamine	<1.67 ug/L	1	E8	1.67	10		12/05/2019 15:23
	N-Nitrosodi-n-propylamine	<1.65 ug/L	1	E8	1.65	10		12/05/2019 15:23
	N-Nitrosodiphenylamine	<1.07 ug/L	1	E8	1.07	10		12/05/2019 15:23
	Phenanthrene	<1.33 ug/L	1	E8	1.33	10		12/05/2019 15:23
	Pyrene	<1.20 ug/L	1	E8	1.20	10.0		12/05/2019 15:23
	1,2,4-Trichlorobenzene	<1.34 ug/L	1	E8	1.34	10		12/05/2019 15:23
	2-Chlorophenol	<4.52 ug/L	1	E8	4.52	10		12/05/2019 15:23
	2,4-Dichlorophenol	<4.77 ug/L	1	E8	4.77	10		12/05/2019 15:23
	2,4-Dimethylphenol	<2.04 ug/L	1	E8;N1	2.04	10		12/05/2019 15:23
	2-Methyl-4,6-dinitrophenol	<3.36 ug/L	1	E8	3.36	10		12/05/2019 15:23
	2,4-Dinitrophenol	<3.41 ug/L	1	E8	3.41	10		12/05/2019 15:23
	2-Nitrophenol	<4.68 ug/L	1	E8	4.68	10		12/05/2019 15:23
	4-Nitrophenol	<3.52 ug/L	1	E8	3.52	10		12/05/2019 15:23
	4-Chloro-3-methylphenol	<4.76 ug/L	1	E8	4.76	10		12/05/2019 15:23
	Pentachlorophenol	<4.00 ug/L	1	E8	4.00	10		12/05/2019 15:23
	Phenol	<4.08 ug/L	1	E8	4.08	10		12/05/2019 15:23
	2,4,6-Trichlorophenol	<5.27 ug/L	1	E8	5.27	10		12/05/2019 15:23
	2,4,6-Tribromophenol	92 % Recovery	1					12/05/2019 15:23
	Dibromooctafluorobiphenyl	42 % Recovery	1					12/05/2019 15:23

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090298**

Sample ID : SR003	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.0
Temperature : 12.1 Deg. C	
pH : 7.13	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625	4,4-Dibromobiphenyl					AM	12/05/2019 15:23

625-STORM Case Narrative: Batch QC did not meet laboratory acceptance criteria in the 2019090456 LFM/LFMD for 3,3-Dichlorobenzidine (0%/0%); control limits: 1-262%, n-Nitrosodimethylamine (54%/50%); control limits: 57-92% and n-Nitrosodiphenylamine (36%/34%); control limits: 49-118%. The LFMD RPD could not be calculated for 3,3-Dichlorobenzidine due to the results being zero. The closing CCV did not meet laboratory acceptance criteria for 2,4-Dimethylphenol (78%); Control Limits: 80-120%. Closing QC is not a 625 EPA method requirement.

Extraction - 625	EPA 625	COMPLETE					AA	12/03/2019 00:00
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Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090299**

Sample ID : SR003	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/17/2019 10:29	Temperature : 12.1 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 7.13
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 2.0

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Silver - Total Recoverable	EPA 200.8	0.0012	mg/L	5	D1;E4;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Total Recoverable Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).									
Arsenic - Total Recoverable	EPA 200.8	0.0026	mg/L	5	D1;E4	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Total Recoverable	EPA 200.8	0.056	mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Total Recoverable	EPA 200.8	0.00016	mg/L	5	D1;E4	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Total Recoverable	EPA 200.8	0.0003	mg/L	5	D1;E4	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable	EPA 200.8	0.0073	mg/L	5	D1;B7	0.00045	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable Case Narrative: Batch LRB Cr level is 0.00066 mg/L (accept. range is < 0.00045).									
Copper - Total Recoverable	EPA 200.8	0.0293	mg/L	5	D1;B7	0.0005	0.0050	TS	12/13/2019 00:00
Copper - Total Recoverable Case Narrative: Batch LRB Cu level is 0.00050 mg/L (accept. range is < 0.00049).									
Nickel - Total Recoverable	EPA 200.8	0.0076	mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Total Recoverable	EPA 200.8	0.0171	mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Total Recoverable	EPA 200.8	0.0012	mg/L	5	D1;E4	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Total Recoverable	EPA 200.8	<0.00055	mg/L	5	D1;E8	0.00055	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090299**

Sample ID : SR003	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/17/2019 10:29	Temperature : 12.1 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 7.13
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 2.0

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Thallium - Total Recoverable	EPA 200.8	<0.00015 mg/L	5	D1;E8	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Total Recoverable	EPA 200.8	0.127 mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F ☒	COMPLETE					SS	12/06/2019 15:37
Mercury - Total	EPA 245.1	<0.000042 mg/L	1	D1;E8	0.000042	0.0002	SS	12/05/2019 12:06
pH<2Verification	pH <2 Verification	COMPLETE					SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Results Report



Lab Number: **2019090300**

Type of Project: Stormwater

Sample ID : SR003
 Sampling Date/Time: 11/29/2019 04:32
 Approval Date : 12/24/2019 08:13
 Received Date/Time: 12/02/2019 07:40
 Sample Type : COMPOS

Temperature : 12.1 Deg. C
 pH : 7.13

Project Link Code : Stormwater
 Account Number : Stormwater
 Sampled by : Kenneth Fossum
 Delivered : Kenneth Fossum
 Receipt Temperature (°C) : 2.0

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Filtration Prep Dissolved Metals	SM22 3030 B	NOT RUN							
Filtration Prep Dissolved Metals Case Narrative: COC states field filtered.									
Hardness - Total	SM22 2340 B							SS	12/03/2019 11:38
Hardness - Total Calcium Hardness		21.0	mg/L	1		0.79	16.6	GA	
Calcium - Total Recoverable	EPA 200.7	17.6	mg/L	1		0.61	12.5		12/13/2019 13:56
Magnesium - Total Recoverable	EPA 200.7	7.05	mg/L	1		0.244	5.00	GA	12/13/2019 13:56
Silver - Dissolved	EPA 200.8	0.82	mg/L	1	E4	0.043	1.00	GA	12/13/2019 13:56
Arsenic - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Dissolved Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).									
Barium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00035	0.0050	TS	12/13/2019 00:00
Beryllium - Dissolved	EPA 200.8	0.009	mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Cadmium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Chromium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00025	0.0050	TS	12/13/2019 00:00
Copper - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00045	0.0050	TS	12/13/2019 00:00
		0.0106	mg/L	5	D1	0.0005	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090300**

Sample ID : SR003	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/24/2019 08:13	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.0

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Nickel - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00055	0.0050	TS	12/13/2019 00:00
Thallium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Dissolved	EPA 200.8	<0.050 mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F ☐	COMPLETE					SS	12/06/2019 15:37
Mercury - Diss	EPA 245.1	<0.0002 mg/L	1	D1	0.000042	0.0002	SS	12/05/2019 12:08
pH<2Verification	pH <2 Verification	COMPLETE					SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090301**

Sample ID : SR003	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/13/2019 13:16	Temperature : 12.1 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 7.13
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 2.0

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Ammonia	EPA 350.1	0.36 mg/L	1	N1	0.13	0.20	LG	12/03/2019 11:37
Ammonia Case Narrative: Batch LFM(LIMS # 2019084654) %R=119% (Acceptance Range =90-110)								
Total Kjeldahl Nitrogen	EPA 351.2	1.1 mg/L	1		0.21	0.25	LG	12/05/2019 13:26

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090302**

Sample ID : SR003	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/13/2019 13:08	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.0
Temperature : 12.1 Deg. C	
pH : 7.13	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
BOD, 5 Day	SM22 5210 B BOD, 5 Day Case Narrative: DW= 0.30mg/l. CL < = 0.20mg/l.	10 mg/L	1	K5;K9	2	2	BM	11/30/2019 10:34
COD	HACH-8000	69 mg/L	1		11.69	50	CA	12/02/2019 09:17
Suspended Solids	SM22 2540 D	74.0 mg/L	20		50	50	LM	12/02/2019 11:01
Total Dissolved Solids	SM22 2540 C	72 mg/L	1		10	10	CA	12/05/2019 13:11

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090303**

Sample ID : SR003	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/18/2019 10:45	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.0
Temperature : 12.1 Deg. C	
pH : 7.13	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
O-Phosphate-P	EPA 300.0	<0.1 mg/L	1		0.0027	0.1	CG	11/29/2019 23:19
Nitrate-N	EPA 300.0	0.5 mg/L	1		0.0012	0.1	CG	11/29/2019 23:19
Nitrite-N	EPA 300.0	<0.1 mg/L	1		0.0003	0.1	CG	11/29/2019 23:19

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090304**

Sample ID : SR003	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/12/2019 11:55	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.0
Temperature : 12.1 Deg. C	
pH : 7.13	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Phosphorus - Total	SM 4500 P E	0.43 mg/L	1			0.10	TAM	12/06/2019 14:08

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
200 W. Washington
Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090305

Sample ID : SR003	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 09:20	Temperature : 12.1 Deg. C
Approval Date : 12/19/2019 15:53	pH : 7.13
Received Date/Time: 12/02/2019 07:40	Account Number : Stormwater
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 2.0

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 22:45
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/03/2019 22:45
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 22:45
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 22:45
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/03/2019 22:45
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/03/2019 22:45
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		12/03/2019 22:45
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		12/03/2019 22:45
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/03/2019 22:45
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/03/2019 22:45
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/03/2019 22:45
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/03/2019 22:45
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/03/2019 22:45
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 22:45
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/03/2019 22:45
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/03/2019 22:45
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/03/2019 22:45
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/03/2019 22:45
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/03/2019 22:45
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/03/2019 22:45
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/03/2019 22:45
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 22:45
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/03/2019 22:45
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 22:45
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/03/2019 22:45

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090305**

Sample ID : SR003	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 09:20	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 2.0
Temperature : 12.1 Deg. C	
pH : 7.13	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/03/2019 22:45
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/03/2019 22:45
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 22:45
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/03/2019 22:45
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/03/2019 22:45
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/03/2019 22:45
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/03/2019 22:45
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/03/2019 22:45
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/03/2019 22:45
	4-Bromofluorobenzene (Surrogate)	98	% Recovery	1					12/03/2019 22:45
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 22:45
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/03/2019 22:45
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/03/2019 22:45
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/03/2019 22:45
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/03/2019 22:45
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/03/2019 22:45
	4-Bromofluorobenzene (Surrogate)	98	% Recovery	1					12/03/2019 22:45

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090307**

Sample ID : SR003	Temperature : 12.1 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 09:20	pH : 7.13	Account Number : Stormwater
Approval Date : 12/03/2019 10:58		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 2.0

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Coliform - E. Coli	SM22 9223 B							GM	
	Total Coliform	>241960	MPN/100mL	100		100	100		11/29/2019 11:49
	E. coli	12360	MPN/100mL	100		100	100		11/29/2019 11:49

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090306**

Sample ID : SR003	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 09:20	Account Number : Stormwater
Approval Date : 01/03/2020 13:26	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 2.0
Temperature : 12.1 Deg. C	
pH : 7.13	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ☐							TH	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		11/29/2019 22:20
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		11/29/2019 22:20
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					11/29/2019 22:20
Fluorobenzene (Surrogate2)		100	% Recovery	1					11/29/2019 22:20
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					11/29/2019 22:20
GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%									
GC/MS-Method 624-for 2-	EPA 624 ☐							TH	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		11/29/2019 22:20
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					11/29/2019 22:20
Fluorobenzene (Surrogate2)		100	% Recovery	1					11/29/2019 22:20
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					11/29/2019 22:20

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090308**

Sample ID : SR003	Temperature : 12.1 Deg. C	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 09:20	pH : 7.13	Account Number : Stormwater
Approval Date : 12/13/2019 11:35		Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 2.0

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Cyanide	EPA 335.4	<0.005 mg/L	1	N1	0.0019	0.005	CA	12/04/2019 12:31
Cyanide Case Narrative: Batch LFM (LIMS # 2019089807) %R=85% (Acceptance Range =90-110). Batch RPD (LIMS # 2019089807) =10.2 (Acceptance Range = <=10%)								

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090309**

Sample ID	: SR003	Project Link Code	: Stormwater
Sampling Date/Time	: 11/29/2019 09:20	Account Number	: Stormwater
Approval Date	: 12/12/2019 11:55	Sampled by	: Kenneth Fossum
Received Date/Time	: 12/02/2019 07:40	Delivered	: Kenneth Fossum
Sample Type	: GRAB	Receipt Temperature (°C)	: 2.0
Temperature	: 12.1 Deg. C		
pH	: 7.13		

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 1664 With Silica Gel	EPA 1664B							TAM	
	Hexane Extractable Material	<5.8	mg/L	1			5.8		12/09/2019 10:40
	Hexane Extractable Material - Silica Gel	<5.8	mg/L	1			5.8		12/09/2019 10:40

EPA 1664 With Silica Gel Treatment Case Narrative: Methods 1664A, 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation/analysis: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6), 2019090422 (550-134112-8) and 2019090452 (550-134112-10). Method 1664A/B.

Method 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6) and 2019090452 (550-134112-10). Since the HEM results was below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All quality control criteria were met. Method 1664B

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090310**

Sample ID : SR003 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 09:20	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : TIME	Receipt Temperature (°C) : 2.0

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 23:15
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/03/2019 23:15
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 23:15
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 23:15
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/03/2019 23:15
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/03/2019 23:15
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		12/03/2019 23:15
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		12/03/2019 23:15
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/03/2019 23:15
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/03/2019 23:15
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/03/2019 23:15
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/03/2019 23:15
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/03/2019 23:15
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 23:15
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/03/2019 23:15
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/03/2019 23:15
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/03/2019 23:15
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/03/2019 23:15
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/03/2019 23:15
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/03/2019 23:15
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/03/2019 23:15
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 23:15
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/03/2019 23:15
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 23:15
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/03/2019 23:15

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090310**

Sample ID : SR003 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 09:20	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : TIME	Receipt Temperature (°C) : 2.0
Temperature : 12.1 Deg. C	
pH : 7.13	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/03/2019 23:15
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/03/2019 23:15
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 23:15
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/03/2019 23:15
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/03/2019 23:15
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/03/2019 23:15
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/03/2019 23:15
	Pentafluorobenzene (Surrogate1)	100	% Recovery	1					12/03/2019 23:15
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/03/2019 23:15
	4-Bromofluorobenzene (Surrogate)	100	% Recovery	1					12/03/2019 23:15
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 23:15
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/03/2019 23:15
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/03/2019 23:15
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/03/2019 23:15
	Pentafluorobenzene (Surrogate1)	100	% Recovery	1					12/03/2019 23:15
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/03/2019 23:15
	4-Bromofluorobenzene (Surrogate)	100	% Recovery	1					12/03/2019 23:15

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

City of Phoenix
Water Services Laboratory
ADHS Lic. # AZ0088
2474 S. 22nd Ave
(602) 534-2960



Results Report



Submitter: Water Services Department
200 W. Washington
Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090311

Sample ID : SR003 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 09:20	Account Number : Stormwater
Approval Date : 01/03/2020 13:26	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : TIME	Receipt Temperature (°C) : 2.0
Temperature : 12.1 Deg. C	
pH : 7.13	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ¶							TH	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		11/29/2019 23:31
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		11/29/2019 23:31
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					11/29/2019 23:31
Fluorobenzene (Surrogate2)		99	% Recovery	1					11/29/2019 23:31
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					11/29/2019 23:31

GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for 2-	EPA 624 ¶							TH	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		11/29/2019 23:31
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					11/29/2019 23:31
Fluorobenzene (Surrogate2)		99	% Recovery	1					11/29/2019 23:31
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					11/29/2019 23:31

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Sample # Sample ID
 2019090383

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report

Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
90383	Stormwater	SR030 TAM	608-STORM	2	11/29/19	0523	ICE
90384	Stormwater	SR030	625-STORM	1			ICE
90385	Stormwater	SR030	TOTAL METALS STORMWATER	1			HNO3
90386	Stormwater	SR030	METALS DISSOLVED STORMWATER	1			HNO3/FIELD FILTERED
90387	Stormwater	SR030	NH3-WC and TKN-WC	1			H2SO4
90388	Stormwater	SR030	Group A with TDS	1			ICE
90389	Stormwater	SR030	IC300 Nitrate, Nitrite, Orthophosphate	1			ICE
90390	Stormwater	SR030 TAM	TOTAL PHOSPHOROUS	1			H2SO4

COMPOSITE SAMPLES

Sampler Print & Sign (Relinquished By)	Date/Time	Received By	Condition (Lab Use Only)
KENNETH FOSSUM / <i>[Signature]</i>	RECEIVED W3/LAB10:45 DEC 03 2019	FREDGE <i>[Signature]</i>	B

TIME: 0740
 TEMP °C: 0.6

Sample # Sample ID
 2019090391

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report

Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
[REDACTED]	Stormwater	SR030	8260B-Storm 624-Storm	6	11/29/19	08:40	HCL
90392	Stormwater	SR030	624 ACAC 624 CEVE	6	↓	↓	ICE
20190 90393	Stormwater	SR030	COLILERT - MPN	1			NaSO4
90394	Stormwater	SR030	CYANIDE	1			NaOH
90395	Stormwater	SR030 TAM	1664 HEMSGT	3			H2SO4
[REDACTED]	Stormwater	SR030 Trip Blank	8260B-Storm 624-Storm	2	↓	↓	HCL
90397	Stormwater	SR030 Trip Blank	624 ACAC 624 CEVE	2			ICE

GRAB SAMPLES

pH 7.20 Air Temp 8.5 Water Temp 11.8 Specific Conductance 86.0

Barometric Pressure 728 Dissolved Oxygen 10.44

* - 90393 - Temp = 0.5°C - From Frig @ 10:45 gm 11-29-19 "C"

Sampler Print & Sign/Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
KENNETH FOSSUM / [Signature]	11/29/19	4:45	FRIDGE [Signature]	B
FRIDGE	DEC 03 2019			

TIME: 0740
 TEMP °C: 0.5



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090383**

Sample ID : SR030
 Sampling Date/Time: 11/29/2019 05:23
 Approval Date : 12/11/2019 14:24
 Received Date/Time: 12/02/2019 07:40
 Sample Type : COMPOS

Temperature : 11.8 Deg. C
 pH : 7.20

Project Link Code : Stormwater
 Account Number : Stormwater
 Sampled by : Kenneth Fossum
 Delivered : Kenneth Fossum
 Receipt Temperature (°C) : 0.5-0.6

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3						TAM	
Aldrin		<0.045 ug/L	1	E8	0.045	.052		12/04/2019 18:51
alpha-BHC		<0.033 ug/L	1	E8	0.033	.052		12/04/2019 18:51
beta-BHC		<0.041 ug/L	1	E8	0.041	.052		12/04/2019 18:51
gamma-BHC		<0.034 ug/L	1	E8	0.034	.052		12/04/2019 18:51
delta-BHC		<0.041 ug/L	1	E8	0.041	.052		12/04/2019 18:51
Chlordane		<0.17 ug/L	1	E8	0.17	.52		12/04/2019 18:51
4,4'-DDT		<0.032 ug/L	1	E8	0.032	.052		12/04/2019 18:51
4,4'-DDE		<0.043 ug/L	1	E8	0.043	.052		12/04/2019 18:51
4,4'-DDD		<0.039 ug/L	1	E8	0.039	.052		12/04/2019 18:51
Dieldrin		<0.031 ug/L	1	E8	0.031	.052		12/04/2019 18:51
Endosulfan I		<0.033 ug/L	1	E8;R6	0.033	.052		12/04/2019 18:51
Endosulfan II		<0.035 ug/L	1	E8	0.035	.052		12/04/2019 18:51
Endosulfan Sulfate		<0.035 ug/L	1	E8	0.035	.052		12/04/2019 18:51
Endrin		<0.033 ug/L	1	E8	0.033	.052		12/04/2019 18:51
Endrin Aldehyde		<0.090 ug/L	1	E8	0.090	0.10		12/04/2019 18:51
Heptachlor		<0.069 ug/L	1	E8	0.069	0.10		12/04/2019 18:51
Heptachlor Epoxide		<0.035 ug/L	1	E8;R6	0.035	.052		12/04/2019 18:51
Arochlor-1242		<0.26 ug/L	1	E8	0.26	1		12/04/2019 17:27
Arochlor-1254		<0.25 ug/L	1	E8	0.25	1		12/04/2019 17:27
Arochlor-1221		<0.25 ug/L	1	E8	0.25	1		12/04/2019 17:27
Arochlor-1232		<0.28 ug/L	1	E8	0.28	1		12/04/2019 17:27
Arochlor-1248		<0.21 ug/L	1	E8	0.21	1		12/04/2019 17:27
Arochlor-1260		<0.21 ug/L	1	E8	0.21	1		12/04/2019 17:27
Arochlor-1016		<0.23 ug/L	1	E8	0.23	1		12/04/2019 17:27
Toxaphene		<0.40 ug/L	1	E8	0.40	1		12/04/2019 18:51

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090383**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 05:23	Account Number : Stormwater
Approval Date : 12/11/2019 14:24	Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3						TAM	
	Decachlorobiphenyl	36 % Recovery	1					12/04/2019 18:51
	Tetrachloro-m-xylene (Surr)	78 % Recovery	1					12/04/2019 18:51
	Total Endosulfan	<0.035 ug/L	1		0.035			12/04/2019 18:51

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090384**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:23	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625						AM	
Acenaphthene		<1.19 ug/L	1	E8	1.19	10		12/05/2019 15:47
Acenaphthylene		<1.41 ug/L	1	E8	1.41	10		12/05/2019 15:47
Anthracene		<1.20 ug/L	1	E8	1.20	10		12/05/2019 15:47
Benzo(a)anthracene		<1.02 ug/L	1	E8	1.02	10		12/05/2019 15:47
Benzo(a)pyrene		<1.08 ug/L	1	E8	1.08	10		12/05/2019 15:47
Benzo(b)fluoranthene		<0.38 ug/L	1	E8	0.38	10		12/05/2019 15:47
Benzo(ghi)perylene		<1.14 ug/L	1	E8	1.14	10		12/05/2019 15:47
Benzo(k)fluoranthene		<1.03 ug/L	1	E8	1.03	10		12/05/2019 15:47
Chrysene		<1.16 ug/L	1	E8	1.16	10		12/05/2019 15:47
Dibenzo(a,h)anthracene		<1.02 ug/L	1	E8	1.02	10		12/05/2019 15:47
1,2-Dichlorobenzene		<1.43 ug/L	1	E8	1.43	10		12/05/2019 15:47
1,3-Dichlorobenzene		<1.39 ug/L	1	E8	1.39	10		12/05/2019 15:47
1,4-Dichlorobenzene		<1.48 ug/L	1	E8	1.48	10		12/05/2019 15:47
3,3'-Dichlorobenzidine		<6.99 ug/L	1	E8	6.99	50		12/05/2019 15:47
Diethyl phthalate		<1.08 ug/L	1	E8	1.08	10		12/05/2019 15:47
Dimethyl phthalate		<1.17 ug/L	1	E8	1.17	20		12/05/2019 15:47
Di-n-butyl phthalate		<1.12 ug/L	1	E8	1.12	10		12/05/2019 15:47
2,4-Dinitrotoluene		<1.17 ug/L	1	E8	1.17	10		12/05/2019 15:47
2,6-Dinitrotoluene		<1.13 ug/L	1	E8	1.13	10		12/05/2019 15:47
Di-n-octyl phthalate		<2.05 ug/L	1	E8	2.05	10		12/05/2019 15:47
1,2-Diphenyl hydrazine (as azobenzene)		<1.11 ug/L	1	E8	1.11	10		12/05/2019 15:47
Fluoranthene		<1.27 ug/L	1	E8	1.27	10		12/05/2019 15:47
Fluorene		<1.18 ug/L	1	E8	1.18	10		12/05/2019 15:47
Hexachlorobenzene		<1.01 ug/L	1	E8	1.01	10		12/05/2019 15:47
Hexachlorobutadiene		<1.20 ug/L	1	E8	1.20	10		12/05/2019 15:47

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090384**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:23	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Temperature : 11.8 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 7.20
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.5-0.6

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625						AM	
	Hexachlorocyclopentadiene	<3.07 ug/L	1	E8	3.07	10		12/05/2019 15:47
	Hexachloroethane	<1.35 ug/L	1	E8	1.35	10		12/05/2019 15:47
	Indeno(1,2,3-cd)pyrene	<1.07 ug/L	1	E8	1.07	10		12/05/2019 15:47
	Isophorone	<1.32 ug/L	1	E8	1.32	10		12/05/2019 15:47
	Naphthalene	<1.48 ug/L	1	E8	1.48	10		12/05/2019 15:47
	Nitrobenzene	<1.55 ug/L	1	E8	1.55	10		12/05/2019 15:47
	N-Nitrosodimethylamine	<1.67 ug/L	1	E8	1.67	10		12/05/2019 15:47
	N-Nitrosodi-n-propylamine	<1.65 ug/L	1	E8	1.65	10		12/05/2019 15:47
	N-Nitrosodiphenylamine	<1.07 ug/L	1	E8	1.07	10		12/05/2019 15:47
	Phenanthrene	<1.33 ug/L	1	E8	1.33	10		12/05/2019 15:47
	Pyrene	<1.20 ug/L	1	E8	1.20	10.0		12/05/2019 15:47
	1,2,4-Trichlorobenzene	<1.34 ug/L	1	E8	1.34	10		12/05/2019 15:47
	2-Chlorophenol	<4.52 ug/L	1	E8	4.52	10		12/05/2019 15:47
	2,4-Dichlorophenol	<4.77 ug/L	1	E8	4.77	10		12/05/2019 15:47
	2,4-Dimethylphenol	<2.04 ug/L	1	E8;N1	2.04	10		12/05/2019 15:47
	2-Methyl-4,6-dinitrophenol	<3.36 ug/L	1	E8	3.36	10		12/05/2019 15:47
	2,4-Dinitrophenol	<3.41 ug/L	1	E8	3.41	10		12/05/2019 15:47
	2-Nitrophenol	<4.68 ug/L	1	E8	4.68	10		12/05/2019 15:47
	4-Nitrophenol	<3.52 ug/L	1	E8	3.52	10		12/05/2019 15:47
	4-Chloro-3-methylphenol	<4.76 ug/L	1	E8	4.76	10		12/05/2019 15:47
	Pentachlorophenol	<4.00 ug/L	1	E8	4.00	10		12/05/2019 15:47
	Phenol	<4.08 ug/L	1	E8	4.08	10		12/05/2019 15:47
	2,4,6-Trichlorophenol	<5.27 ug/L	1	E8	5.27	10		12/05/2019 15:47
	2,4,6-Tribromophenol	92 % Recovery	1					12/05/2019 15:47
	Dibromooctafluorobiphenyl	28 % Recovery	1					12/05/2019 15:47

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090384**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 05:23	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625	33 % Recovery		1				AM	12/05/2019 15:47

625-STORM Case Narrative: Batch QC did not meet laboratory acceptance criteria in the 2019090456 LFM/LFMD for 3,3-Dichlorobenzidine (0%/0%); control limits: 1-262%, n-Nitrosodimethylamine (54%/50%); control limits: 57-92% and n-Nitrosodiphenylamine (36%/34%); control limits: 49-118%. The LFMD RPD could not be calculated for 3,3-Dichlorobenzidine due to the results being zero. The closing CCV did not meet laboratory acceptance criteria for 2,4-Dimethylphenol (78%); Control Limits: 80-120%. Closing QC is not a 625 EPA method requirement.

Extraction - 625	EPA 625	COMPLETE	AA	12/03/2019 00:00
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Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090385

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:23	Account Number : Stormwater
Approval Date : 12/17/2019 10:31	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Silver - Total Recoverable	EPA 200.8	0.0014 mg/L	5	D1;E4;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Total Recoverable Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).								
Arsenic - Total Recoverable	EPA 200.8	0.0054 mg/L	5	D1	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Total Recoverable	EPA 200.8	0.171 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Total Recoverable	EPA 200.8	0.00057 mg/L	5	D1;E4	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Total Recoverable	EPA 200.8	0.0004 mg/L	5	D1;E4	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable	EPA 200.8	0.0174 mg/L	5	D1;B7	0.00045	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable Case Narrative: Batch LRB Cr level is 0.00066 mg/L (accept. range is < 0.00045).								
Copper - Total Recoverable	EPA 200.8	0.0496 mg/L	5	D1;B7	0.0005	0.0050	TS	12/13/2019 00:00
Copper - Total Recoverable Case Narrative: Batch LRB Cu level is 0.00050 mg/L (accept. range is < 0.00049).								
Nickel - Total Recoverable	EPA 200.8	0.0180 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Total Recoverable	EPA 200.8	0.0532 mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Total Recoverable	EPA 200.8	0.0017 mg/L	5	D1;E4	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Total Recoverable	EPA 200.8	<0.00055 mg/L	5	D1;E8	0.00055	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090385**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:23	Account Number : Stormwater
Approval Date : 12/17/2019 10:31	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Thallium - Total Recoverable	EPA 200.8	0.00015 mg/L	5	D1;E4	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Total Recoverable	EPA 200.8	0.235 mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F ⌘	COMPLETE					SS	12/06/2019 15:37
Mercury - Total	EPA 245.1	<0.000042 mg/L	1	D1;E8	0.000042	0.0002	SS	12/05/2019 12:19
pH<2Verification	pH <2 Verification	COMPLETE					SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090386**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 05:23	Account Number : Stormwater
Approval Date : 12/23/2019 14:58	Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Filtration Prep Dissolved Metals	SM22 3030 B	NOT RUN					SS	12/03/2019 11:38
Filtration Prep Dissolved Metals Case Narrative: COC states field filtered.								
Hardness - Total	SM22 2340 B						GA	
Hardness - Total		22.9 mg/L	1		0.79	16.6		12/13/2019 14:04
Calcium Hardness		18.8 mg/L	1		0.61	12.5		12/13/2019 14:04
Calcium - Total Recoverable	EPA 200.7	7.52 mg/L	1		0.244	5.00	GA	12/13/2019 14:04
Magnesium - Total Recoverable	EPA 200.7	1.01 mg/L	1		0.043	1.00	GA	12/13/2019 14:04
Silver - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Dissolved Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).								
Arsenic - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Dissolved	EPA 200.8	0.008 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00045	0.0050	TS	12/13/2019 00:00
Copper - Dissolved	EPA 200.8	0.0073 mg/L	5	D1	0.0005	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090386**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:23	Account Number : Stormwater
Approval Date : 12/23/2019 14:58	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Nickel - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00055	0.0050	TS	12/13/2019 00:00
Thallium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Dissolved	EPA 200.8	<0.050 mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F ☐	COMPLETE					SS	12/06/2019 15:37
Mercury - Diss	EPA 245.1	<0.0002 mg/L	1	D1	0.000042	0.0002	SS	12/05/2019 12:22
pH<2Verification	pH <2 Verification	COMPLETE					SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090387**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:23	Account Number : Stormwater
Approval Date : 12/13/2019 13:16	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Ammonia	EPA 350.1	0.41 mg/L	1	N1	0.13	0.20	LG	12/03/2019 11:37
Ammonia Case Narrative: Batch LFM(LIMS # 2019084654) %R=119% (Acceptance Range =90-110)								
Total Kjeldahl Nitrogen	EPA 351.2	1.8 mg/L	1		0.21	0.25	LG	12/05/2019 13:26

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090388**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 05:23	Account Number : Stormwater
Approval Date : 12/13/2019 13:08	Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
BOD, 5 Day	SM22 5210 B	13 mg/L	1	K5	2	2	BM	11/30/2019 10:34
	BOD, 5 Day Case Narrative: DW= 0.30mg/l. CL <= 0.20mg/l.							
COD	HACH-8000	150 mg/L	1		11.69	50	CA	12/02/2019 09:17
Suspended Solids	SM22 2540 D	370 mg/L	20		50	50	LM	12/02/2019 11:01
Total Dissolved Solids	SM22 2540 C	76 mg/L	1		10	10	CA	12/05/2019 13:11

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090389**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:23	Account Number : Stormwater
Approval Date : 12/18/2019 10:45	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
O-Phosphate-P	EPA 300.0	<0.1	mg/L	1		0.0027	0.1	CG	11/30/2019 13:46
Nitrate-N	EPA 300.0	0.4	mg/L	1		0.0012	0.1	CG	11/30/2019 13:46
Nitrite-N	EPA 300.0	<0.1	mg/L	1		0.0003	0.1	CG	11/30/2019 13:46

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090390**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:23	Account Number : Stormwater
Approval Date : 12/12/2019 11:55	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Phosphorus - Total	SM 4500 P E	1.2 mg/L	5	D2		0.50	TAM	12/06/2019 14:08

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090391**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 08:40	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 23:44
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/03/2019 23:44
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 23:44
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 23:44
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/03/2019 23:44
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/03/2019 23:44
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		12/03/2019 23:44
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		12/03/2019 23:44
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/03/2019 23:44
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/03/2019 23:44
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/03/2019 23:44
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/03/2019 23:44
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/03/2019 23:44
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/03/2019 23:44
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/03/2019 23:44
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/03/2019 23:44
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/03/2019 23:44
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/03/2019 23:44
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/03/2019 23:44
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/03/2019 23:44
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/03/2019 23:44
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 23:44
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/03/2019 23:44
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/03/2019 23:44
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/03/2019 23:44

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090391

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 08:40	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624						AL	
m- & p-Xylene		<1.22 ug/L	1	E8	1.22	2.0		12/03/2019 23:44
Bromoform		<0.81 ug/L	1	E8	0.81	1.0		12/03/2019 23:44
o-Xylene		<0.70 ug/L	1	E8	0.70	1.0		12/03/2019 23:44
1,1,2,2-Tetrachloroethane		<0.83 ug/L	1	E8	0.83	1.0		12/03/2019 23:44
1,3-Dichlorobenzene		<0.87 ug/L	1	E8	0.87	1.0		12/03/2019 23:44
1,2-Dichlorobenzene		<0.93 ug/L	1	E8	0.93	1.0		12/03/2019 23:44
1,4-Dichlorobenzene		<0.91 ug/L	1	E8	0.91	1.0		12/03/2019 23:44
Pentafluorobenzene (Surrogate1)		100 % Recovery	1					12/03/2019 23:44
Fluorobenzene (Surrogate2)		103 % Recovery	1					12/03/2019 23:44
4-Bromofluorobenzene (Surrogate)		101 % Recovery	1					12/03/2019 23:44
Total Xylene		<0.70 ug/L	1	E8	0.70	1.0		12/03/2019 23:44
1,3-Dichloropropene (cis & trans)		<0.43 ug/L	1	E8	0.43	1.0		12/03/2019 23:44
Method 8260B Stormwater	EPA 8260B						AL	
1,3,5-Trimethylbenzene		<1.0 ug/L	1		0.75	1.0		12/03/2019 23:44
1,2,4-Trimethylbenzene		<1.0 ug/L	1		0.80	1.0		12/03/2019 23:44
Pentafluorobenzene (Surrogate1)		100 % Recovery	1					12/03/2019 23:44
Fluorobenzene (Surrogate2)		103 % Recovery	1					12/03/2019 23:44
4-Bromofluorobenzene (Surrogate)		101 % Recovery	1					12/03/2019 23:44

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090392**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 08:40	Account Number : Stormwater
Approval Date : 01/03/2020 13:26	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 α							TH	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		11/29/2019 23:55
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		11/29/2019 23:55
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					11/29/2019 23:55
Fluorobenzene (Surrogate2)		100	% Recovery	1					11/29/2019 23:55
4-Bromofluorobenzene (Surrogate)		100	% Recovery	1					11/29/2019 23:55
GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%									
GC/MS-Method 624-for 2-	EPA 624 α							TH	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		11/29/2019 23:55
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					11/29/2019 23:55
Fluorobenzene (Surrogate2)		100	% Recovery	1					11/29/2019 23:55
4-Bromofluorobenzene (Surrogate)		100	% Recovery	1					11/29/2019 23:55

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090393**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 08:40	Account Number : Stormwater
Approval Date : 12/03/2019 10:58	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Coliform - E. Coli	SM22 9223 B							GM	
	Total Coliform	>241960	MPN/100mL	100		100	100		11/29/2019 11:49
	E. coli	9590	MPN/100mL	100		100	100		11/29/2019 11:49

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090394**

Sample ID : SR030	Temperature : 11.8 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 08:40	pH : 7.20	Account Number : Stormwater
Approval Date : 12/13/2019 11:35		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 0.5-0.6

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Cyanide	EPA 335.4	<0.005	mg/L	1	N1	0.0019	0.005	CA	12/04/2019 12:31

Cyanide Case Narrative: Batch LFM (LIMS # 2019089807) %R=85% (Acceptance Range =90-110). Batch RPD (LIMS # 2019089807) =10.2 (Acceptance Range = $\leq 10\%$)

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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 /S/K. McFarlin

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090395**

Sample ID : SR030	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 08:40	Account Number : Stormwater
Approval Date : 12/12/2019 11:55	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 1664 With Silica Gel	EPA 1664B						TAM	
Hexane Extractable Material		<6.3 mg/L	1			6.3		12/09/2019 10:40
Hexane Extractable Material - Silica Gel		<6.3 mg/L	1			6.3		12/09/2019 10:40

EPA 1664 With Silica Gel Treatment Case Narrative: Methods 1664A, 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation/analysis: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6), 2019090422 (550-134112-8) and 2019090452 (550-134112-10). Method 1664A/B.

Method 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6) and 2019090452 (550-134112-10). Since the HEM results was below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All quality control criteria were met. Method 1664B

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090396

Sample ID : SR030 Trip Blank
 Sampling Date/Time: 11/29/2019 08:40
 Approval Date : 12/19/2019 15:53
 Received Date/Time: 12/02/2019 07:40
 Sample Type : TIME

Temperature : 11.8 Deg. C
 pH : 7.20

Project Link Code : Stormwater
 Account Number : Stormwater
 Sampled by : Kenneth Fossum
 Delivered : Kenneth Fossum
 Receipt Temperature (°C) : 0.5-0.6

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 00:14
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/04/2019 00:14
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 00:14
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 00:14
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 00:14
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 00:14
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		12/04/2019 00:14
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 00:14
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 00:14
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 00:14
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/04/2019 00:14
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 00:14
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/04/2019 00:14
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 00:14
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 00:14
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/04/2019 00:14
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 00:14
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 00:14
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 00:14
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/04/2019 00:14
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 00:14
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 00:14
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 00:14
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 00:14
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/04/2019 00:14

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090396

Sample ID : SR030 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 08:40	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : TIME	Receipt Temperature (°C) : 0.5-0.6
Temperature : 11.8 Deg. C	
pH : 7.20	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/04/2019 00:14
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/04/2019 00:14
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 00:14
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/04/2019 00:14
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/04/2019 00:14
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 00:14
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/04/2019 00:14
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/04/2019 00:14
	Fluorobenzene (Surrogate2)	102	% Recovery	1					12/04/2019 00:14
	4-Bromofluorobenzene (Surrogate)	100	% Recovery	1					12/04/2019 00:14
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 00:14
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 00:14
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/04/2019 00:14
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/04/2019 00:14
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/04/2019 00:14
	Fluorobenzene (Surrogate2)	102	% Recovery	1					12/04/2019 00:14
	4-Bromofluorobenzene (Surrogate)	100	% Recovery	1					12/04/2019 00:14

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090397**

Sample ID : SR030 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 08:40	Account Number : Stormwater
Approval Date : 01/03/2020 13:26	Temperature : 11.8 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 7.20
Sample Type : TIME	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.5-0.6

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 α							TH	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		11/30/2019 00:18
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		11/30/2019 00:18
Pentafluorobenzene (Surrogate1)		99	% Recovery	1					11/30/2019 00:18
Fluorobenzene (Surrogate2)		98	% Recovery	1					11/30/2019 00:18
4-Bromofluorobenzene (Surrogate)		98	% Recovery	1					11/30/2019 00:18


GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for 2-	EPA 624 α							TH	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		11/30/2019 00:18
Pentafluorobenzene (Surrogate1)		99	% Recovery	1					11/30/2019 00:18
Fluorobenzene (Surrogate2)		98	% Recovery	1					11/30/2019 00:18
4-Bromofluorobenzene (Surrogate)		98	% Recovery	1					11/30/2019 00:18

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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 /S/K. McFarlin

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Sample # Sample ID
 2019090410 

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report

Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
	Stormwater	SR045 TAM	608-STORM	Acid ppt 1/2 ±	11/29/19	0432	ICE
	Stormwater	SR045	625-STORM	Acid ppt 1/2 ±			ICE
	Stormwater	SR045	TOTAL METALS STORMWATER	1			HNO3
	Stormwater	SR045	METALS DISSOLVED STORMWATER	1			HNO3/FIELD FILTERED
	Stormwater	SR045	NH3-WC and TKN-WC	1			H2SO4
	Stormwater	SR045	Group A with TDS	1			ICE
	Stormwater	SR045	IC300 Nitrate, Nitrite, Orthophosphate	1			ICE
	Stormwater	SR045 TAM	TOTAL PHOSPHOROUS	1			H2SO4

COMPOSITE SAMPLES

Sample # Sample ID
 2019090410 - SR045
 2019090411 - SR045
~~2019090412 - SR045~~
~~2019090413 - SR045~~
 2019090414 - SR045
 2019090415 - SR045
 2019090416 - SR045
 2019090417 - SR045

Sampler Print & Sign/Reinforced By	Date	Time	Received By	Condition (Lab Use Only)
KENNETH FOSSUM Fridge	11/29/19	0445	FREDGE Cintal	B
	DEC 03	2019		

TIME: 0740
 TEMP °C: 15

Sample # 2019090418 Sample ID 2019090418

City of Phoenix, Water Services
Environmental Services Division
Chain of Custody Report



Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
		SR045	8260B-Storm 624-Storm	6	11/29/19	07:50	HCL
		SR045	624 ACAC 624 CEVE	6			ICE
* 20190 90420		SR045	COLILERT - MPN	1			NaSO4
		SR045	CYANIDE	1			NaOH
		SR045 TAM	1664 HEMSGT	3			H2SO4
		SR045 Trip Blank	8260B-Storm 624-Storm	2			HCL
		SR045 Trip Blank	624 ACAC 624 CEVE	2			ICE

GRAB SAMPLES

pH 6.91 Air Temp 7.5 Water Temp 13.0 Specific Conductance 177

Barometric Pressure 725 Dissolved Oxygen 10.09

* - 90420 - Temp = 0.3°C From Frig @ 10:45 11-29-19 "C" AM

~~2019090418 - SR045~~
2019090419 - SR045

Sample # 2019090420 Sample ID SR045
2019090421 - SR045
2019090422 - SR045
~~2019090423 - SR045 Trip Blank~~
2019090424 - SR045 Trip Blank

Sampler Print & Sign/Relinquished By	Date	Time	Location (Lab Use Only)
KENNETH FOSSUM Fridge	11/29/19	10:45	FRIDGE
	DEC 02 2019		B

TIME: 0740
TEMP °C: 2-1



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090410**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/11/2019 14:24	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3							TAM	
	Aldrin	<0.045	ug/L	1	E8	0.045	.052		12/04/2019 19:07
	alpha-BHC	<0.033	ug/L	1	E8	0.033	.052		12/04/2019 19:07
	beta-BHC	<0.041	ug/L	1	E8	0.041	.052		12/04/2019 19:07
	gamma-BHC	<0.034	ug/L	1	E8	0.034	.052		12/04/2019 19:07
	delta-BHC	<0.041	ug/L	1	E8	0.041	.052		12/04/2019 19:07
	Chlordane	<0.17	ug/L	1	E8	0.17	.52		12/04/2019 19:07
	4,4'-DDT	<0.032	ug/L	1	E8	0.032	.052		12/04/2019 19:07
	4,4'-DDE	<0.043	ug/L	1	E8	0.043	.052		12/04/2019 19:07
	4,4'-DDD	<0.039	ug/L	1	E8	0.039	.052		12/04/2019 19:07
	Dieldrin	<0.031	ug/L	1	E8	0.031	.052		12/04/2019 19:07
	Endosulfan I	0.30	ug/L	1	R6	0.033	.052		12/04/2019 19:07
	Endosulfan II	<0.035	ug/L	1	E8	0.035	.052		12/04/2019 19:07
	Endosulfan Sulfate	<0.035	ug/L	1	E8	0.035	.052		12/04/2019 19:07
	Endrin	<0.033	ug/L	1	E8	0.033	.052		12/04/2019 19:07
	Endrin Aldehyde	<0.090	ug/L	1	E8	0.090	0.10		12/04/2019 19:07
	Heptachlor	<0.069	ug/L	1	E8	0.069	0.10		12/04/2019 19:07
	Heptachlor Epoxide	<0.035	ug/L	1	E8;R6	0.035	.052		12/04/2019 19:07
	Arochlor-1242	<0.26	ug/L	1	E8	0.26	1		12/04/2019 17:42
	Arochlor-1254	<0.25	ug/L	1	E8	0.25	1		12/04/2019 17:42
	Arochlor-1221	<0.25	ug/L	1	E8	0.25	1		12/04/2019 17:42
	Arochlor-1232	<0.28	ug/L	1	E8	0.28	1		12/04/2019 17:42
	Arochlor-1248	<0.21	ug/L	1	E8	0.21	1		12/04/2019 17:42
	Arochlor-1260	<0.21	ug/L	1	E8	0.21	1		12/04/2019 17:42
	Arochlor-1016	<0.23	ug/L	1	E8	0.23	1		12/04/2019 17:42
	Toxaphene	<0.40	ug/L	1	E8	0.40	1		12/04/2019 19:07

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090410**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/11/2019 14:24	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3							TAM	
	Decachlorobiphenyl	55	% Recovery	1					12/04/2019 19:07
	Tetrachloro-m-xylene (Surr)	82	% Recovery	1					12/04/2019 19:07
	Total Endosulfan	0.3	ug/L	1		0.035			12/04/2019 19:07

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090411

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.5-2.1
Temperature : 13.0 Deg. C	
pH : 6.91	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
Acenaphthene		<1.19	ug/L	1	E8	1.19	10		12/05/2019 16:11
Acenaphthylene		<1.41	ug/L	1	E8	1.41	10		12/05/2019 16:11
Anthracene		<1.20	ug/L	1	E8	1.20	10		12/05/2019 16:11
Benzo(a)anthracene		<1.02	ug/L	1	E8	1.02	10		12/05/2019 16:11
Benzo(a)pyrene		<1.08	ug/L	1	E8	1.08	10		12/05/2019 16:11
Benzo(b)fluoranthene		<0.38	ug/L	1	E8	0.38	10		12/05/2019 16:11
Benzo(ghi)perylene		<1.14	ug/L	1	E8	1.14	10		12/05/2019 16:11
Benzo(k)fluoranthene		<1.03	ug/L	1	E8	1.03	10		12/05/2019 16:11
Chrysene		<1.16	ug/L	1	E8	1.16	10		12/05/2019 16:11
Dibenzo(a,h)anthracene		<1.02	ug/L	1	E8	1.02	10		12/05/2019 16:11
1,2-Dichlorobenzene		<1.43	ug/L	1	E8	1.43	10		12/05/2019 16:11
1,3-Dichlorobenzene		<1.39	ug/L	1	E8	1.39	10		12/05/2019 16:11
1,4-Dichlorobenzene		<1.48	ug/L	1	E8	1.48	10		12/05/2019 16:11
3,3'-Dichlorobenzidine		<6.99	ug/L	1	E8	6.99	50		12/05/2019 16:11
Diethyl phthalate		<1.08	ug/L	1	E8	1.08	10		12/05/2019 16:11
Dimethyl phthalate		<1.17	ug/L	1	E8	1.17	20		12/05/2019 16:11
Di-n-butyl phthalate		<1.12	ug/L	1	E8	1.12	10		12/05/2019 16:11
2,4-Dinitrotoluene		<1.17	ug/L	1	E8	1.17	10		12/05/2019 16:11
2,6-Dinitrotoluene		<1.13	ug/L	1	E8	1.13	10		12/05/2019 16:11
Di-n-octyl phthalate		<2.05	ug/L	1	E8	2.05	10		12/05/2019 16:11
1,2-Diphenyl hydrazine (as azobenzene)		<1.11	ug/L	1	E8	1.11	10		12/05/2019 16:11
Fluoranthene		<1.27	ug/L	1	E8	1.27	10		12/05/2019 16:11
Fluorene		<1.18	ug/L	1	E8	1.18	10		12/05/2019 16:11
Hexachlorobenzene		<1.01	ug/L	1	E8	1.01	10		12/05/2019 16:11
Hexachlorobutadiene		<1.20	ug/L	1	E8	1.20	10		12/05/2019 16:11

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090411**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
	Hexachlorocyclopentadiene	<3.07	ug/L	1	E8	3.07	10		12/05/2019 16:11
	Hexachloroethane	<1.35	ug/L	1	E8	1.35	10		12/05/2019 16:11
	Indeno(1,2,3-cd)pyrene	<1.07	ug/L	1	E8	1.07	10		12/05/2019 16:11
	Isophorone	<1.32	ug/L	1	E8	1.32	10		12/05/2019 16:11
	Naphthalene	<1.48	ug/L	1	E8	1.48	10		12/05/2019 16:11
	Nitrobenzene	<1.55	ug/L	1	E8	1.55	10		12/05/2019 16:11
	N-Nitrosodimethylamine	<1.67	ug/L	1	E8	1.67	10		12/05/2019 16:11
	N-Nitrosodi-n-propylamine	<1.65	ug/L	1	E8	1.65	10		12/05/2019 16:11
	N-Nitrosodiphenylamine	<1.07	ug/L	1	E8	1.07	10		12/05/2019 16:11
	Phenanthrene	<1.33	ug/L	1	E8	1.33	10		12/05/2019 16:11
	Pyrene	<1.20	ug/L	1	E8	1.20	10.0		12/05/2019 16:11
	1,2,4-Trichlorobenzene	<1.34	ug/L	1	E8	1.34	10		12/05/2019 16:11
	2-Chlorophenol	<4.52	ug/L	1	E8	4.52	10		12/05/2019 16:11
	2,4-Dichlorophenol	<4.77	ug/L	1	E8	4.77	10		12/05/2019 16:11
	2,4-Dimethylphenol	<2.04	ug/L	1	E8;N1	2.04	10		12/05/2019 16:11
	2-Methyl-4,6-dinitrophenol	<3.36	ug/L	1	E8	3.36	10		12/05/2019 16:11
	2,4-Dinitrophenol	<3.41	ug/L	1	E8	3.41	10		12/05/2019 16:11
	2-Nitrophenol	<4.68	ug/L	1	E8	4.68	10		12/05/2019 16:11
	4-Nitrophenol	<3.52	ug/L	1	E8	3.52	10		12/05/2019 16:11
	4-Chloro-3-methylphenol	<4.76	ug/L	1	E8	4.76	10		12/05/2019 16:11
	Pentachlorophenol	<4.00	ug/L	1	E8	4.00	10		12/05/2019 16:11
	Phenol	<4.08	ug/L	1	E8	4.08	10		12/05/2019 16:11
	2,4,6-Trichlorophenol	<5.27	ug/L	1	E8	5.27	10		12/05/2019 16:11
	2,4,6-Tribromophenol	92	% Recovery	1					12/05/2019 16:11
	Dibromooctafluorobiphenyl	49	% Recovery	1					12/05/2019 16:11

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090411**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625						AM	
	4,4-Dibromobiphenyl	45 % Recovery	1					12/05/2019 16:11

625-STORM Case Narrative: Batch QC did not meet laboratory acceptance criteria in the 2019090456 LFM/LFMD for 3,3-Dichlorobenzidine (0%/0%); control limits: 1-262%, n-Nitrosodimethylamine (54%/50%); control limits: 57-92% and n-Nitrosodiphenylamine (36%/34%); control limits: 49-118%. The LFMD RPD could not be calculated for 3,3-Dichlorobenzidine due to the results being zero. The closing CCV did not meet laboratory acceptance criteria for 2,4-Dimethylphenol (78%); Control Limits: 80-120%. Closing QC is not a 625 EPA method requirement.

Extraction - 625	EPA 625	COMPLETE	AA	12/03/2019 00:00
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Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090412**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/17/2019 10:31	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.5-2.1
Temperature : 13.0 Deg. C	
pH : 6.91	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Silver - Total Recoverable	EPA 200.8	0.0026 mg/L	5	D1;E4;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Total Recoverable Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).								
Arsenic - Total Recoverable	EPA 200.8	0.0062 mg/L	5	D1	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Total Recoverable	EPA 200.8	0.275 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Total Recoverable	EPA 200.8	0.00029 mg/L	5	D1;E4	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Total Recoverable	EPA 200.8	0.0013 mg/L	5	D1;E4	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable	EPA 200.8	0.0236 mg/L	5	D1;B7	0.00045	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable Case Narrative: Batch LRB Cr level is 0.00066 mg/L (accept. range is < 0.00045).								
Copper - Total Recoverable	EPA 200.8	0.157 mg/L	5	D1;B7	0.0005	0.0050	TS	12/13/2019 00:00
Copper - Total Recoverable Case Narrative: Batch LRB Cu level is 0.00050 mg/L (accept. range is < 0.00049).								
Nickel - Total Recoverable	EPA 200.8	0.0342 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Total Recoverable	EPA 200.8	0.0458 mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Total Recoverable	EPA 200.8	0.0052 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Total Recoverable	EPA 200.8	0.00086 mg/L	5	D1;E4	0.00055	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090412**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/17/2019 10:31	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Thallium - Total Recoverable	EPA 200.8	<0.00015	mg/L	5	D1;E8	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Total Recoverable	EPA 200.8	0.588	mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F ¶	COMPLETE						SS	12/06/2019 15:37
Mercury - Total	EPA 245.1	0.000163	mg/L	1	D1;E4	0.000042	0.0002	SS	12/05/2019 12:24
pH<2Verification	pH <2 Verification	COMPLETE						SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090413**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Temperature : 13.0 Deg. C
Approval Date : 12/23/2019 14:58	pH : 6.91
Received Date/Time: 12/02/2019 07:40	Account Number : Stormwater
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Filtration Prep Dissolved Metals	SM22 3030 B	NOT RUN						SS	12/03/2019 11:38
Filtration Prep Dissolved Metals Case Narrative: COC states field filtered.									
Hardness - Total	SM22 2340 B							GA	
Hardness - Total		262	mg/L	1		0.79	16.6		12/13/2019 14:11
Calcium Hardness		221	mg/L	1		0.61	12.5		12/13/2019 14:11
Calcium - Total Recoverable	EPA 200.7	88.5	mg/L	1		0.244	5.00	GA	12/13/2019 14:11
Magnesium - Total Recoverable	EPA 200.7	10.0	mg/L	1		0.043	1.00	GA	12/13/2019 14:11
Silver - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Dissolved Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).									
Arsenic - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Dissolved	EPA 200.8	0.050	mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Dissolved	EPA 200.8	0.0097	mg/L	5	D1	0.00045	0.0050	TS	12/13/2019 00:00
Copper - Dissolved	EPA 200.8	0.0860	mg/L	5	D1	0.0005	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090413**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/23/2019 14:58	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Nickel - Dissolved	EPA 200.8	0.0226 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Dissolved	EPA 200.8	0.0094 mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00055	0.0050	TS	12/13/2019 00:00
Thallium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Dissolved	EPA 200.8	0.242 mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F §	COMPLETE					SS	12/06/2019 15:37
Mercury - Diss	EPA 245.1	<0.0002 mg/L	1	D1	0.000042	0.0002	SS	12/05/2019 12:26
pH<2Verification	pH <2 Verification	COMPLETE					SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090414**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/13/2019 13:16	Temperature : 13.0 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 6.91
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Ammonia	EPA 350.1	1.7	mg/L	1	N1	0.13	0.20	LG	12/03/2019 11:37
Ammonia Case Narrative: Batch LFM(LIMS # 2019084654) %R=119% (Acceptance Range =90-110)									
Total Kjeldahl Nitrogen	EPA 351.2	16	mg/L	1		0.21	0.25	LG	12/05/2019 13:26

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090415**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/13/2019 13:08	Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.5-2.1
Temperature : 13.0 Deg. C	
pH : 6.91	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
BOD, 5 Day	SM22 5210 B	>224 mg/L	1	K5;K2	2	2	BM	11/30/2019 10:34
	BOD, 5 Day Case Narrative: DW= 0.30mg/l. CL <= 0.20mg/l.							
COD	HACH-8000	980 mg/L	1		11.69	50	CA	12/02/2019 09:17
Suspended Solids	SM22 2540 D	388 mg/L	20		50	50	LM	12/02/2019 11:01
Total Dissolved Solids	SM22 2540 C	824 mg/L	1		10	10	CA	12/05/2019 13:11

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090416**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/18/2019 10:45	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 1.5-2.1
Temperature : 13.0 Deg. C	
pH : 6.91	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
O-Phosphate-P	EPA 300.0	0.6	mg/L	1		0.0027	0.1	CG	11/30/2019 11:43
Nitrate-N	EPA 300.0	0.8	mg/L	1		0.0012	0.1	CG	11/30/2019 11:43
Nitrite-N	EPA 300.0	0.1	mg/L	1		0.0003	0.1	CG	11/30/2019 11:43

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090417**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:32	Account Number : Stormwater
Approval Date : 12/12/2019 11:55	Temperature : 13.0 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 6.91
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Phosphorus - Total	SM 4500 P E	2.4	mg/L	10	D2		1.0	TAM	12/06/2019 14:08

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090418**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 07:50	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Temperature : 13.0 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 6.91
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 00:43
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/04/2019 00:43
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 00:43
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 00:43
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 00:43
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 00:43
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		12/04/2019 00:43
	trans-1,2-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 00:43
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 00:43
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 00:43
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/04/2019 00:43
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 00:43
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/04/2019 00:43
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 00:43
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 00:43
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/04/2019 00:43
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 00:43
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 00:43
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 00:43
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/04/2019 00:43
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 00:43
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 00:43
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 00:43
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 00:43
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/04/2019 00:43

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090418**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 07:50	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Temperature : 13.0 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 6.91
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/04/2019 00:43
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/04/2019 00:43
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 00:43
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/04/2019 00:43
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/04/2019 00:43
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 00:43
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/04/2019 00:43
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					12/04/2019 00:43
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/04/2019 00:43
	4-Bromofluorobenzene (Surrogate)	97	% Recovery	1					12/04/2019 00:43
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 00:43
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 00:43
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/04/2019 00:43
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/04/2019 00:43
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					12/04/2019 00:43
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/04/2019 00:43
	4-Bromofluorobenzene (Surrogate)	97	% Recovery	1					12/04/2019 00:43

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090419

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 07:50	Account Number : Stormwater
Approval Date : 01/03/2020 13:26	Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein		EPA 624 ☐							
								TH	
	Acrolein	0.55	ug/L	1	N1;E4	0.55	1.0		11/30/2019 00:42
	Acrylonitrile	<0.57	ug/L	1	N1;E8	0.57	1.0		11/30/2019 00:42
	Pentafluorobenzene (Surrogate1)	101	% Recovery	1					11/30/2019 00:42
	Fluorobenzene (Surrogate2)	100	% Recovery	1					11/30/2019 00:42
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					11/30/2019 00:42
GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%									
GC/MS-Method 624-for 2-		EPA 624 ☐							
								TH	
	2-Chloroethyl vinyl ether	<0.52	ug/L	1	E8	0.52	1.0		11/30/2019 00:42
	Pentafluorobenzene (Surrogate1)	101	% Recovery	1					11/30/2019 00:42
	Fluorobenzene (Surrogate2)	100	% Recovery	1					11/30/2019 00:42
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					11/30/2019 00:42

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090420**

Sample ID : SR045	Temperature : 13.0 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 07:50	pH : 6.91	Account Number : Stormwater
Approval Date : 12/03/2019 10:58		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Coliform - E. Coli	SM22 9223 B							GM	
	Total Coliform	>241960	MPN/100mL	100		100	100		11/29/2019 11:49
	E. coli	64880	MPN/100mL	100		100	100		11/29/2019 11:49

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090421**

Sample ID : SR045	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 07:50	Account Number : Stormwater
Approval Date : 12/13/2019 11:35	Temperature : 13.0 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 6.91
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 1.5-2.1

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Cyanide	EPA 335.4	<0.005 mg/L	1	N1	0.0019	0.005	CA	12/04/2019 12:31
Cyanide Case Narrative: Batch LFM (LIMS # 2019089807) %R=85% (Acceptance Range =90-110). Batch RPD (LIMS # 2019089807) =10.2 (Acceptance Range = $\leq 10\%$)								

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090422**

Sample ID	: SR045	Project Link Code	: Stormwater
Sampling Date/Time	: 11/29/2019 07:50	Account Number	: Stormwater
Approval Date	: 12/12/2019 11:55	Sampled by	: Kenneth Fossum
Received Date/Time	: 12/02/2019 07:40	Delivered	: Kenneth Fossum
Sample Type	: GRAB	Receipt Temperature (°C)	: 1.5-2.1
Temperature	: 13.0 Deg. C		
pH	: 6.91		

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 1664 With Silica Gel	EPA 1664B							TAM	
	Hexane Extractable Material	8.2	mg/L	1			5.6		12/09/2019 10:40
	Hexane Extractable Material - Silica Gel	<5.6	mg/L	1			5.6		12/09/2019 10:40

EPA 1664 With Silica Gel Treatment Case Narrative: Methods 1664A, 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation/analysis: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6), 2019090422 (550-134112-8) and 2019090452 (550-134112-10). Method 1664A/B.

Method 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6) and 2019090452 (550-134112-10). Since the HEM results was below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All quality control criteria were met. Method 1664B

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090423**

Sample ID : SR045 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 07:50	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : TIME	Receipt Temperature (°C) : 1.5-2.1
Temperature : 13.0 Deg. C	
pH : 6.91	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 01:13
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/04/2019 01:13
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 01:13
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 01:13
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 01:13
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 01:13
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		12/04/2019 01:13
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 01:13
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 01:13
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 01:13
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/04/2019 01:13
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 01:13
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/04/2019 01:13
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 01:13
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 01:13
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/04/2019 01:13
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 01:13
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 01:13
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 01:13
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/04/2019 01:13
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 01:13
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 01:13
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 01:13
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 01:13
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/04/2019 01:13

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090423**

Sample ID : SR045 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 07:50	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : TIME	Receipt Temperature (°C) : 1.5-2.1
Temperature : 13.0 Deg. C	
pH : 6.91	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/04/2019 01:13
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/04/2019 01:13
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 01:13
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/04/2019 01:13
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/04/2019 01:13
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 01:13
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/04/2019 01:13
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/04/2019 01:13
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/04/2019 01:13
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					12/04/2019 01:13
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 01:13
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 01:13
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/04/2019 01:13
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/04/2019 01:13
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/04/2019 01:13
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/04/2019 01:13
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					12/04/2019 01:13

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090424**

Sample ID : SR045 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 07:50	Account Number : Stormwater
Approval Date : 01/03/2020 13:26	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : TIME	Receipt Temperature (°C) : 1.5-2.1
Temperature : 13.0 Deg. C	
pH : 6.91	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ☐							TH	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		11/30/2019 01:06
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		11/30/2019 01:06
Pentafluorobenzene (Surrogate1)		99	% Recovery	1					11/30/2019 01:06
Fluorobenzene (Surrogate2)		100	% Recovery	1					11/30/2019 01:06
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					11/30/2019 01:06
GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%									
GC/MS-Method 624-for 2-	EPA 624 ☐							TH	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		11/30/2019 01:06
Pentafluorobenzene (Surrogate1)		99	% Recovery	1					11/30/2019 01:06
Fluorobenzene (Surrogate2)		100	% Recovery	1					11/30/2019 01:06
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					11/30/2019 01:06

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Sample # 2019090440 Sample ID 2019090440

City of Phoenix, Water Services
Environmental Services Division
Chain of Custody Report

Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
							can 02-2-20
		Stormwater AC033 TAM	608-STORM	2	11/29/19	0359	ICE
		Stormwater AC033	625-STORM	2			ICE
		Stormwater AC033	TOTAL METALS STORMWATER	1			HNO3
		Stormwater AC033	METALS DISSOLVED STORMWATER	1			HNO3/FIELD FILTERED
		Stormwater AC033	NH3-WC and TKN-WC	1			H2SO4
		Stormwater AC033	Group A with TDS	1			ICE
		Stormwater AC033	IC300 Nitrate, Nitrite, Orthophosphate	1			ICE
		Stormwater AC033 TAM	TOTAL PHOSPHOROUS	1			H2SO4

COMPOSITE SAMPLES

- Sample # Sample ID
 2019090440 - AC033
 2019090441 - AC033
 2019090442 - AC033
~~2019090443 - AC033~~
 2019090444 - AC033
 2019090445 - AC033
 2019090446 - AC033
 2019090447 - AC033

Sampler Print & Sign/Relinquished By	Date / Time	Received By	Condition (Lab Use Only)
KENNETH FOSSUM / <i>[Signature]</i>	11/29/19 10:45	FRIDGE / <i>[Signature]</i>	B
	DEC 09 2019		

TIME: 0740
TEMP °C: 2.4

Sample # 2019090448 Sample ID 2019090448

City of Phoenix, Water Services
Environmental Services Division
Chain of Custody Report

Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
	Stormwater	AC033	8260B-Storm 624-Storm	6	11/29/19	06:55	HCL
	Stormwater	AC033	624 ACAC 624 CEVE	6			ICE
*2019090307	Stormwater	AC033	COLILERT - MPN	1			NaSO4
	Stormwater	AC033	CYANIDE	1			NaOH
	Stormwater	AC033 TAM	1664 HEMSGT	3			H2SO4
	Stormwater	AC033 Trip Blank	8260B-Storm 624-Storm	2			HCL
	Stormwater	AC033 Trip Blank	624 ACAC 624 CEVE	2			ICE

GRAB SAMPLES

pH 5.22 Air Temp 7.5 Water Temp 11.2 Specific Conductance 44.6

Barometric Pressure 722 Dissolved Oxygen 10.60

* - 90307 - Temp = 0.6°C From Frig @ 10:45 11-29-19 "C" *JM*

~~2019090448 - AC033~~
2019090449 - AC033

Sample # 2019090450 Sample ID 2019090450 - AC033
2019090451 - AC033
2019090452 - AC033

~~2019090453 - AC033 Trip Blank~~
~~2019090454 - AC033 Trip Blank~~

Sampler Print & Sign/Relinquished By	Date	Time		
<i>KENNETH FOSSUM</i> <i>Kenneth Fossum</i>	11/29/19	10:45	FRIDGE RECEIVED W/SLAB	B

DEC 03 2019

TIME: 0740
TEMP °C: 25



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090440

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:59	Account Number : Stormwater
Approval Date : 12/11/2019 14:24	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3						TAM	
Aldrin		<0.045 ug/L	1	E8	0.045	.052		12/04/2019 17:32
alpha-BHC		<0.033 ug/L	1	E8	0.033	.052		12/04/2019 17:32
beta-BHC		<0.041 ug/L	1	E8	0.041	.052		12/04/2019 17:32
gamma-BHC		<0.034 ug/L	1	E8	0.034	.052		12/04/2019 17:32
delta-BHC		<0.041 ug/L	1	E8	0.041	.052		12/04/2019 17:32
Chlordane		<0.17 ug/L	1	E8	0.17	.52		12/04/2019 17:32
4,4'-DDT		<0.032 ug/L	1	E8	0.032	.052		12/04/2019 17:32
4,4'-DDE		<0.043 ug/L	1	E8	0.043	.052		12/04/2019 17:32
4,4'-DDD		<0.039 ug/L	1	E8	0.039	.052		12/04/2019 17:32
Dieldrin		<0.031 ug/L	1	E8	0.031	.052		12/04/2019 17:32
Endosulfan I		<0.033 ug/L	1	R6;E8	0.033	.052		12/04/2019 17:32
Endosulfan II		<0.035 ug/L	1	E8	0.035	.052		12/04/2019 17:32
Endosulfan Sulfate		<0.035 ug/L	1	E8	0.035	.052		12/04/2019 17:32
Endrin		<0.033 ug/L	1	E8	0.033	.052		12/04/2019 17:32
Endrin Aldehyde		<0.090 ug/L	1	E8	0.090	0.10		12/04/2019 17:32
Heptachlor		<0.069 ug/L	1	E8	0.069	0.10		12/04/2019 17:32
Heptachlor Epoxide		<0.035 ug/L	1	E8;R6	0.035	.052		12/04/2019 17:32
Arochlor-1242		<0.26 ug/L	1	E8	0.26	1		12/04/2019 16:12
Arochlor-1254		<0.25 ug/L	1	E8	0.25	1		12/04/2019 16:12
Arochlor-1221		<0.25 ug/L	1	E8	0.25	1		12/04/2019 16:12
Arochlor-1232		<0.28 ug/L	1	E8	0.28	1		12/04/2019 16:12
Arochlor-1248		<0.21 ug/L	1	E8	0.21	1		12/04/2019 16:12
Arochlor-1260		<0.21 ug/L	1	E8	0.21	1		12/04/2019 16:12
Arochlor-1016		<0.23 ug/L	1	E8	0.23	1		12/04/2019 16:12
Toxaphene		<0.40 ug/L	1	E8	0.40	1		12/04/2019 17:32

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090440**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:59	Account Number : Stormwater
Approval Date : 12/11/2019 14:24	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3						TAM	
	Decachlorobiphenyl	34 % Recovery	1					12/04/2019 17:32
	Tetrachloro-m-xylene (Surr)	87 % Recovery	1					12/04/2019 17:32
	Total Endosulfan	<0.035 ug/L	1		0.035			12/04/2019 17:32

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090441**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:59	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.4-2.5
Temperature : 11.2 Deg. C	
pH : 5.22	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
Acenaphthene		<1.19	ug/L	1	E8	1.19	10		12/05/2019 16:35
Acenaphthylene		<1.41	ug/L	1	E8	1.41	10		12/05/2019 16:35
Anthracene		<1.20	ug/L	1	E8	1.20	10		12/05/2019 16:35
Benzo(a)anthracene		<1.02	ug/L	1	E8	1.02	10		12/05/2019 16:35
Benzo(a)pyrene		<1.08	ug/L	1	E8	1.08	10		12/05/2019 16:35
Benzo(b)fluoranthene		<0.38	ug/L	1	E8	0.38	10		12/05/2019 16:35
Benzo(ghi)perylene		<1.14	ug/L	1	E8	1.14	10		12/05/2019 16:35
Benzo(k)fluoranthene		<1.03	ug/L	1	E8	1.03	10		12/05/2019 16:35
Chrysene		<1.16	ug/L	1	E8	1.16	10		12/05/2019 16:35
Dibenzo(a,h)anthracene		<1.02	ug/L	1	E8	1.02	10		12/05/2019 16:35
1,2-Dichlorobenzene		<1.43	ug/L	1	E8	1.43	10		12/05/2019 16:35
1,3-Dichlorobenzene		<1.39	ug/L	1	E8	1.39	10		12/05/2019 16:35
1,4-Dichlorobenzene		<1.48	ug/L	1	E8	1.48	10		12/05/2019 16:35
3,3'-Dichlorobenzidine		<6.99	ug/L	1	E8	6.99	50		12/05/2019 16:35
Diethyl phthalate		<1.08	ug/L	1	E8	1.08	10		12/05/2019 16:35
Dimethyl phthalate		<1.17	ug/L	1	E8	1.17	20		12/05/2019 16:35
Di-n-butyl phthalate		<1.12	ug/L	1	E8	1.12	10		12/05/2019 16:35
2,4-Dinitrotoluene		<1.17	ug/L	1	E8	1.17	10		12/05/2019 16:35
2,6-Dinitrotoluene		<1.13	ug/L	1	E8	1.13	10		12/05/2019 16:35
Di-n-octyl phthalate		<2.05	ug/L	1	E8	2.05	10		12/05/2019 16:35
1,2-Diphenyl hydrazine (as azobenzene)		<1.11	ug/L	1	E8	1.11	10		12/05/2019 16:35
Fluoranthene		<1.27	ug/L	1	E8	1.27	10		12/05/2019 16:35
Fluorene		<1.18	ug/L	1	E8	1.18	10		12/05/2019 16:35
Hexachlorobenzene		<1.01	ug/L	1	E8	1.01	10		12/05/2019 16:35
Hexachlorobutadiene		<1.20	ug/L	1	E8	1.20	10		12/05/2019 16:35

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090441**

Sample ID : AC033	Temperature : 11.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:59	pH : 5.22	Account Number : Stormwater
Approval Date : 12/11/2019 16:01		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
	Hexachlorocyclopentadiene	<3.07	ug/L	1	E8	3.07	10		12/05/2019 16:35
	Hexachloroethane	<1.35	ug/L	1	E8	1.35	10		12/05/2019 16:35
	Indeno(1,2,3-cd)pyrene	<1.07	ug/L	1	E8	1.07	10		12/05/2019 16:35
	Isophorone	<1.32	ug/L	1	E8	1.32	10		12/05/2019 16:35
	Naphthalene	<1.48	ug/L	1	E8	1.48	10		12/05/2019 16:35
	Nitrobenzene	<1.55	ug/L	1	E8	1.55	10		12/05/2019 16:35
	N-Nitrosodimethylamine	<1.67	ug/L	1	E8	1.67	10		12/05/2019 16:35
	N-Nitrosodi-n-propylamine	<1.65	ug/L	1	E8	1.65	10		12/05/2019 16:35
	N-Nitrosodiphenylamine	<1.07	ug/L	1	E8	1.07	10		12/05/2019 16:35
	Phenanthrene	<1.33	ug/L	1	E8	1.33	10		12/05/2019 16:35
	Pyrene	<1.20	ug/L	1	E8	1.20	10.0		12/05/2019 16:35
	1,2,4-Trichlorobenzene	<1.34	ug/L	1	E8	1.34	10		12/05/2019 16:35
	2-Chlorophenol	<4.52	ug/L	1	E8	4.52	10		12/05/2019 16:35
	2,4-Dichlorophenol	<4.77	ug/L	1	E8	4.77	10		12/05/2019 16:35
	2,4-Dimethylphenol	<2.04	ug/L	1	E8;N1	2.04	10		12/05/2019 16:35
	2-Methyl-4,6-dinitrophenol	<3.36	ug/L	1	E8	3.36	10		12/05/2019 16:35
	2,4-Dinitrophenol	<3.41	ug/L	1	E8	3.41	10		12/05/2019 16:35
	2-Nitrophenol	<4.68	ug/L	1	E8	4.68	10		12/05/2019 16:35
	4-Nitrophenol	<3.52	ug/L	1	E8	3.52	10		12/05/2019 16:35
	4-Chloro-3-methylphenol	<4.76	ug/L	1	E8	4.76	10		12/05/2019 16:35
	Pentachlorophenol	<4.00	ug/L	1	E8	4.00	10		12/05/2019 16:35
	Phenol	<4.08	ug/L	1	E8	4.08	10		12/05/2019 16:35
	2,4,6-Trichlorophenol	<5.27	ug/L	1	E8	5.27	10		12/05/2019 16:35
	2,4,6-Tribromophenol	84	% Recovery	1					12/05/2019 16:35
	Dibromooctafluorobiphenyl	72	% Recovery	1					12/05/2019 16:35

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090441**

Sample ID : AC033	Temperature : 11.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:59	pH : 5.22	Account Number : Stormwater
Approval Date : 12/11/2019 16:01		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625						AM	
	4,4-Dibromobiphenyl	70 % Recovery	1					12/05/2019 16:35

625-STORM Case Narrative: Batch QC did not meet laboratory acceptance criteria in the 2019090456 LFM/LFMD for 3,3-Dichlorobenzidine (0%/0%); control limits: 1-262%, n-Nitrosodimethylamine (54%/50%); control limits: 57-92% and n-Nitrosodiphenylamine (36%/34%); control limits: 49-118%. The LFMD RPD could not be calculated for 3,3-Dichlorobenzidine due to the results being zero. The closing CCV did not meet laboratory acceptance criteria for 2,4-Dimethylphenol (78%); Control Limits: 80-120%. Closing QC is not a 625 EPA method requirement.

Extraction - 625	EPA 625	COMPLETE	AA	12/03/2019 00:00
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Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090442**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:59	Account Number : Stormwater
Approval Date : 12/17/2019 10:33	Temperature : 11.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 5.22
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Silver - Total Recoverable	EPA 200.8	0.0011	mg/L	5	D1;E4;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Total Recoverable Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).									
Arsenic - Total Recoverable	EPA 200.8	0.0013	mg/L	5	D1;E4	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Total Recoverable	EPA 200.8	0.039	mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Total Recoverable	EPA 200.8	<0.00015	mg/L	5	D1;E8	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Total Recoverable	EPA 200.8	<0.00025	mg/L	5	D1;E8	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable	EPA 200.8	0.0042	mg/L	5	D1;E4;B1	0.00045	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable Case Narrative: Batch LRB Cr level is 0.00066 mg/L (accept. range is < 0.00045).									
Copper - Total Recoverable	EPA 200.8	0.0136	mg/L	5	D1;B7	0.0005	0.0050	TS	12/13/2019 00:00
Copper - Total Recoverable Case Narrative: Batch LRB Cu level is 0.00050 mg/L (accept. range is < 0.00049).									
Nickel - Total Recoverable	EPA 200.8	0.0036	mg/L	5	D1;E4	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Total Recoverable	EPA 200.8	0.0072	mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Total Recoverable	EPA 200.8	0.00085	mg/L	5	D1;E4	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Total Recoverable	EPA 200.8	<0.00055	mg/L	5	D1;E8	0.00055	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090442**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 03:59	Account Number : Stormwater
Approval Date : 12/17/2019 10:33	Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.4-2.5
Temperature : 11.2 Deg. C	
pH : 5.22	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Thallium - Total Recoverable	EPA 200.8	0.00024	mg/L	5	D1;E4	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Total Recoverable	EPA 200.8	0.0684	mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F §	COMPLETE						SS	12/06/2019 15:37
Mercury - Total	EPA 245.1	<0.000042	mg/L	1	D1;E8	0.000042	0.0002	SS	12/05/2019 12:28
pH<2Verification	pH <2 Verification	COMPLETE						SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090443**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:59	Account Number : Stormwater
Approval Date : 12/23/2019 14:58	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.4-2.5
Temperature : 11.2 Deg. C	
pH : 5.22	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Filtration Prep Dissolved Metals	SM22 3030 B	NOT RUN					SS	12/03/2019 11:38
Filtration Prep Dissolved Metals Case Narrative: COC states field filtered.								
Hardness - Total	SM22 2340 B						GA	
Hardness - Total		<16.6 mg/L	1		0.79	16.6		12/13/2019 14:40
Calcium Hardness		<12.5 mg/L	1		0.61	12.5		12/13/2019 14:40
Calcium - Total Recoverable	EPA 200.7	4.90 mg/L	1	E4	0.244	5.00	GA	12/13/2019 14:40
Magnesium - Total Recoverable	EPA 200.7	0.51 mg/L	1	E4	0.043	1.00	GA	12/13/2019 14:40
Silver - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Dissolved Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).								
Arsenic - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Dissolved	EPA 200.8	0.006 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00045	0.0050	TS	12/13/2019 00:00
Copper - Dissolved	EPA 200.8	0.0061 mg/L	5	D1	0.0005	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090443**

Sample ID : AC033	Temperature : 11.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:59	pH : 5.22	Account Number : Stormwater
Approval Date : 12/23/2019 14:58		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Nickel - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00055	0.0050	TS	12/13/2019 00:00
Thallium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Dissolved	EPA 200.8	<0.050 mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F ☒	COMPLETE					SS	12/06/2019 15:37
Mercury - Diss	EPA 245.1	<0.0002 mg/L	1	D1	0.000042	0.0002	SS	12/05/2019 12:31
pH<2Verification	pH <2 Verification	COMPLETE					SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090444**

Sample ID : AC033	Temperature : 11.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:59	pH : 5.22	Account Number : Stormwater
Approval Date : 12/13/2019 13:16		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Ammonia	EPA 350.1	0.38 mg/L	1	N1	0.13	0.20	LG	12/03/2019 11:37
Ammonia Case Narrative: Batch LFM(LIMS # 2019084654) %R=119% (Acceptance Range =90-110)								
Total Kjeldahl Nitrogen	EPA 351.2	0.82 mg/L	1		0.21	0.25	LG	12/05/2019 13:26

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090445**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:59	Account Number : Stormwater
Approval Date : 12/13/2019 13:08	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.4-2.5
Temperature : 11.2 Deg. C	
pH : 5.22	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
BOD, 5 Day	SM22 5210 B BOD, 5 Day Case Narrative: DW= 0.30mg/l. CL <= 0.20mg/l.	<17 mg/L	1	K5;K1	17	17	BM	11/30/2019 10:34
COD	HACH-8000	51 mg/L	1		11.69	50	CA	12/02/2019 09:17
Suspended Solids	SM22 2540 D	67.0 mg/L	10		25	25	LM	12/02/2019 11:01
Total Dissolved Solids	SM22 2540 C	40 mg/L	1		10	10	CA	12/05/2019 13:11

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090446**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:59	Account Number : Stormwater
Approval Date : 12/18/2019 10:45	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
O-Phosphate-P	EPA 300.0	<0.1 mg/L	1		0.0027	0.1	CG	11/30/2019 12:32
Nitrate-N	EPA 300.0	0.4 mg/L	1		0.0012	0.1	CG	11/30/2019 12:32
Nitrite-N	EPA 300.0	<0.1 mg/L	1		0.0003	0.1	CG	11/30/2019 12:32

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
200 W. Washington
Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090447**

Sample ID	: AC033	Project Link Code	: Stormwater
Sampling Date/Time	: 11/29/2019 03:59	Account Number	: Stormwater
Approval Date	: 12/12/2019 11:55	Sampled by	: Kenneth Fossum
Received Date/Time	: 12/02/2019 07:40	Delivered	: Kenneth Fossum
Sample Type	: COMPOS	Receipt Temperature (°C)	: 2.4-2.5
Temperature	: 11.2 Deg. C		
pH	: 5.22		

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Phosphorus - Total	SM 4500 P E	0.23	mg/L				0.10	TAM	12/06/2019 14:08

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090448**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 06:55	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Temperature : 11.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 5.22
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 01:42
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/04/2019 01:42
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 01:42
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 01:42
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 01:42
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 01:42
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		12/04/2019 01:42
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 01:42
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 01:42
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 01:42
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/04/2019 01:42
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 01:42
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/04/2019 01:42
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 01:42
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 01:42
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/04/2019 01:42
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 01:42
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 01:42
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 01:42
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/04/2019 01:42
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 01:42
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 01:42
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 01:42
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 01:42
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/04/2019 01:42

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090448**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 06:55	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 2.4-2.5
Temperature : 11.2 Deg. C	
pH : 5.22	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/04/2019 01:42
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/04/2019 01:42
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 01:42
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/04/2019 01:42
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/04/2019 01:42
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 01:42
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/04/2019 01:42
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/04/2019 01:42
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/04/2019 01:42
	4-Bromofluorobenzene (Surrogate)	97	% Recovery	1					12/04/2019 01:42
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 01:42
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 01:42
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/04/2019 01:42
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/04/2019 01:42
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/04/2019 01:42
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/04/2019 01:42
	4-Bromofluorobenzene (Surrogate)	97	% Recovery	1					12/04/2019 01:42

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090449**

Sample ID : AC033	Temperature : 11.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 06:55	pH : 5.22	Account Number : Stormwater
Approval Date : 01/03/2020 13:26		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein		EPA 624 ☐ TH							
	Acrolein	<0.55	ug/L	1	N1;E8	0.55	1.0		11/30/2019 01:29
	Acrylonitrile	<0.57	ug/L	1	N1;E8	0.57	1.0		11/30/2019 01:29
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					11/30/2019 01:29
	Fluorobenzene (Surrogate2)	99	% Recovery	1					11/30/2019 01:29
	4-Bromofluorobenzene (Surrogate)	98	% Recovery	1					11/30/2019 01:29

GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%

GC/MS-Method 624-for 2-		EPA 624 ☐ TH							
	2-Chloroethyl vinyl ether	<0.52	ug/L	1	E8	0.52	1.0		11/30/2019 01:29
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					11/30/2019 01:29
	Fluorobenzene (Surrogate2)	99	% Recovery	1					11/30/2019 01:29
	4-Bromofluorobenzene (Surrogate)	98	% Recovery	1					11/30/2019 01:29

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090450**

Sample ID : AC033	Temperature : 11.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 06:55	pH : 5.22	Account Number : Stormwater
Approval Date : 12/03/2019 10:58		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Coliform - E. Coli	SM22 9223 B							GM	
Total Coliform		198630	MPN/100mL	100		100	100		11/29/2019 11:49
E. coli		2590	MPN/100mL	100		100	100		11/29/2019 11:49

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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City of Phoenix
Water Services Laboratory
ADHS Lic. # AZ0088
2474 S. 22nd Ave
(602) 534-2960



Results Report



Submitter: Water Services Department
200 W. Washington
Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090451**

Sample ID	: AC033	Project Link Code	: Stormwater
Sampling Date/Time	: 11/29/2019 06:55	Account Number	: Stormwater
Approval Date	: 12/13/2019 11:35	Sampled by	: Kenneth Fossum
Received Date/Time	: 12/02/2019 07:40	Delivered	: Kenneth Fossum
Sample Type	: GRAB	Receipt Temperature (°C)	: 2.4-2.5
Temperature	: 11.2 Deg. C		
pH	: 5.22		

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Cyanide	EPA 335.4	<0.005 mg/L	1	N1	0.0019	0.005	CA	12/04/2019 12:31
Cyanide Case Narrative: Batch LFM (LIMS # 2019089807) %R=85% (Acceptance Range =90-110). Batch RPD (LIMS # 2019089807) =10.2 (Acceptance Range = </=10%)								

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090452**

Sample ID : AC033	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 06:55	Temperature : 11.2 Deg. C
Approval Date : 12/12/2019 11:55	pH : 5.22
Received Date/Time : 12/02/2019 07:40	Account Number : Stormwater
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 1664 With Silica Gel	EPA 1664B							TAM	
	Hexane Extractable Material	<6.5	mg/L	1			6.5		12/09/2019 10:40
	Hexane Extractable Material - Silica Gel	<6.5	mg/L	1			6.5		12/09/2019 10:40

EPA 1664 With Silica Gel Treatment Case Narrative: Methods 1664A, 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation/analysis: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6), 2019090422 (550-134112-8) and 2019090452 (550-134112-10). Method 1664A/B.

Method 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6) and 2019090452 (550-134112-10). Since the HEM results was below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All quality control criteria were met. Method 1664B

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090453**

Sample ID : AC033 Trip Blank
 Sampling Date/Time: 11/29/2019 06:55
 Approval Date : 12/19/2019 15:53
 Received Date/Time: 12/02/2019 07:40
 Sample Type : TIME

Temperature : 11.2 Deg. C
 pH : 5.22

Project Link Code : Stormwater
 Account Number : Stormwater
 Sampled by : Kenneth Fossum
 Delivered : Kenneth Fossum
 Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 02:12
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/04/2019 02:12
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 02:12
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 02:12
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 02:12
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 02:12
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		12/04/2019 02:12
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 02:12
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 02:12
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 02:12
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/04/2019 02:12
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 02:12
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/04/2019 02:12
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 02:12
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 02:12
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/04/2019 02:12
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 02:12
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 02:12
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 02:12
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/04/2019 02:12
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 02:12
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 02:12
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 02:12
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 02:12
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/04/2019 02:12

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090453**

Sample ID : AC033 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 06:55	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : TIME	Receipt Temperature (°C) : 2.4-2.5
Temperature : 11.2 Deg. C	
pH : 5.22	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/04/2019 02:12
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/04/2019 02:12
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 02:12
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/04/2019 02:12
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/04/2019 02:12
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 02:12
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/04/2019 02:12
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					12/04/2019 02:12
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/04/2019 02:12
	4-Bromofluorobenzene (Surrogate)	98	% Recovery	1					12/04/2019 02:12
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 02:12
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 02:12
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/04/2019 02:12
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/04/2019 02:12
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					12/04/2019 02:12
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/04/2019 02:12
	4-Bromofluorobenzene (Surrogate)	98	% Recovery	1					12/04/2019 02:12

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090454**

Sample ID : AC033 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 06:55	Account Number : Stormwater
Approval Date : 01/03/2020 13:26	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : TIME	Receipt Temperature (°C) : 2.4-2.5

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ☒						TH	
Acrolein		<0.55 ug/L	1	N1;E8	0.55	1.0		11/30/2019 01:52
Acrylonitrile		<0.57 ug/L	1	N1;E8	0.57	1.0		11/30/2019 01:52
Pentafluorobenzene (Surrogate1)		100 % Recovery	1					11/30/2019 01:52
Fluorobenzene (Surrogate2)		100 % Recovery	1					11/30/2019 01:52
4-Bromofluorobenzene (Surrogate)		99 % Recovery	1					11/30/2019 01:52

GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for 2-	EPA 624 ☒						TH	
2-Chloroethyl vinyl ether		<0.52 ug/L	1	E8	0.52	1.0		11/30/2019 01:52
Pentafluorobenzene (Surrogate1)		100 % Recovery	1					11/30/2019 01:52
Fluorobenzene (Surrogate2)		100 % Recovery	1					11/30/2019 01:52
4-Bromofluorobenzene (Surrogate)		99 % Recovery	1					11/30/2019 01:52

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Sample # 2019090455 Sample ID 2019090455



City of Phoenix, Water Services
Environmental Services Division
Chain of Custody Report



Project ID: **STORMWATER**

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
	Stormwater	SC046 TAM	608-STORM	1	11/29/19	0352	ICE
	Stormwater	SC046	625-STORM	1	11/29/19		ICE
	Stormwater	SC046	TOTAL METALS STORMWATER	1			HNO3
	Stormwater	SC046	METALS DISSOLVED STORMWATER	1			HNO3/FIELD FILTERED
	Stormwater	SC046	NH3-WC and TKN-WC	1			H2SO4
	Stormwater	SC046	Group A with TDS	1			ICE
	Stormwater	SC046	IC300 Nitrate, Nitrite, Orthophosphate	1			ICE
	Stormwater	SC046 TAM	TOTAL PHOSPHOROUS	1			H2SO4

COMPOSITE SAMPLES

- Sample # Sample ID
 2019090455 - SC046
 2019090456 - SC046
~~2019090457 - SC046~~
~~2019090458 - SC046~~
 2019090459 - SC046
 2019090460 - SC046
~~2019090461 - SC046~~
 2019090462 - SC046

2 extra 12 amber glass bottles received for 608 & 625 w/ no identification written on the bottles. Samples collected @ SC046 per Ken. Fax 12/2/19

Sampler Print & Sign/Refrindished By	Date	Time	Received By	Condition (Lab Use Only)
KENNETH FOSGUM FRIDGE	11/29/19	0740	FRIDGE	B
	DEC 09 2019			

TIME: 0740
TEMP °C: 2.6

Sample # Sample ID
 2019090463

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report

Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
	Stormwater	SC046	8260B-Storm 624-Storm	6	11/29/19	05:30	HCL
	Stormwater	SC046	624 ACAC 624 CEVE	6			ICE
* 2019090465	Stormwater	SC046	COLILERT - MPN	1			NaSO4
	Stormwater	SC046	CYANIDE	1			NaOH
	Stormwater	SC046 TAM	1664 HEMSGT	3			H2SO4
	Stormwater	SC046 Trip Blank	8260B-Storm 624-Storm	2			HCL
	Stormwater	SC046 Trip Blank	624 ACAC 624 CEVE	2			ICE

GRAB SAMPLES

pH 5.70 Air Temp 7.5 Water Temp 10.8 Specific Conductance 32.3

Barometric Pressure 707 Dissolved Oxygen 10.40

* 90465 - Temp = 0.4°C From Frig @ 10:45 11-29-19 gm

~~2019090464 - SC046~~

Sample # Sample ID
 2019090465 - SC046
 2019090466 - SC046
 2019090467 - SC046

~~2019090468 - SC046 Trip Blank~~
~~2019090469 - SC046 Trip Blank~~

Sampler Print & Sign/Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
KENNETH FOSSUM FRIDGE	11/29/19	10:45	FRIDGE	FB
	DEC 03 2019			

TIME: 0740
 TEMP °C: 2.4 - 1.3



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090455**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:52	Account Number : Stormwater
Approval Date : 12/11/2019 14:24	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.6
Temperature : 10.8 Deg. C	
pH : 5.70	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3							TAM	
	Aldrin	<0.045	ug/L	1	E8	0.045	.052		12/04/2019 19:23
	alpha-BHC	<0.033	ug/L	1	E8	0.033	.052		12/04/2019 19:23
	beta-BHC	<0.041	ug/L	1	E8	0.041	.052		12/04/2019 19:23
	gamma-BHC	<0.034	ug/L	1	E8	0.034	.052		12/04/2019 19:23
	delta-BHC	<0.041	ug/L	1	E8	0.041	.052		12/04/2019 19:23
	Chlordane	<0.17	ug/L	1	E8	0.17	.52		12/04/2019 19:23
	4,4'-DDT	<0.032	ug/L	1	E8	0.032	.052		12/04/2019 19:23
	4,4'-DDE	<0.043	ug/L	1	E8	0.043	.052		12/04/2019 19:23
	4,4'-DDD	<0.039	ug/L	1	E8	0.039	.052		12/04/2019 19:23
	Dieldrin	<0.031	ug/L	1	E8	0.031	.052		12/04/2019 19:23
	Endosulfan I	<0.033	ug/L	1	E8;R6	0.033	.052		12/04/2019 19:23
	Endosulfan II	<0.035	ug/L	1	E8	0.035	.052		12/04/2019 19:23
	Endosulfan Sulfate	<0.035	ug/L	1	E8	0.035	.052		12/04/2019 19:23
	Endrin	<0.033	ug/L	1	E8	0.033	.052		12/04/2019 19:23
	Endrin Aldehyde	<0.090	ug/L	1	E8	0.090	0.10		12/04/2019 19:23
	Heptachlor	<0.069	ug/L	1	E8	0.069	0.10		12/04/2019 19:23
	Heptachlor Epoxide	<0.035	ug/L	1	E8;R6	0.035	.052		12/04/2019 19:23
	Arochlor-1242	<0.26	ug/L	1	E8	0.26	1		12/04/2019 17:57
	Arochlor-1254	<0.25	ug/L	1	E8	0.25	1		12/04/2019 17:57
	Arochlor-1221	<0.25	ug/L	1	E8	0.25	1		12/04/2019 17:57
	Arochlor-1232	<0.28	ug/L	1	E8	0.28	1		12/04/2019 17:57
	Arochlor-1248	<0.21	ug/L	1	E8	0.21	1		12/04/2019 17:57
	Arochlor-1260	<0.21	ug/L	1	E8	0.21	1		12/04/2019 17:57
	Arochlor-1016	<0.23	ug/L	1	E8	0.23	1		12/04/2019 17:57
	Toxaphene	<0.40	ug/L	1	E8	0.40	1		12/04/2019 19:23

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090455**

Sample ID : SC046	Temperature : 10.8 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:52	pH : 5.70	Account Number : Stormwater
Approval Date : 12/11/2019 14:24		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 2.6

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3						TAM	
	Decachlorobiphenyl	69 % Recovery	1					12/04/2019 19:23
	Tetrachloro-m-xylene (Surr)	94 % Recovery	1					12/04/2019 19:23
	Total Endosulfan	<0.035 ug/L	1		0.035			12/04/2019 19:23

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090456**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:52	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.6
Temperature : 10.8 Deg. C	
pH : 5.70	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
Acenaphthene		<1.19	ug/L	1	E8	1.19	10		12/05/2019 16:59
Acenaphthylene		<1.41	ug/L	1	E8	1.41	10		12/05/2019 16:59
Anthracene		<1.20	ug/L	1	E8	1.20	10		12/05/2019 16:59
Benzo(a)anthracene		<1.02	ug/L	1	E8	1.02	10		12/05/2019 16:59
Benzo(a)pyrene		3.6	ug/L	1	E4	1.08	10		12/05/2019 16:59
Benzo(b)fluoranthene		<0.38	ug/L	1	E8	0.38	10		12/05/2019 16:59
Benzo(ghi)perylene		<1.14	ug/L	1	E8	1.14	10		12/05/2019 16:59
Benzo(k)fluoranthene		<1.03	ug/L	1	E8	1.03	10		12/05/2019 16:59
Chrysene		<1.16	ug/L	1	E8	1.16	10		12/05/2019 16:59
Dibenzo(a,h)anthracene		<1.02	ug/L	1	E8	1.02	10		12/05/2019 16:59
1,2-Dichlorobenzene		<1.43	ug/L	1	E8	1.43	10		12/05/2019 16:59
1,3-Dichlorobenzene		<1.39	ug/L	1	E8	1.39	10		12/05/2019 16:59
1,4-Dichlorobenzene		<1.48	ug/L	1	E8	1.48	10		12/05/2019 16:59
3,3'-Dichlorobenzidine		<6.99	ug/L	1	E8;M2;N1	6.99	50		12/05/2019 16:59
Diethyl phthalate		<1.08	ug/L	1	E8	1.08	10		12/05/2019 16:59
Dimethyl phthalate		<1.17	ug/L	1	E8	1.17	20		12/05/2019 16:59
Di-n-butyl phthalate		<1.12	ug/L	1	E8	1.12	10		12/05/2019 16:59
2,4-Dinitrotoluene		<1.17	ug/L	1	E8	1.17	10		12/05/2019 16:59
2,6-Dinitrotoluene		<1.13	ug/L	1	E8	1.13	10		12/05/2019 16:59
Di-n-octyl phthalate		<2.05	ug/L	1	E8	2.05	10		12/05/2019 16:59
1,2-Diphenyl hydrazine (as azobenzene)		<1.11	ug/L	1	E8	1.11	10		12/05/2019 16:59
Fluoranthene		<1.27	ug/L	1	E8	1.27	10		12/05/2019 16:59
Fluorene		<1.18	ug/L	1	E8	1.18	10		12/05/2019 16:59
Hexachlorobenzene		<1.01	ug/L	1	E8	1.01	10		12/05/2019 16:59
Hexachlorobutadiene		<1.20	ug/L	1	E8	1.20	10		12/05/2019 16:59

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090456**

Sample ID : SC046	Temperature : 10.8 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:52	pH : 5.70	Account Number : Stormwater
Approval Date : 12/11/2019 16:01		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 2.6

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625						AM	
	Hexachlorocyclopentadiene	<3.07 ug/L	1	E8	3.07	10		12/05/2019 16:59
	Hexachloroethane	<1.35 ug/L	1	E8	1.35	10		12/05/2019 16:59
	Indeno(1,2,3-cd)pyrene	4.6 ug/L	1	E4	1.07	10		12/05/2019 16:59
	Isophorone	<1.32 ug/L	1	E8	1.32	10		12/05/2019 16:59
	Naphthalene	<1.48 ug/L	1	E8	1.48	10		12/05/2019 16:59
	Nitrobenzene	<1.55 ug/L	1	E8	1.55	10		12/05/2019 16:59
	N-Nitrosodimethylamine	<1.67 ug/L	1	E8;M2	1.67	10		12/05/2019 16:59
	N-Nitrosodi-n-propylamine	<1.65 ug/L	1	E8	1.65	10		12/05/2019 16:59
	N-Nitrosodiphenylamine	<1.07 ug/L	1	E8;M2	1.07	10		12/05/2019 16:59
	Phenanthrene	<1.33 ug/L	1	E8	1.33	10		12/05/2019 16:59
	Pyrene	<1.20 ug/L	1	E8	1.20	10.0		12/05/2019 16:59
	1,2,4-Trichlorobenzene	<1.34 ug/L	1	E8	1.34	10		12/05/2019 16:59
	2-Chlorophenol	<4.52 ug/L	1	E8	4.52	10		12/05/2019 16:59
	2,4-Dichlorophenol	<4.77 ug/L	1	E8	4.77	10		12/05/2019 16:59
	2,4-Dimethylphenol	<2.04 ug/L	1	E8;N1	2.04	10		12/05/2019 16:59
	2-Methyl-4,6-dinitrophenol	<3.36 ug/L	1	E8	3.36	10		12/05/2019 16:59
	2,4-Dinitrophenol	<3.41 ug/L	1	E8	3.41	10		12/05/2019 16:59
	2-Nitrophenol	<4.68 ug/L	1	E8	4.68	10		12/05/2019 16:59
	4-Nitrophenol	<3.52 ug/L	1	E8	3.52	10		12/05/2019 16:59
	4-Chloro-3-methylphenol	<4.76 ug/L	1	E8	4.76	10		12/05/2019 16:59
	Pentachlorophenol	<4.00 ug/L	1	E8	4.00	10		12/05/2019 16:59
	Phenol	<4.08 ug/L	1	E8	4.08	10		12/05/2019 16:59
	2,4,6-Trichlorophenol	<5.27 ug/L	1	E8	5.27	10		12/05/2019 16:59
	2,4,6-Tribromophenol	91 % Recovery	1					12/05/2019 16:59
	Dibromooctafluorobiphenyl	61 % Recovery	1					12/05/2019 16:59

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090456**

Sample ID : SC046	Temperature : 10.8 Deg. C	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 03:52	pH : 5.70	Account Number : Stormwater
Approval Date : 12/11/2019 16:01		Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 2.6

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625						AM	
	4,4-Dibromobiphenyl	62 % Recovery	1					12/05/2019 16:59

625-STORM Case Narrative: Batch QC did not meet laboratory acceptance criteria in the 2019090456 LFM/LFMD for 3,3-Dichlorobenzidine (0%/0%); control limits: 1-262%, n-Nitrosodimethylamine (54%/50%); control limits: 57-92% and n-Nitrosodiphenylamine (36%/34%); control limits: 49-118%. The LFMD RPD could not be calculated for 3,3-Dichlorobenzidine due to the results being zero. The closing CCV did not meet laboratory acceptance criteria for 2,4-Dimethylphenol (78%); Control Limits: 80-120%. Closing QC is not a 625 EPA method requirement.

Extraction - 625	EPA 625	COMPLETE	AA	12/03/2019 00:00
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Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090457**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:52	Account Number : Stormwater
Approval Date : 12/17/2019 10:33	Temperature : 10.8 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 5.70
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 2.6

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Silver - Total Recoverable	EPA 200.8	0.0008 mg/L	5	D1;E4;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Total Recoverable Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).								
Arsenic - Total Recoverable	EPA 200.8	0.0029 mg/L	5	D1;E4	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Total Recoverable	EPA 200.8	0.094 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Total Recoverable	EPA 200.8	0.00038 mg/L	5	D1;E4	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Total Recoverable	EPA 200.8	<0.00025 mg/L	5	D1;E8	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable	EPA 200.8	0.0069 mg/L	5	D1;B7	0.00045	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable Case Narrative: Batch LRB Cr level is 0.00066 mg/L (accept. range is < 0.00045).								
Copper - Total Recoverable	EPA 200.8	0.0155 mg/L	5	D1;B7	0.0005	0.0050	TS	12/13/2019 00:00
Copper - Total Recoverable Case Narrative: Batch LRB Cu level is 0.00050 mg/L (accept. range is < 0.00049).								
Nickel - Total Recoverable	EPA 200.8	0.0066 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Total Recoverable	EPA 200.8	0.0220 mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Total Recoverable	EPA 200.8	0.00046 mg/L	5	D1;E4	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Total Recoverable	EPA 200.8	<0.00055 mg/L	5	D1;E8	0.00055	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
200 W. Washington
Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090457**

Sample ID : SC046	Temperature : 10.8 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:52	pH : 5.70	Account Number : Stormwater
Approval Date : 12/17/2019 10:33		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 2.6

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Thallium - Total Recoverable	EPA 200.8	<0.00015 mg/L	5	D1;E8	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Total Recoverable	EPA 200.8	0.0976 mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F §	COMPLETE					SS	12/06/2019 15:37
Mercury - Total	EPA 245.1	<0.000042 mg/L	1	D1;E8	0.000042	0.0002	SS	12/05/2019 12:33
pH<2Verification	pH <2 Verification	COMPLETE					SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090458**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:52	Account Number : Stormwater
Approval Date : 12/23/2019 14:58	Temperature : 10.8 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 5.70
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 2.6

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Filtration Prep Dissolved Metals	SM22 3030 B	NOT RUN						SS	12/03/2019 11:38
Filtration Prep Dissolved Metals Case Narrative: COC states field filtered.									
Hardness - Total	SM22 2340 B							GA	
Hardness - Total		<16.6	mg/L	1		0.79	16.6		12/13/2019 14:48
Calcium Hardness		<12.5	mg/L	1		0.61	12.5		12/13/2019 14:48
Calcium - Total Recoverable	EPA 200.7	4.40	mg/L	1	E4	0.244	5.00	GA	12/13/2019 14:48
Magnesium - Total Recoverable	EPA 200.7	0.42	mg/L	1	E4	0.043	1.00	GA	12/13/2019 14:48
Silver - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Dissolved Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).									
Arsenic - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Dissolved	EPA 200.8	0.005	mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00045	0.0050	TS	12/13/2019 00:00
Copper - Dissolved	EPA 200.8	0.0062	mg/L	5	D1	0.0005	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090458**

Sample ID : SC046	Temperature : 10.8 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:52	pH : 5.70	Account Number : Stormwater
Approval Date : 12/23/2019 14:58		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 2.6

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Nickel - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00055	0.0050	TS	12/13/2019 00:00
Thallium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Dissolved	EPA 200.8	<0.050 mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F ¶	COMPLETE					SS	12/06/2019 15:37
Mercury - Diss	EPA 245.1	<0.0002 mg/L	1	D1	0.000042	0.0002	SS	12/05/2019 12:35
pH<2Verification	pH <2 Verification	COMPLETE					SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
200 W. Washington
Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090459**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 03:52	Account Number : Stormwater
Approval Date : 12/13/2019 13:16	Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.6
Temperature : 10.8 Deg. C	
pH : 5.70	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Ammonia	EPA 350.1	0.28 mg/L	1	N1	0.13	0.20	LG	12/03/2019 11:37
Ammonia Case Narrative: Batch LFM(LIMS # 2019084654) %R=119% (Acceptance Range =90-110)								
Total Kjeldahl Nitrogen	EPA 351.2	1.2 mg/L	1		0.21	0.25	LG	12/05/2019 13:26

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090460**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:52	Account Number : Stormwater
Approval Date : 12/13/2019 13:08	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.6
Temperature : 10.8 Deg. C	
pH : 5.70	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
BOD, 5 Day	SM22 5210 B BOD, 5 Day Case Narrative: DW= 0.30mg/l. CL <= 0.20mg/l.	<17 mg/L	1	K5;K1	17	17	BM	11/30/2019 10:34
COD	HACH-8000	54 mg/L	1		11.69	50	CA	12/02/2019 09:17
Suspended Solids	SM22 2540 D	224 mg/L	10		25	25	LM	12/02/2019 11:01
Total Dissolved Solids	SM22 2540 C	30 mg/L	1		10	10	CA	12/05/2019 13:11

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090461**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:52	Account Number : Stormwater
Approval Date : 12/18/2019 10:45	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 2.6
Temperature : 10.8 Deg. C	
pH : 5.70	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
O-Phosphate-P	EPA 300.0	<0.1 mg/L	1		0.0027	0.1	CG	11/30/2019 12:57
Nitrate-N	EPA 300.0	0.2 mg/L	1		0.0012	0.1	CG	11/30/2019 12:57
Nitrite-N	EPA 300.0	<0.1 mg/L	1		0.0003	0.1	CG	11/30/2019 12:57

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090462**

Sample ID : SC046	Temperature : 10.8 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 03:52	pH : 5.70	Account Number : Stormwater
Approval Date : 12/12/2019 11:23		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 2.6

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Phosphorus - Total	SM 4500 P E	0.56 mg/L	1			0.10	TAM	12/06/2019 14:08

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090463**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 05:30	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 2.6

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 02:41
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/04/2019 02:41
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 02:41
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 02:41
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 02:41
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 02:41
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		12/04/2019 02:41
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 02:41
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 02:41
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 02:41
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/04/2019 02:41
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 02:41
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/04/2019 02:41
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 02:41
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 02:41
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/04/2019 02:41
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 02:41
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 02:41
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 02:41
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/04/2019 02:41
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 02:41
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 02:41
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 02:41
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 02:41
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/04/2019 02:41

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090463**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time : 11/29/2019 05:30	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time : 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : GRAB	Receipt Temperature (°C) : 2.6
Temperature : 10.8 Deg. C	
pH : 5.70	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/04/2019 02:41
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/04/2019 02:41
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 02:41
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/04/2019 02:41
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/04/2019 02:41
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 02:41
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/04/2019 02:41
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/04/2019 02:41
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/04/2019 02:41
	4-Bromofluorobenzene (Surrogate)	98	% Recovery	1					12/04/2019 02:41
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 02:41
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 02:41
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/04/2019 02:41
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/04/2019 02:41
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/04/2019 02:41
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/04/2019 02:41
	4-Bromofluorobenzene (Surrogate)	98	% Recovery	1					12/04/2019 02:41

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090464**

Sample ID : SC046	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:30	Account Number : Stormwater
Approval Date : 01/03/2020 13:26	Temperature : 10.8 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 5.70
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 2.6

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 α							TH	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		11/30/2019 02:15
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		11/30/2019 02:15
Pentafluorobenzene (Surrogate1)		99	% Recovery	1					11/30/2019 02:15
Fluorobenzene (Surrogate2)		98	% Recovery	1					11/30/2019 02:15
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					11/30/2019 02:15
GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%									
GC/MS-Method 624-for 2-	EPA 624 α							TH	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		11/30/2019 02:15
Pentafluorobenzene (Surrogate1)		99	% Recovery	1					11/30/2019 02:15
Fluorobenzene (Surrogate2)		98	% Recovery	1					11/30/2019 02:15
4-Bromofluorobenzene (Surrogate)		99	% Recovery	1					11/30/2019 02:15

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090465**

Sample ID : SC046	Temperature : 10.8 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:30	pH : 5.70	Account Number : Stormwater
Approval Date : 12/03/2019 10:58		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 2.6

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Coliform - E. Coli	SM22 9223 B							GM	
	Total Coliform	98040	MPN/100mL	100		100	100		11/29/2019 11:49
	E. coli	410	MPN/100mL	100		100	100		11/29/2019 11:49

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090466**

Sample ID : SC046	Temperature : 10.8 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:30	pH : 5.70	Account Number : Stormwater
Approval Date : 12/13/2019 11:35		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 2.6

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Cyanide	EPA 335.4	<0.005 mg/L	1	N1	0.0019	0.005	CA	12/04/2019 12:31

Cyanide Case Narrative: Batch LFM (LIMS # 2019089807) %R=85% (Acceptance Range =90-110). Batch RPD (LIMS # 2019089807) =10.2 (Acceptance Range = $\leq 10\%$)

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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 Water Services Laboratory
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 2474 S. 22nd Ave
 (602) 534-2960



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090467**

Sample ID	: SC046	Project Link Code	: Stormwater
Sampling Date/Time	: 11/29/2019 05:30	Account Number	: Stormwater
Approval Date	: 12/12/2019 11:23	Sampled by	: Kenneth Fossum
Received Date/Time	: 12/02/2019 07:40	Delivered	: Kenneth Fossum
Sample Type	: GRAB	Receipt Temperature (°C)	: 2.6
Temperature	: 10.8 Deg. C		
pH	: 5.70		

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 1664 With Silica Gel	EPA 1664B							TAM	
Hexane Extractable Material		<5.8	mg/L	1			5.8		12/09/2019 10:40
Hexane Extractable Material - Silica Gel		<5.8	mg/L	1			5.8		12/09/2019 10:40

EPA 1664 With Silica Gel Treatment Case Narrative: Methods 1664A, 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation/analysis: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6), 2019090422 (550-134112-8) and 2019090452 (550-134112-10). Method 1664A/B.

Method 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6) and 2019090452 (550-134112-10). Since the HEM results was below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All quality control criteria were met. Method 1664B

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090468**

Sample ID : SC046 Trip Blank
 Sampling Date/Time: 11/29/2019 05:30
 Approval Date : 12/19/2019 15:53
 Received Date/Time: 12/02/2019 07:40
 Sample Type : TIME

Temperature : 10.8 Deg. C
 pH : 5.70

Project Link Code : Stormwater
 Account Number : Stormwater
 Sampled by : Kenneth Fossum
 Delivered : Kenneth Fossum
 Receipt Temperature (°C) : 2.6

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 03:11
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/04/2019 03:11
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 03:11
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 03:11
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 03:11
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 03:11
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		12/04/2019 03:11
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 03:11
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 03:11
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 03:11
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/04/2019 03:11
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 03:11
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/04/2019 03:11
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 03:11
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 03:11
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/04/2019 03:11
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 03:11
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 03:11
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 03:11
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/04/2019 03:11
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 03:11
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 03:11
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 03:11
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 03:11
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/04/2019 03:11

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090468**

Sample ID : SC046 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:30	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : TIME	Receipt Temperature (°C) : 2.6
Temperature : 10.8 Deg. C	
pH : 5.70	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/04/2019 03:11
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/04/2019 03:11
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 03:11
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/04/2019 03:11
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/04/2019 03:11
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 03:11
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/04/2019 03:11
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/04/2019 03:11
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/04/2019 03:11
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					12/04/2019 03:11
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 03:11
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 03:11
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/04/2019 03:11
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/04/2019 03:11
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/04/2019 03:11
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/04/2019 03:11
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					12/04/2019 03:11

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090469

Sample ID : SC046 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 05:30	Account Number : Stormwater
Approval Date : 01/03/2020 13:26	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : TIME	Receipt Temperature (°C) : 2.6
Temperature : 10.8 Deg. C	
pH : 5.70	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein		EPA 624 ☐							
								TH	
	Acrolein	<0.55	ug/L	1	N1;E8	0.55	1.0		11/30/2019 02:39
	Acrylonitrile	<0.57	ug/L	1	N1;E8	0.57	1.0		11/30/2019 02:39
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					11/30/2019 02:39
	Fluorobenzene (Surrogate2)	99	% Recovery	1					11/30/2019 02:39
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					11/30/2019 02:39

GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%

GC/MS-Method 624-for 2-		EPA 624 ☐							
								TH	
	2-Chloroethyl vinyl ether	<0.52	ug/L	1	E8	0.52	1.0		11/30/2019 02:39
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					11/30/2019 02:39
	Fluorobenzene (Surrogate2)	99	% Recovery	1					11/30/2019 02:39
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					11/30/2019 02:39

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Sample # 2019090470 Sample ID 2019090470

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report

Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
90470		Replicant <u>35TH TAM</u>	608-STORM	1 2	<u>11/29/19</u>	<u>6433</u>	ICE
90471		Replicant	625-STORM	1 2			ICE
90472		Replicant	TOTAL METALS STORMWATER	1			HNO3
90473		Replicant	METALS DISSOLVED STORMWATER	1			HNO3/FIELD FILTERED
90474		Replicant	NH3-WC and TKN-WC	1			H2SO4
90475		Replicant	Group A with TDS	1			ICE
90476		Replicant	IC300 Nitrate, Nitrite, Orthophosphate	1			ICE
90477		Replicant <u>TAM</u>	TOTAL PHOSPHOROUS	1			H2SO4

COMPOSITE SAMPLES

Sampler Print & Sign/Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
<u>KENNETH FOSSUM</u> <u>FRIDGE</u>	<u>DEC 02 2019</u>	<u>4:55</u>	<u>FRIDGE</u> <u>Chen</u>	<u>B</u>

TIME: 0740
 TEMP °C: 0.1-2.3

Sample # 2019090478 Sample ID 2019090478

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report

Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
90478	Stormwater	Replicant <u>35TH</u>	8260B-Storm 624-Storm	6	<u>11/29/19</u>	<u>0921</u>	HCL
90479	Stormwater	Replicant	624 ACAC 624 CEVE	6			ICE
* <u>2019090480</u>	Stormwater	Replicant	COLILERT - MPN	1			NaSO4
<u>90481</u>	Stormwater	Replicant	CYANIDE	1			NaOH
<u>90482</u>	Stormwater	Replicant <u>TAM</u>	1664 HEMSGT	3			H2SO4
90483	Stormwater	Replicant Trip Blank	8260B-Storm 624-Storm	2			HCL
90484	Stormwater	Replicant Trip Blank	624 ACAC 624 CEVE	2			ICE

GRAB SAMPLES

pH 7.15 Air Temp 9.0 Water Temp 12.2 Specific Conductance 80.6
 Barometric Pressure 729 Dissolved Oxygen 10.32
 * 90480 = Temp = 1.5°C @ 10:45 Frag From - on 11-29-19 "C"

Sampler Print & Sign/Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
<u>KENNETH FOSSUM</u> <u>FRIDGE</u>	<u>DEC 03 2019</u>	<u>10:45</u>	<u>FRIDGE</u>	<u>B</u>

TIME: 0740
 TEMP °C: 29.33
12/02/19



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090470

Sample ID : REPLICANT	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:33	Account Number : Stormwater
Approval Date : 12/11/2019 14:24	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.1-3.3
Temperature : 12.2 Deg. C	
pH : 7.15	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3						TAM	
Aldrin		<0.045 ug/L	1	E8	0.045	.052		12/04/2019 19:39
alpha-BHC		<0.033 ug/L	1	E8	0.033	.052		12/04/2019 19:39
beta-BHC		<0.041 ug/L	1	E8	0.041	.052		12/04/2019 19:39
gamma-BHC		<0.034 ug/L	1	E8	0.034	.052		12/04/2019 19:39
delta-BHC		<0.041 ug/L	1	E8	0.041	.052		12/04/2019 19:39
Chlordane		<0.17 ug/L	1	E8	0.17	.52		12/04/2019 19:39
4,4'-DDT		<0.032 ug/L	1	E8	0.032	.052		12/04/2019 19:39
4,4'-DDE		<0.043 ug/L	1	E8	0.043	.052		12/04/2019 19:39
4,4'-DDD		<0.039 ug/L	1	E8	0.039	.052		12/04/2019 19:39
Dieldrin		<0.031 ug/L	1	E8	0.031	.052		12/04/2019 19:39
Endosulfan I		<0.033 ug/L	1	E8;R6	0.033	.052		12/04/2019 19:39
Endosulfan II		<0.035 ug/L	1	E8	0.035	.052		12/04/2019 19:39
Endosulfan Sulfate		<0.035 ug/L	1	E8	0.035	.052		12/04/2019 19:39
Endrin		<0.033 ug/L	1	E8	0.033	.052		12/04/2019 19:39
Endrin Aldehyde		<0.090 ug/L	1	E8	0.090	0.10		12/04/2019 19:39
Heptachlor		<0.069 ug/L	1	E8	0.069	0.10		12/04/2019 19:39
Heptachlor Epoxide		<0.035 ug/L	1	E8;R6	0.035	.052		12/04/2019 19:39
Arochlor-1242		<0.26 ug/L	1	E8	0.26	1		12/04/2019 18:12
Arochlor-1254		<0.25 ug/L	1	E8	0.25	1		12/04/2019 18:12
Arochlor-1221		<0.25 ug/L	1	E8	0.25	1		12/04/2019 18:12
Arochlor-1232		<0.28 ug/L	1	E8	0.28	1		12/04/2019 18:12
Arochlor-1248		<0.21 ug/L	1	E8	0.21	1		12/04/2019 18:12
Arochlor-1260		<0.21 ug/L	1	E8	0.21	1		12/04/2019 18:12
Arochlor-1016		<0.23 ug/L	1	E8	0.23	1		12/04/2019 18:12
Toxaphene		<0.40 ug/L	1	E8	0.40	1		12/04/2019 19:39

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090470**

Sample ID : REPLICANT	Temperature : 12.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:33	pH : 7.15	Account Number : Stormwater
Approval Date : 12/11/2019 14:24		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 0.1-3.3

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3							TAM	
	Decachlorobiphenyl	40	% Recovery	1					12/04/2019 19:39
	Tetrachloro-m-xylene (Surr)	98	% Recovery	1					12/04/2019 19:39
	Total Endosulfan	<0.035	ug/L	1		0.035			12/04/2019 19:39

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019090471

Sample ID : REPLICANT	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:33	Account Number : Stormwater
Approval Date : 12/11/2019 16:01	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.1-3.3
Temperature : 12.2 Deg. C	
pH : 7.15	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
Acenaphthene		<1.19	ug/L	1	E8	1.19	10		12/05/2019 18:12
Acenaphthylene		<1.41	ug/L	1	E8	1.41	10		12/05/2019 18:12
Anthracene		<1.20	ug/L	1	E8	1.20	10		12/05/2019 18:12
Benzo(a)anthracene		<1.02	ug/L	1	E8	1.02	10		12/05/2019 18:12
Benzo(a)pyrene		<1.08	ug/L	1	E8	1.08	10		12/05/2019 18:12
Benzo(b)fluoranthene		<0.38	ug/L	1	E8	0.38	10		12/05/2019 18:12
Benzo(ghi)perylene		<1.14	ug/L	1	E8	1.14	10		12/05/2019 18:12
Benzo(k)fluoranthene		<1.03	ug/L	1	E8	1.03	10		12/05/2019 18:12
Chrysene		<1.16	ug/L	1	E8	1.16	10		12/05/2019 18:12
Dibenzo(a,h)anthracene		<1.02	ug/L	1	E8	1.02	10		12/05/2019 18:12
1,2-Dichlorobenzene		<1.43	ug/L	1	E8	1.43	10		12/05/2019 18:12
1,3-Dichlorobenzene		<1.39	ug/L	1	E8	1.39	10		12/05/2019 18:12
1,4-Dichlorobenzene		<1.48	ug/L	1	E8	1.48	10		12/05/2019 18:12
3,3'-Dichlorobenzidine		<6.99	ug/L	1	E8	6.99	50		12/05/2019 18:12
Diethyl phthalate		<1.08	ug/L	1	E8	1.08	10		12/05/2019 18:12
Dimethyl phthalate		<1.17	ug/L	1	E8	1.17	20		12/05/2019 18:12
Di-n-butyl phthalate		<1.12	ug/L	1	E8	1.12	10		12/05/2019 18:12
2,4-Dinitrotoluene		<1.17	ug/L	1	E8	1.17	10		12/05/2019 18:12
2,6-Dinitrotoluene		<1.13	ug/L	1	E8	1.13	10		12/05/2019 18:12
Di-n-octyl phthalate		<2.05	ug/L	1	E8	2.05	10		12/05/2019 18:12
1,2-Diphenyl hydrazine (as azobenzene)		<1.11	ug/L	1	E8	1.11	10		12/05/2019 18:12
Fluoranthene		<1.27	ug/L	1	E8	1.27	10		12/05/2019 18:12
Fluorene		<1.18	ug/L	1	E8	1.18	10		12/05/2019 18:12
Hexachlorobenzene		<1.01	ug/L	1	E8	1.01	10		12/05/2019 18:12
Hexachlorobutadiene		<1.20	ug/L	1	E8	1.20	10		12/05/2019 18:12

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090471**

Sample ID : REPLICANT	Temperature : 12.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:33	pH : 7.15	Account Number : Stormwater
Approval Date : 12/11/2019 16:01		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 0.1-3.3

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625						AM	
	Hexachlorocyclopentadiene	<3.07 ug/L	1	E8	3.07	10		12/05/2019 18:12
	Hexachloroethane	<1.35 ug/L	1	E8	1.35	10		12/05/2019 18:12
	Indeno(1,2,3-cd)pyrene	<1.07 ug/L	1	E8	1.07	10		12/05/2019 18:12
	Isophorone	<1.32 ug/L	1	E8	1.32	10		12/05/2019 18:12
	Naphthalene	<1.48 ug/L	1	E8	1.48	10		12/05/2019 18:12
	Nitrobenzene	<1.55 ug/L	1	E8	1.55	10		12/05/2019 18:12
	N-Nitrosodimethylamine	<1.67 ug/L	1	E8	1.67	10		12/05/2019 18:12
	N-Nitrosodi-n-propylamine	<1.65 ug/L	1	E8	1.65	10		12/05/2019 18:12
	N-Nitrosodiphenylamine	<1.07 ug/L	1	E8	1.07	10		12/05/2019 18:12
	Phenanthrene	<1.33 ug/L	1	E8	1.33	10		12/05/2019 18:12
	Pyrene	<1.20 ug/L	1	E8	1.20	10.0		12/05/2019 18:12
	1,2,4-Trichlorobenzene	<1.34 ug/L	1	E8	1.34	10		12/05/2019 18:12
	2-Chlorophenol	<4.52 ug/L	1	E8	4.52	10		12/05/2019 18:12
	2,4-Dichlorophenol	<4.77 ug/L	1	E8	4.77	10		12/05/2019 18:12
	2,4-Dimethylphenol	<2.04 ug/L	1	E8;N1	2.04	10		12/05/2019 18:12
	2-Methyl-4,6-dinitrophenol	<3.36 ug/L	1	E8	3.36	10		12/05/2019 18:12
	2,4-Dinitrophenol	<3.41 ug/L	1	E8	3.41	10		12/05/2019 18:12
	2-Nitrophenol	<4.68 ug/L	1	E8	4.68	10		12/05/2019 18:12
	4-Nitrophenol	<3.52 ug/L	1	E8	3.52	10		12/05/2019 18:12
	4-Chloro-3-methylphenol	<4.76 ug/L	1	E8	4.76	10		12/05/2019 18:12
	Pentachlorophenol	<4.00 ug/L	1	E8	4.00	10		12/05/2019 18:12
	Phenol	<4.08 ug/L	1	E8	4.08	10		12/05/2019 18:12
	2,4,6-Trichlorophenol	<5.27 ug/L	1	E8	5.27	10		12/05/2019 18:12
	2,4,6-Tribromophenol	80 % Recovery	1					12/05/2019 18:12
	Dibromooctafluorobiphenyl	42 % Recovery	1					12/05/2019 18:12

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090471**

Sample ID : REPLICANT	Temperature : 12.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:33	pH : 7.15	Account Number : Stormwater
Approval Date : 12/11/2019 16:01		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 0.1-3.3

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625	4,4-Dibromobiphenyl	50 % Recovery	1				AM	12/05/2019 18:12

625-STORM Case Narrative: Batch QC did not meet laboratory acceptance criteria in the 2019090456 LFM/LFMD for 3,3-Dichlorobenzidine (0%/0%); control limits: 1-262%, n-Nitrosodimethylamine (54%/50%); control limits: 57-92% and n-Nitrosodiphenylamine (36%/34%); control limits: 49-118%. The LFMD RPD could not be calculated for 3,3-Dichlorobenzidine due to the results being zero. The closing CCV did not meet laboratory acceptance criteria for 2,4-Dimethylphenol (78%); Control Limits: 80-120%. Closing QC is not a 625 EPA method requirement.

Extraction - 625	EPA 625	COMPLETE	AA	12/03/2019 00:00
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Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090472**

Sample ID : REPLICANT	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:33	Account Number : Stormwater
Approval Date : 12/17/2019 10:35	Temperature : 12.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 7.15
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.1-3.3

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Silver - Total Recoverable	EPA 200.8	0.0008	mg/L	5	D1;E4;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Total Recoverable Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).									
Arsenic - Total Recoverable	EPA 200.8	0.0023	mg/L	5	D1;E4	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Total Recoverable	EPA 200.8	0.053	mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Total Recoverable	EPA 200.8	0.00015	mg/L	5	D1;E4	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Total Recoverable	EPA 200.8	0.0003	mg/L	5	D1;E4	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable	EPA 200.8	0.0067	mg/L	5	D1;B7	0.00045	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable Case Narrative: Batch LRB Cr level is 0.00066 mg/L (accept. range is < 0.00045).									
Copper - Total Recoverable	EPA 200.8	0.0281	mg/L	5	D1;B7	0.0005	0.0050	TS	12/13/2019 00:00
Copper - Total Recoverable Case Narrative: Batch LRB Cu level is 0.00050 mg/L (accept. range is < 0.00049).									
Nickel - Total Recoverable	EPA 200.8	0.0071	mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Total Recoverable	EPA 200.8	0.0163	mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Total Recoverable	EPA 200.8	0.0012	mg/L	5	D1;E4	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Total Recoverable	EPA 200.8	<0.00055	mg/L	5	D1;E8	0.00055	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090472**

Sample ID : REPLICANT	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:33	Account Number : Stormwater
Approval Date : 12/17/2019 10:35	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.1-3.3
Temperature : 12.2 Deg. C	
pH : 7.15	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Thallium - Total Recoverable	EPA 200.8	<0.00015 mg/L	5	D1;E8	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Total Recoverable	EPA 200.8	0.121 mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F ‡	COMPLETE					SS	12/06/2019 15:37
Mercury - Total	EPA 245.1	<0.000042 mg/L	1	D1;E8	0.000042	0.0002	SS	12/05/2019 12:38
pH<2Verification	pH <2 Verification	COMPLETE					SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090473**

Sample ID : REPLICANT	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:33	Account Number : Stormwater
Approval Date : 12/23/2019 14:58	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.1-3.3
Temperature : 12.2 Deg. C	
pH : 7.15	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Filtration Prep Dissolved Metals	SM22 3030 B	NOT RUN						SS	12/03/2019 11:38
Filtration Prep Dissolved Metals Case Narrative: COC states field filtered.									
Hardness - Total	SM22 2340 B							GA	
Hardness - Total		20.8	mg/L	1		0.79	16.6		12/13/2019 14:55
Calcium Hardness		17.6	mg/L	1		0.61	12.5		12/13/2019 14:55
Calcium - Total Recoverable	EPA 200.7	7.03	mg/L	1		0.244	5.00	GA	12/13/2019 14:55
Magnesium - Total Recoverable	EPA 200.7	0.79	mg/L	1	E4	0.043	1.00	GA	12/13/2019 14:55
Silver - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Dissolved Case Narrative: Batch LRB Ag level is 0.0015 mg/L (accept. range is < 0.00013).									
Arsenic - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Dissolved	EPA 200.8	0.009	mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00045	0.0050	TS	12/13/2019 00:00
Copper - Dissolved	EPA 200.8	0.0067	mg/L	5	D1	0.0005	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090473**

Sample ID : REPLICANT	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:33	Account Number : Stormwater
Approval Date : 12/23/2019 14:58	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.1-3.3

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Nickel - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00055	0.0050	TS	12/13/2019 00:00
Thallium - Dissolved	EPA 200.8	<0.0050	mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Dissolved	EPA 200.8	<0.050	mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F ¶	COMPLETE						SS	12/06/2019 15:37
Mercury - Diss	EPA 245.1	<0.0002	mg/L	1	D1	0.000042	0.0002	SS	12/05/2019 12:40
pH<2Verification	pH <2 Verification	COMPLETE						SS	12/02/2019 12:30

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090474**

Sample ID : REPLICANT	Temperature : 12.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:33	pH : 7.15	Account Number : Stormwater
Approval Date : 12/13/2019 13:16		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : COMPOS		Receipt Temperature (°C) : 0.1-3.3

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Ammonia	EPA 350.1	0.38 mg/L	1	M1	0.13	0.20	LG	12/03/2019 11:37
Ammonia Case Narrative: LFM %R=128% (Acceptance Range =90-110)								
Total Kjeldahl Nitrogen	EPA 351.2	0.97 mg/L	1		0.21	0.25	LG	12/05/2019 13:26

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090475**

Sample ID : REPLICANT	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:33	Account Number : Stormwater
Approval Date : 12/13/2019 13:08	Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40	Delivered : Kenneth Fossum
Sample Type : COMPOS	Receipt Temperature (°C) : 0.1-3.3
Temperature : 12.2 Deg. C	
pH : 7.15	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
BOD, 5 Day	SM22 5210 B	10 mg/L	1	K5;K9	2	2	BM	11/30/2019 10:34
BOD, 5 Day Case Narrative: DW= 0.30mg/l. CL <= 0.20mg/l.								
COD	HACH-8000	65 mg/L	1		11.69	50	CA	12/02/2019 09:17
Suspended Solids	SM22 2540 D	80.0 mg/L	10		25	25	LM	12/02/2019 11:01
Total Dissolved Solids	SM22 2540 C	68 mg/L	1		10	10	CA	12/05/2019 13:11

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090476**

Sample ID : REPLICANT	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:33	Account Number : Stormwater
Approval Date : 12/18/2019 10:45	Temperature : 12.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 7.15
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.1-3.3

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
O-Phosphate-P	EPA 300.0	0.1	mg/L	1		0.0027	0.1	CG	11/30/2019 13:22
Nitrate-N	EPA 300.0	0.5	mg/L	1		0.0012	0.1	CG	11/30/2019 13:22
Nitrite-N	EPA 300.0	<0.1	mg/L	1		0.0003	0.1	CG	11/30/2019 13:22

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090477**

Sample ID : REPLICANT	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 04:33	Account Number : Stormwater
Approval Date : 12/12/2019 11:23	Temperature : 12.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 7.15
Sample Type : COMPOS	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.1-3.3

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Phosphorus - Total	SM 4500 P E	0.38 mg/L	1			0.10	TAM	12/06/2019 14:08

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090478**

Sample ID	: REPLICANT	Project Link Code	: Stormwater
Sampling Date/Time	: 11/29/2019 09:21	Account Number	: Stormwater
Approval Date	: 12/19/2019 15:53	Sampled by	: Kenneth Fossum
Received Date/Time	: 12/02/2019 07:40	Delivered	: Kenneth Fossum
Sample Type	: GRAB	Receipt Temperature (°C)	: 0.1-3.3
Temperature	: 12.2 Deg. C		
pH	: 7.15		

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 03:41
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/04/2019 03:41
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 03:41
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 03:41
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 03:41
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 03:41
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		12/04/2019 03:41
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 03:41
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 03:41
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 03:41
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/04/2019 03:41
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 03:41
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/04/2019 03:41
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 03:41
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 03:41
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/04/2019 03:41
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 03:41
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 03:41
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 03:41
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/04/2019 03:41
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 03:41
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 03:41
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 03:41
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 03:41
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/04/2019 03:41

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090478**

Sample ID : REPLICANT	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 09:21	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Temperature : 12.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 7.15
Sample Type : GRAB	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.1-3.3

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/04/2019 03:41
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/04/2019 03:41
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 03:41
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/04/2019 03:41
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/04/2019 03:41
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 03:41
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/04/2019 03:41
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/04/2019 03:41
	Fluorobenzene (Surrogate2)	100	% Recovery	1					12/04/2019 03:41
	4-Bromofluorobenzene (Surrogate)	98	% Recovery	1					12/04/2019 03:41
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 03:41
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 03:41
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/04/2019 03:41
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/04/2019 03:41
	Pentafluorobenzene (Surrogate1)	98	% Recovery	1					12/04/2019 03:41
	Fluorobenzene (Surrogate2)	100	% Recovery	1					12/04/2019 03:41
	4-Bromofluorobenzene (Surrogate)	98	% Recovery	1					12/04/2019 03:41

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090479**

Sample ID	: REPLICANT	Project Link Code	: Stormwater
Sampling Date/Time	: 11/29/2019 09:21	Account Number	: Stormwater
Approval Date	: 01/03/2020 13:26	Sampled by	: Kenneth Fossum
Received Date/Time	: 12/02/2019 07:40	Delivered	: Kenneth Fossum
Sample Type	: GRAB	Receipt Temperature (°C)	: 0.1-3.3
Temperature	: 12.2 Deg. C		
pH	: 7.15		

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
								TH	
GC/MS-Method 624-for Acrolein	EPA 624 ☐								
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		11/30/2019 03:02
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		11/30/2019 03:02
Pentafluorobenzene (Surrogate1)		98	% Recovery	1					11/30/2019 03:02
Fluorobenzene (Surrogate2)		99	% Recovery	1					11/30/2019 03:02
4-Bromofluorobenzene (Surrogate)		98	% Recovery	1					11/30/2019 03:02

GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
								TH	
GC/MS-Method 624-for 2-	EPA 624 ☐								
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		11/30/2019 03:02
Pentafluorobenzene (Surrogate1)		98	% Recovery	1					11/30/2019 03:02
Fluorobenzene (Surrogate2)		99	% Recovery	1					11/30/2019 03:02
4-Bromofluorobenzene (Surrogate)		98	% Recovery	1					11/30/2019 03:02

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090480**

Sample ID : REPLICANT	Temperature : 12.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 09:21	pH : 7.15	Account Number : Stormwater
Approval Date : 12/03/2019 10:58		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 0.1-3.3

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Coliform - E. Coli	SM22 9223 B							GM	
	Total Coliform	>241960	MPN/100mL	100		100	100		11/29/2019 11:49
	E. coli	15000	MPN/100mL	100		100	100		11/29/2019 11:49

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090481**

Sample ID : REPLICANT	Temperature : 12.2 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 09:21	pH : 7.15	Account Number : Stormwater
Approval Date : 12/13/2019 11:35		Sampled by : Kenneth Fossum
Received Date/Time: 12/02/2019 07:40		Delivered : Kenneth Fossum
Sample Type : GRAB		Receipt Temperature (°C) : 0.1-3.3

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Cyanide	EPA 335.4	<0.005 mg/L	1	N1	0.0019	0.005	CA	12/04/2019 12:31
Cyanide Case Narrative: Batch LFM (LIMS # 2019089807) %R=85% (Acceptance Range =90-110). Batch RPD (LIMS # 2019089807) =10.2 (Acceptance Range = </=10%)								

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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(602) 534-2960



Results Report



Submitter: Water Services Department
200 W. Washington
Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090482**

Sample ID	: REPLICANT	Project Link Code	: Stormwater
Sampling Date/Time	: 11/29/2019 09:21	Account Number	: Stormwater
Approval Date	: 12/12/2019 11:23	Sampled by	: Kenneth Fossum
Received Date/Time	: 12/02/2019 07:40	Delivered	: Kenneth Fossum
Sample Type	: GRAB	Receipt Temperature (°C)	: 0.1-3.3
Temperature	: 12.2 Deg. C		
pH	: 7.15		

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 1664 With Silica Gel	EPA 1664B							TAM	
	Hexane Extractable Material	<5.8	mg/L	1			5.8		12/09/2019 10:40
	Hexane Extractable Material - Silica Gel	<5.8	mg/L	1			5.8		12/09/2019 10:40

EPA 1664 With Silica Gel Treatment Case Narrative: Methods 1664A, 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation/analysis: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6), 2019090422 (550-134112-8) and 2019090452 (550-134112-10). Method 1664A/B.

Method 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6) and 2019090452 (550-134112-10). Since the HEM results was below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All quality control criteria were met. Method 1664B

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090483**

Sample ID : REPLICANT Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 11/29/2019 09:21	Account Number : Stormwater
Approval Date : 12/19/2019 15:53	Temperature : 12.2 Deg. C
Received Date/Time: 12/02/2019 07:40	pH : 7.15
Sample Type : TIME	Sampled by : Kenneth Fossum
	Delivered : Kenneth Fossum
	Receipt Temperature (°C) : 0.1-3.3

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 04:10
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/04/2019 04:10
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 04:10
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 04:10
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 04:10
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/04/2019 04:10
	Methylene chloride	<0.44	ug/L	1	E8	0.44	1.0		12/04/2019 04:10
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 04:10
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/04/2019 04:10
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 04:10
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/04/2019 04:10
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/04/2019 04:10
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/04/2019 04:10
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/04/2019 04:10
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 04:10
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/04/2019 04:10
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 04:10
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 04:10
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/04/2019 04:10
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/04/2019 04:10
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 04:10
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 04:10
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/04/2019 04:10
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 04:10
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/04/2019 04:10

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City of Phoenix
 Water Services Laboratory
 ADHS Lic. # AZ0088
 2474 S. 22nd Ave
 (602) 534-2960



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090483**

Sample ID	: REPLICANT Trip Blank	Project Link Code	: Stormwater
Sampling Date/Time	: 11/29/2019 09:21	Account Number	: Stormwater
Approval Date	: 12/19/2019 15:53	Sampled by	: Kenneth Fossum
Received Date/Time	: 12/02/2019 07:40	Delivered	: Kenneth Fossum
Sample Type	: TIME	Receipt Temperature (°C)	: 0.1-3.3
Temperature	: 12.2 Deg. C		
pH	: 7.15		

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/04/2019 04:10
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/04/2019 04:10
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 04:10
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/04/2019 04:10
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/04/2019 04:10
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/04/2019 04:10
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/04/2019 04:10
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					12/04/2019 04:10
	Fluorobenzene (Surrogate2)	103	% Recovery	1					12/04/2019 04:10
	4-Bromofluorobenzene (Surrogate)	100	% Recovery	1					12/04/2019 04:10
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/04/2019 04:10
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/04/2019 04:10
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/04/2019 04:10
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/04/2019 04:10
	Pentafluorobenzene (Surrogate1)	99	% Recovery	1					12/04/2019 04:10
	Fluorobenzene (Surrogate2)	103	% Recovery	1					12/04/2019 04:10
	4-Bromofluorobenzene (Surrogate)	100	% Recovery	1					12/04/2019 04:10

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019090484**

Sample ID	: REPLICANT Trip Blank	Project Link Code	: Stormwater
Sampling Date/Time	: 11/29/2019 09:21	Account Number	: Stormwater
Approval Date	: 01/03/2020 13:26	Sampled by	: Kenneth Fossum
Received Date/Time	: 12/02/2019 07:40	Delivered	: Kenneth Fossum
Sample Type	: TIME	Receipt Temperature (°C)	: 0.1-3.3
Temperature	: 12.2 Deg. C		
pH	: 7.15		

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ☐							TH	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		11/30/2019 03:26
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		11/30/2019 03:26
Pentafluorobenzene (Surrogate1)		99	% Recovery	1					11/30/2019 03:26
Fluorobenzene (Surrogate2)		101	% Recovery	1					11/30/2019 03:26
4-Bromofluorobenzene (Surrogate)		100	% Recovery	1					11/30/2019 03:26

GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019090306 LFM and LFMD for acrolein (61%, 62%) control limits: 70-130%

GC/MS-Method 624-for 2-	EPA 624 ☐							TH	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		11/30/2019 03:26
Pentafluorobenzene (Surrogate1)		99	% Recovery	1					11/30/2019 03:26
Fluorobenzene (Surrogate2)		101	% Recovery	1					11/30/2019 03:26
4-Bromofluorobenzene (Surrogate)		100	% Recovery	1					11/30/2019 03:26

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals are intact on either the shipping container or bottles. Temperature Blank not received and sample temperature taken from a sample bottle using certified I/R thermometer.

City of Phoenix, Water Services
 Environmental Services Division
 Chain of Custody Report



Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
92284	Stormwater	IB008 TAM	608-STORM	3 ±	12/7/19	2325	ICE
92285	Stormwater	IB008	625-STORM	3 ±			ICE
92286	Stormwater	IB008	TOTAL METALS STORMWATER	1			HNO3
92287	Stormwater	IB008	METALS DISSOLVED STORMWATER	1			HNO3/FIELD FILTERED
92288	Stormwater	IB008	NH3-WC and TKN-WC	1			H2SO4
2019092289	Stormwater	IB008	Group A with TDS	1			ICE
92290	Stormwater	IB008	IC300 Nitrate, Nitrite, Orthophosphate	1			ICE
92291	Stormwater	IB008 TAM	TOTAL PHOSPHOROUS	1			H2SO4

COMPOSITE SAMPLES

RECEIVED
 WSLAB

DEC 08 2019

TIME: 0726
 TEMP °C: 3.2

Sampler Print & Sign/Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
KENNETH FOSSUM Refrigerator	12/8/19	0726	FRIDGE Cari Andek	C

TIME: _____
 TEMP °C: _____

ep 12-09-19

Sample # 2019092292 Sample ID 2019092292

City of Phoenix, Water Services
Environmental Services Division
Chain of Custody Report



Project ID: **STORMWATER**

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
92292	Stormwater	IB008	8260B-Storm 624-Storm	6	12/8/19	0140	HCL
92293	Stormwater	IB008	624 ACAC 624 CEVE	6			ICE
2019092294	Stormwater	IB008	COLILERT - MPN	1			NaSO4
92295	Stormwater	IB008	CYANIDE	1			NaOH
92296	Stormwater	IB008 TAM	1664 HEMSGT	3			H2SO4
92297	Stormwater	IB008 Trip Blank	8260B-Storm 624-Storm	2			HCL
92298	Stormwater	IB008 Trip Blank	624 ACAC 624 CEVE	2			ICE

GRAB SAMPLES

pH 6.72 Air Temp 8.5 Water Temp 17.9 Specific Conductance 41.5
Barometric Pressure 727 Dissolved Oxygen 9.01

RECEIVED
WIS LAB
8 on 12/8/19
DEC 08 2019

TIME 07:19
TEMP °C 1.3 - 0.4

Sampler Print & Sign/Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
Kenneth Fossum / <i>[Signature]</i>	12/8/19	0315	FRIDGE	
Refrigerator	12/8/19	07:19	<i>[Signature]</i>	C



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092284**

Sample ID	: IB008	Project Link Code	: Stormwater
Sampling Date/Time	: 12/07/2019 23:25	Account Number	: Stormwater
Approval Date	: 01/07/2020 09:25	Sampled by	: USGS
Received Date/Time	: 12/08/2019 07:26	Delivered	: USGS
Sample Type	: COMPOS	Receipt Temperature (°C)	: 0.6-3.2
Temperature	: 17.9 Deg. C		
pH	: 6.72		

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3							TAM	
	Aldrin	<0.021	ug/L	1	E8	0.021	.052		12/17/2019 18:30
	alpha-BHC	<0.021	ug/L	1	E8	0.021	.052		12/17/2019 18:30
	beta-BHC	<0.031	ug/L	1	E8	0.031	.052		12/17/2019 18:30
	gamma-BHC	<0.021	ug/L	1	E8	0.021	.052		12/17/2019 18:30
	delta-BHC	<0.021	ug/L	1	E8	0.021	.052		12/17/2019 18:30
	Chlordane	<0.21	ug/L	1	E8	0.21	.52		12/17/2019 18:30
	4,4'-DDT	<0.021	ug/L	1	E8	0.021	.052		12/17/2019 18:30
	4,4'-DDE	<0.021	ug/L	1	E8	0.021	.052		12/17/2019 18:30
	4,4'-DDD	<0.021	ug/L	1	E8	0.021	.052		12/17/2019 18:30
	Dieldrin	<0.021	ug/L	1	E8	0.021	.052		12/17/2019 18:30
	Endosulfan I	0.038	ug/L	1	E4	0.021	.052		12/17/2019 18:30
	Endosulfan II	<0.021	ug/L	1	E8	0.021	.052		12/17/2019 18:30
	Endosulfan Sulfate	<0.021	ug/L	1	E8	0.021	.052		12/17/2019 18:30
	Endrin	<0.021	ug/L	1	E8	0.021	.052		12/17/2019 18:30
	Endrin Aldehyde	<0.021	ug/L	1	E8	0.021	.052		12/17/2019 18:30
	Heptachlor	<0.031	ug/L	1	E8	0.031	.052		12/17/2019 18:30
	Heptachlor Epoxide	<0.031	ug/L	1	E8	0.031	.052		12/17/2019 18:30
	Arochlor-1242	<0.26	ug/L	1	E8	0.26	1		12/16/2019 16:54
	Arochlor-1254	<0.26	ug/L	1	E8	0.26	1		12/16/2019 16:54
	Arochlor-1221	<0.26	ug/L	1	E8	0.26	1		12/16/2019 16:54
	Arochlor-1232	<0.26	ug/L	1	E8	0.26	1		12/16/2019 16:54
	Arochlor-1248	<0.26	ug/L	1	E8	0.26	1		12/16/2019 16:54
	Arochlor-1260	<0.26	ug/L	1	E8	0.26	1		12/16/2019 16:54
	Arochlor-1016	<0.26	ug/L	1	E8	0.26	1		12/16/2019 16:54
	Toxaphene	<0.52	ug/L	1	E8	0.52	1		12/17/2019 18:30

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092284**

Sample ID	: IB008	Project Link Code	: Stormwater
Sampling Date/Time	: 12/07/2019 23:25	Account Number	: Stormwater
Approval Date	: 01/07/2020 09:25	Sampled by	: USGS
Received Date/Time	: 12/08/2019 07:26	Delivered	: USGS
Sample Type	: COMPOS	Receipt Temperature (°C)	: 0.6-3.2
Temperature	: 17.9 Deg. C		
pH	: 6.72		

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 608	EPA 608.3						TAM	
	Decachlorobiphenyl	81 % Recovery	1					12/17/2019 18:30
	Tetrachloro-m-xylene (Surr)	65 % Recovery	1					12/17/2019 18:30
	Total Endosulfan	0.04 ug/L	1		0.021			12/17/2019 18:30

EPA 608 Case Narrative: Method 608.3: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-585911 and analytical batch 440-586402. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-585911/4-A)

Method 608.3: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-585911 and analytical batch 440-586146. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-585911/2-A)

Method 608.3: The closing continuing calibration verification (CCV) standard associated with batch 440-586486 failed to meet acceptance limits. The associated samples were re-analyzed following a successful CCV and produced similar results, indicating that the sample matrix is adversely affecting the instrument and causing the failures.

Methods 3510C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-585911. Method 8081-8082

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092285**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 12/07/2019 23:25	Account Number : Stormwater
Approval Date : 01/03/2020 07:48	Sampled by : USGS
Received Date/Time: 12/08/2019 07:26	Delivered : USGS
Sample Type : COMPOS	Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
Acenaphthene		<1.19	ug/L	1	E8	1.19	10		12/12/2019 16:54
Acenaphthylene		<1.41	ug/L	1	E8	1.41	10		12/12/2019 16:54
Anthracene		<1.20	ug/L	1	E8	1.20	10		12/12/2019 16:54
Benzo(a)anthracene		<1.02	ug/L	1	E8	1.02	10		12/12/2019 16:54
Benzo(a)pyrene		<1.08	ug/L	1	E8	1.08	10		12/12/2019 16:54
Benzo(b)fluoranthene		<0.38	ug/L	1	E8	0.38	10		12/12/2019 16:54
Benzo(ghi)perylene		<1.14	ug/L	1	E8	1.14	10		12/12/2019 16:54
Benzo(k)fluoranthene		<1.03	ug/L	1	E8	1.03	10		12/12/2019 16:54
Chrysene		<1.16	ug/L	1	E8	1.16	10		12/12/2019 16:54
Dibenzo(a,h)anthracene		<1.02	ug/L	1	E8	1.02	10		12/12/2019 16:54
1,2-Dichlorobenzene		<1.43	ug/L	1	E8	1.43	10		12/12/2019 16:54
1,3-Dichlorobenzene		<1.39	ug/L	1	E8	1.39	10		12/12/2019 16:54
1,4-Dichlorobenzene		<1.48	ug/L	1	E8	1.48	10		12/12/2019 16:54
3,3'-Dichlorobenzidine		<6.99	ug/L	1	E8	6.99	50		12/12/2019 16:54
Diethyl phthalate		<1.08	ug/L	1	E8	1.08	10		12/12/2019 16:54
Dimethyl phthalate		<1.17	ug/L	1	E8	1.17	20		12/12/2019 16:54
Di-n-butyl phthalate		<1.12	ug/L	1	E8	1.12	10		12/12/2019 16:54
2,4-Dinitrotoluene		<1.17	ug/L	1	E8	1.17	10		12/12/2019 16:54
2,6-Dinitrotoluene		<1.13	ug/L	1	E8	1.13	10		12/12/2019 16:54
Di-n-octyl phthalate		6.4	ug/L	1	E4	2.05	10		12/12/2019 16:54
1,2-Diphenyl hydrazine (as azobenzene)		<1.11	ug/L	1	E8	1.11	10		12/12/2019 16:54
Fluoranthene		<1.27	ug/L	1	E8	1.27	10		12/12/2019 16:54
Fluorene		<1.18	ug/L	1	E8	1.18	10		12/12/2019 16:54
Hexachlorobenzene		<1.01	ug/L	1	E8	1.01	10		12/12/2019 16:54
Hexachlorobutadiene		<1.20	ug/L	1	E8	1.20	10		12/12/2019 16:54

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019092285

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 12/07/2019 23:25	Account Number : Stormwater
Approval Date : 01/03/2020 07:48	Sampled by : USGS
Received Date/Time: 12/08/2019 07:26	Delivered : USGS
Sample Type : COMPOS	Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625							AM	
Hexachlorocyclopentadiene		<3.07	ug/L	1	E8	3.07	10		12/12/2019 16:54
Hexachloroethane		<1.35	ug/L	1	E8	1.35	10		12/12/2019 16:54
Indeno(1,2,3-cd)pyrene		<1.07	ug/L	1	E8	1.07	10		12/12/2019 16:54
Isophorone		<1.32	ug/L	1	E8	1.32	10		12/12/2019 16:54
Naphthalene		<1.48	ug/L	1	E8	1.48	10		12/12/2019 16:54
Nitrobenzene		<1.55	ug/L	1	E8	1.55	10		12/12/2019 16:54
N-Nitrosodimethylamine		<1.67	ug/L	1	E8	1.67	10		12/12/2019 16:54
N-Nitrosodi-n-propylamine		<1.65	ug/L	1	E8	1.65	10		12/12/2019 16:54
N-Nitrosodiphenylamine		<1.07	ug/L	1	E8	1.07	10		12/12/2019 16:54
Phenanthrene		<1.33	ug/L	1	E8	1.33	10		12/12/2019 16:54
Pyrene		<1.20	ug/L	1	E8	1.20	10.0		12/12/2019 16:54
1,2,4-Trichlorobenzene		<1.34	ug/L	1	E8	1.34	10		12/12/2019 16:54
2-Chlorophenol		<4.52	ug/L	1	E8	4.52	10		12/12/2019 16:54
2,4-Dichlorophenol		<4.77	ug/L	1	E8	4.77	10		12/12/2019 16:54
2,4-Dimethylphenol		<2.04	ug/L	1	E8	2.04	10		12/12/2019 16:54
2-Methyl-4,6-dinitrophenol		<3.36	ug/L	1	E8	3.36	10		12/12/2019 16:54
2,4-Dinitrophenol		<3.41	ug/L	1	E8	3.41	10		12/12/2019 16:54
2-Nitrophenol		<4.68	ug/L	1	E8	4.68	10		12/12/2019 16:54
4-Nitrophenol		<3.52	ug/L	1	E8	3.52	10		12/12/2019 16:54
4-Chloro-3-methylphenol		<4.76	ug/L	1	E8	4.76	10		12/12/2019 16:54
Pentachlorophenol		<4.00	ug/L	1	E8	4.00	10		12/12/2019 16:54
Phenol		<4.08	ug/L	1	E8	4.08	10		12/12/2019 16:54
2,4,6-Trichlorophenol		<5.27	ug/L	1	E8	5.27	10		12/12/2019 16:54
2,4,6-Tribromophenol		97	% Recovery	1					12/12/2019 16:54
Dibromooctafluorobiphenyl		71	% Recovery	1					12/12/2019 16:54

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092285**

Sample ID : IB008	Temperature : 17.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 12/07/2019 23:25	pH : 6.72	Account Number : Stormwater
Approval Date : 01/03/2020 07:48		Sampled by : USGS
Received Date/Time: 12/08/2019 07:26		Delivered : USGS
Sample Type : COMPOS		Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
625-STORM	EPA 625						AM	
	4,4-Dibromobiphenyl	71 % Recovery	1					12/12/2019 16:54
625-STORM Case Narrative: Batch QC did not meet laboratory acceptance criteria in the 2019089028 LFM/LFMD for multiple compounds. In the LFMD RPD for multiple compounds; Control Limits: <20%.								

Extraction - 625	EPA 625	COMPLETE	1				AA	12/09/2019 00:00
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Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

City of Phoenix
 Water Services Laboratory
 ADHS Lic. # AZ0088
 2474 S. 22nd Ave
 (602) 534-2960



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092286**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 12/07/2019 23:25	Account Number : Stormwater
Approval Date : 12/20/2019 09:36	Sampled by : USGS
Received Date/Time: 12/08/2019 07:26	Delivered : USGS
Sample Type : COMPOS	Receipt Temperature (°C) : 0.6-3.2
Temperature : 17.9 Deg. C	
pH : 6.72	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Silver - Total Recoverable	EPA 200.8	0.0004	mg/L	5	D1;E4;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Total Recoverable Case Narrative: Batch LRB Ag level is 0.00037 mg/L (accept. range is < 0.00013).									
Arsenic - Total Recoverable	EPA 200.8	0.0012	mg/L	5	D1;E4	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Total Recoverable	EPA 200.8	0.026	mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Total Recoverable	EPA 200.8	<0.00015	mg/L	5	D1;E8	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Total Recoverable	EPA 200.8	<0.00025	mg/L	5	D1;E8	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable	EPA 200.8	0.0047	mg/L	5	D1;E4;B1	0.00045	0.0050	TS	12/13/2019 00:00
Chromium - Total Recoverable Case Narrative: Batch LRB Cr level is 0.00058 mg/L (accept. range is < 0.00045).									
Copper - Total Recoverable	EPA 200.8	0.0118	mg/L	5	D1	0.0005	0.0050	TS	12/13/2019 00:00
Copper - Total Recoverable Case Narrative: Batch LFM recovery is 135% (acceptance range is 70-130%) due to matrix.									
Nickel - Total Recoverable	EPA 200.8	0.0024	mg/L	5	D1;E4	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Total Recoverable	EPA 200.8	0.0028	mg/L	5	D1;E4	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Total Recoverable	EPA 200.8	0.00076	mg/L	5	D1;E4	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Total Recoverable	EPA 200.8	<0.00055	mg/L	5	D1;E8	0.00055	0.0050	TS	12/13/2019 00:00
Selenium - Total Recoverable Case Narrative: Batch LFM recovery is 64% (acceptance range is 70-130%) due to matrix.									

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092286**

Sample ID	: IB008	Project Link Code	: Stormwater
Sampling Date/Time	: 12/07/2019 23:25	Account Number	: Stormwater
Approval Date	: 12/20/2019 09:36	Sampled by	: USGS
Received Date/Time	: 12/08/2019 07:26	Delivered	: USGS
Sample Type	: COMPOS	Receipt Temperature (°C)	: 0.6-3.2
Temperature	: 17.9 Deg. C		
pH	: 6.72		

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Thallium - Total Recoverable	EPA 200.8	<0.00015 mg/L	5	D1;E8	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Total Recoverable	EPA 200.8	0.0520 mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F §	COMPLETE					SS	12/13/2019 13:44
Mercury - Total	EPA 245.1	<0.000042 mg/L	2	D1;E8	0.000042	0.0002	SS	12/16/2019 11:14
pH<2Verification	pH <2 Verification	COMPLETE					SS	12/11/2019 15:46

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092287**

Sample ID : IB008	Temperature : 17.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time : 12/07/2019 23:25	pH : 6.72	Account Number : Stormwater
Approval Date : 01/07/2020 13:35		Sampled by : USGS
Received Date/Time : 12/08/2019 07:26		Delivered : USGS
Sample Type : COMPOS		Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Filtration Prep Dissolved Metals	SM22 3030 B	NOT RUN					SS	12/19/2019 08:11
Filtration Prep Dissolved Metals Case Narrative: COC states field filtered.								
Hardness - Total	SM22 2340 B						GA	
Hardness - Total		24.5 mg/L	1		0.79	16.6		12/17/2019 14:39
Calcium Hardness		20.0 mg/L	1		0.61	12.5		12/17/2019 14:39
Calcium - Total Recoverable	EPA 200.7	7.99 mg/L	1		0.244	5.00	GA	12/17/2019 14:39
Magnesium - Total Recoverable	EPA 200.7	1.11 mg/L	1		0.043	1.00	GA	12/16/2019 18:46
Silver - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1;B1	0.00015	0.0050	TS	12/13/2019 00:00
Silver - Dissolved Case Narrative: Batch LRB Ag level is 0.00037 mg/L (accept. range is < 0.00013).								
Arsenic - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00035	0.0050	TS	12/13/2019 00:00
Barium - Dissolved	EPA 200.8	0.010 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Beryllium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Cadmium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00025	0.0050	TS	12/13/2019 00:00
Chromium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00045	0.0050	TS	12/13/2019 00:00
Copper - Dissolved	EPA 200.8	0.0117 mg/L	5	D1	0.0005	0.0050	TS	12/13/2019 00:00

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092287**

Sample ID : IB008
 Sampling Date/Time: 12/07/2019 23:25
 Approval Date : 01/07/2020 13:35
 Received Date/Time: 12/08/2019 07:26
 Sample Type : COMPOS

Temperature : 17.9 Deg. C
 pH : 6.72

Project Link Code : Stormwater
 Account Number : Stormwater
 Sampled by : USGS
 Delivered : USGS
 Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Nickel - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Lead - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00010	0.0050	TS	12/13/2019 00:00
Antimony - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00030	0.0050	TS	12/13/2019 00:00
Selenium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00055	0.0050	TS	12/13/2019 00:00
Thallium - Dissolved	EPA 200.8	<0.0050 mg/L	5	D1	0.00015	0.0050	TS	12/13/2019 00:00
Zinc - Dissolved	EPA 200.8	<0.050 mg/L	5	D1	0.00330	0.050	TS	12/13/2019 00:00
Metals Prep - TR	SM22 3030 F ☐	COMPLETE					SS	12/13/2019 13:44
Mercury - Diss	EPA 245.1	<0.0002 mg/L	2	D1	0.000042	0.0002	SS	12/20/2019 11:13
pH<2Verification	pH <2 Verification	COMPLETE					SS	12/11/2019 15:46

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092288**

Sample ID : IB008	Temperature : 17.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time : 12/07/2019 23:25	pH : 6.72	Account Number : Stormwater
Approval Date : 01/02/2020 15:01		Sampled by : USGS
Received Date/Time : 12/08/2019 07:26		Delivered : USGS
Sample Type : COMPOS		Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Ammonia	EPA 350.1	0.49 mg/L	1		0.13	0.20	LG	12/13/2019 10:03
Total Kjeldahl Nitrogen	EPA 351.2	1.6 mg/L	1		0.21	0.25	LG	12/31/2019 11:35

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092289**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 12/07/2019 23:25	Account Number : Stormwater
Approval Date : 12/27/2019 07:31	Temperature : 17.9 Deg. C
Received Date/Time: 12/08/2019 07:26	pH : 6.72
Sample Type : COMPOS	Sampled by : USGS
	Delivered : USGS
	Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
BOD, 5 Day	SM22 5210 B	12	mg/L	1		2	2	CA	12/08/2019 11:51
COD	HACH-8000	63	mg/L	1		11.69	50	CA	12/08/2019 09:21
Suspended Solids	SM22 2540 D	39	mg/L	10		25	25	CA	12/08/2019 08:44
Total Dissolved Solids	SM22 2540 C	1760	mg/L	1	N1	10	10	CA	12/12/2019 12:26

Total Dissolved Solids Case Narrative: Batch duplicate (#92267) RPD =42%; C.L. < /= 5%

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092290**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time : 12/07/2019 23:25	Account Number : Stormwater
Approval Date : 12/20/2019 08:53	Sampled by : USGS
Received Date/Time : 12/08/2019 07:26	Delivered : USGS
Sample Type : COMPOS	Receipt Temperature (°C) : 0.6-3.2
Temperature : 17.9 Deg. C	
pH : 6.72	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
O-Phosphate-P	EPA 300.0	<0.1	mg/L	1		0.0027	0.1	CG	12/08/2019 14:58
Nitrate-N	EPA 300.0	0.4	mg/L	1		0.0012	0.1	CG	12/08/2019 14:58
Nitrite-N	EPA 300.0	<0.1	mg/L	1		0.0003	0.1	CG	12/08/2019 14:58

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092291**

Sample ID : IB008	Temperature : 17.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 12/07/2019 23:25	pH : 6.72	Account Number : Stormwater
Approval Date : 01/06/2020 14:07		Sampled by : USGS
Received Date/Time: 12/08/2019 07:26		Delivered : USGS
Sample Type : COMPOS		Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Phosphorus - Total	SM 4500 P E	0.19 mg/L	1			0.10	TAM	12/12/2019 08:59

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092292**

Sample ID : IB008	Temperature : 17.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time: 12/08/2019 01:40	pH : 6.72	Account Number : Stormwater
Approval Date : 01/03/2020 15:28		Sampled by : USGS
Received Date/Time: 12/08/2019 07:26		Delivered : USGS
Sample Type : GRAB		Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
Chloromethane		<0.33	ug/L	1	E8	0.33	1.0		12/09/2019 20:52
Vinyl Chloride		<0.35	ug/L	1	E8	0.35	1.0		12/09/2019 20:52
Bromomethane		<0.33	ug/L	1	E8	0.33	1.0		12/09/2019 20:52
Chloroethane		<0.33	ug/L	1	E8	0.33	1.0		12/09/2019 20:52
Trichlorofluoromethane		<0.40	ug/L	1	E8	0.40	1.0		12/09/2019 20:52
1,1-Dichloroethylene		<0.40	ug/L	1	E8	0.40	1.0		12/09/2019 20:52
Methylene chloride		<0.44	ug/L	1	E8;N1	0.44	1.0		12/09/2019 20:52
Methylene chloride Case Narrative: The batch LRB has a detect for methylene chloride (0.82 µg/L) at <RL but >MDL.									
trans-1,2-Dichloroethene		<0.32	ug/L	1	E8	0.32	1.0		12/09/2019 20:52
1,1-Dichloroethane		<0.32	ug/L	1	E8	0.32	1.0		12/09/2019 20:52
Chloroform		<0.31	ug/L	1	E8	0.31	1.0		12/09/2019 20:52
1,2-Dichloroethane		<0.28	ug/L	1	E8	0.28	1.0		12/09/2019 20:52
1,1,1-Trichloroethane		<0.31	ug/L	1	E8	0.31	1.0		12/09/2019 20:52
Carbon Tetrachloride		<0.27	ug/L	1	E8	0.27	1.0		12/09/2019 20:52
Benzene		<0.33	ug/L	1	E8	0.33	1.0		12/09/2019 20:52
1,2-Dichloropropane		<0.93	ug/L	1	E8	0.93	1.0		12/09/2019 20:52
Trichloroethene		<0.46	ug/L	1	E8	0.46	1.0		12/09/2019 20:52
Bromodichloromethane		<0.52	ug/L	1	E8	0.52	1.0		12/09/2019 20:52
cis-1,3-Dichloropropene		<0.43	ug/L	1	E8	0.43	1.0		12/09/2019 20:52
trans-1,3-Dichloropropene		<0.52	ug/L	1	E8	0.52	1.0		12/09/2019 20:52
1,1,2-Trichloroethane		<0.68	ug/L	1	E8	0.68	1.0		12/09/2019 20:52
Toluene		<0.38	ug/L	1	E8	0.38	1.0		12/09/2019 20:52
Dibromochloromethane		<0.70	ug/L	1	E8	0.70	1.0		12/09/2019 20:52
Tetrachloroethylene		<0.38	ug/L	1	E8	0.38	1.0		12/09/2019 20:52
Chlorobenzene		<0.70	ug/L	1	E8	0.70	1.0		12/09/2019 20:52

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092292**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 12/08/2019 01:40	Account Number : Stormwater
Approval Date : 01/03/2020 15:28	Sampled by : USGS
Received Date/Time: 12/08/2019 07:26	Delivered : USGS
Sample Type : GRAB	Receipt Temperature (°C) : 0.6-3.2
Temperature : 17.9 Deg. C	
pH : 6.72	

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624						AL	
	Ethylbenzene	<0.61 ug/L	1	E8	0.61	1.0		12/09/2019 20:52
	m- & p-Xylene	<1.22 ug/L	1	E8	1.22	2.0		12/09/2019 20:52
	Bromoform	<0.81 ug/L	1	E8	0.81	1.0		12/09/2019 20:52
	o-Xylene	<0.70 ug/L	1	E8	0.70	1.0		12/09/2019 20:52
	1,1,2,2-Tetrachloroethane	<0.83 ug/L	1	E8	0.83	1.0		12/09/2019 20:52
	1,3-Dichlorobenzene	<0.87 ug/L	1	E8	0.87	1.0		12/09/2019 20:52
	1,2-Dichlorobenzene	<0.93 ug/L	1	E8	0.93	1.0		12/09/2019 20:52
	1,4-Dichlorobenzene	<0.91 ug/L	1	E8	0.91	1.0		12/09/2019 20:52
	Pentafluorobenzene (Surrogate1)	100 % Recovery	1					12/09/2019 20:52
	Fluorobenzene (Surrogate2)	101 % Recovery	1					12/09/2019 20:52
	4-Bromofluorobenzene (Surrogate)	100 % Recovery	1					12/09/2019 20:52
	Total Xylene	<0.70 ug/L	1	E8	0.70	1.0		12/09/2019 20:52
	1,3-Dichloropropene (cis & trans)	<0.43 ug/L	1	E8	0.43	1.0		12/09/2019 20:52
Method 8260B Stormwater	EPA 8260B						AL	
	1,3,5-Trimethylbenzene	<1.0 ug/L	1		0.75	1.0		12/09/2019 20:52
	1,2,4-Trimethylbenzene	<1.0 ug/L	1		0.80	1.0		12/09/2019 20:52
	Pentafluorobenzene (Surrogate1)	100 % Recovery	1					12/09/2019 20:52
	Fluorobenzene (Surrogate2)	101 % Recovery	1					12/09/2019 20:52
	4-Bromofluorobenzene (Surrogate)	100 % Recovery	1					12/09/2019 20:52

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019092293

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 12/08/2019 01:40	Account Number : Stormwater
Approval Date : 01/03/2020 14:20	Sampled by : USGS
Received Date/Time: 12/08/2019 07:26	Delivered : USGS
Sample Type : GRAB	Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 ☐							AL	
Acrolein		<0.55	ug/L	1	N1;E8;M2;	0.55	1.0		12/09/2019 14:19
Acrylonitrile		<0.57	ug/L	1	N1;E8;M2;	0.57	1.0		12/09/2019 14:19
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					12/09/2019 14:19
Fluorobenzene (Surrogate2)		99	% Recovery	1					12/09/2019 14:19
4-Bromofluorobenzene (Surrogate)		98	% Recovery	1					12/09/2019 14:19

GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019092293LFM and LFMD for acrolein (36%, 27%) and acrylonitrile (46%, 33%); control limits: 70-130%. The LFMD RPD did not meet criteria for acrolein (29%) and acrylonitrile (33%); control limits: </=20%. pH=5.

GC/MS-Method 624-for 2-	EPA 624 ☐							AL	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8;R5	0.52	1.0		12/09/2019 14:19
Pentafluorobenzene (Surrogate1)		100	% Recovery	1					12/09/2019 14:19
Fluorobenzene (Surrogate2)		99	% Recovery	1					12/09/2019 14:19
4-Bromofluorobenzene (Surrogate)		98	% Recovery	1					12/09/2019 14:19

GC/MS-Method 624-for 2-Chloroethyl vinyl ether samples Case Narrative: The batch QC did not meet acceptance criteria in 2019092293LFMD RPD for 2-CEVE (125%), control limits: </=20%. pH=5.

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092294**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time: 12/08/2019 01:40	Account Number : Stormwater
Approval Date : 12/10/2019 13:24	Sampled by : USGS
Received Date/Time: 12/08/2019 07:26	Delivered : USGS
Sample Type : GRAB	Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Coliform - E. Coli	SM22 9223 B							DC	
	Total Coliform	111990	MPN/100mL	100		100	100		12/08/2019 08:08
	E. coli	3840	MPN/100mL	100		100	100		12/08/2019 08:08

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092295**

Sample ID : IB008	Project Link Code : Stormwater
Sampling Date/Time : 12/08/2019 01:40	Account Number : Stormwater
Approval Date : 12/18/2019 10:18	Sampled by : USGS
Received Date/Time : 12/08/2019 07:26	Delivered : USGS
Sample Type : GRAB	Receipt Temperature (°C) : 0.6-3.2
Temperature : 17.9 Deg. C	
pH : 6.72	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
Cyanide	EPA 335.4	<0.005	mg/L	1	N1	0.0019	0.005	LG	12/12/2019 11:04
Cyanide Case Narrative: Batch LFM (LIMS # 2019089019) %R=76% (Acceptance Range =90-110)									

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.



Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092296**

Sample ID : IB008	Temperature : 17.9 Deg. C	Project Link Code : Stormwater
Sampling Date/Time : 12/08/2019 01:40	pH : 6.72	Account Number : Stormwater
Approval Date : 01/06/2020 14:07		Sampled by : USGS
Received Date/Time : 12/08/2019 07:26		Delivered : USGS
Sample Type : GRAB		Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
EPA 1664 With Silica Gel	EPA 1664B						TAM	
Hexane Extractable Material		<5.8 mg/L	1			5.8		12/24/2019 15:46
Hexane Extractable Material - Silica Gel		<5.8 mg/L	1			5.8		12/24/2019 15:46

EPA 1664 With Silica Gel Treatment Case Narrative: Methods 1664A, 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-587829 and analytical batch 440-587869. The Laboratory Control Sample (LCS) was performed in duplicate to provide precise data for this batch. Method 1664A/1664B.

Method 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation/analysis: 2019092296 (550-134571-2). Method 1664B.

Method 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019092296 (550-134571-2). Since the HEM results were below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) were reported as a non-detect. All HEM quality control criteria were met. Method 1664B.

non-NELAC Outside Lab: Test America - ADHS Lic. # AZ0728

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092297**

Sample ID : IB008 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 12/08/2019 01:40	Account Number : Stormwater
Approval Date : 01/03/2020 15:28	Temperature : 17.9 Deg. C
Received Date/Time: 12/08/2019 07:26	pH : 6.72
Sample Type : TIME	Sampled by : USGS
	Delivered : USGS
	Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Chloromethane	<0.33	ug/L	1	E8	0.33	1.0		12/09/2019 21:21
	Vinyl Chloride	<0.35	ug/L	1	E8	0.35	1.0		12/09/2019 21:21
	Bromomethane	<0.33	ug/L	1	E8	0.33	1.0		12/09/2019 21:21
	Chloroethane	<0.33	ug/L	1	E8	0.33	1.0		12/09/2019 21:21
	Trichlorofluoromethane	<0.40	ug/L	1	E8	0.40	1.0		12/09/2019 21:21
	1,1-Dichloroethylene	<0.40	ug/L	1	E8	0.40	1.0		12/09/2019 21:21
	Methylene chloride	<0.44	ug/L	1	E8;N1	0.44	1.0		12/09/2019 21:21
Methylene chloride Case Narrative: The batch LRB has a detect for methylene chloride (0.82 µg/L) at <RL but >MDL.									
	trans-1,2-Dichloroethene	<0.32	ug/L	1	E8	0.32	1.0		12/09/2019 21:21
	1,1-Dichloroethane	<0.32	ug/L	1	E8	0.32	1.0		12/09/2019 21:21
	Chloroform	<0.31	ug/L	1	E8	0.31	1.0		12/09/2019 21:21
	1,2-Dichloroethane	<0.28	ug/L	1	E8	0.28	1.0		12/09/2019 21:21
	1,1,1-Trichloroethane	<0.31	ug/L	1	E8	0.31	1.0		12/09/2019 21:21
	Carbon Tetrachloride	<0.27	ug/L	1	E8	0.27	1.0		12/09/2019 21:21
	Benzene	<0.33	ug/L	1	E8	0.33	1.0		12/09/2019 21:21
	1,2-Dichloropropane	<0.93	ug/L	1	E8	0.93	1.0		12/09/2019 21:21
	Trichloroethene	<0.46	ug/L	1	E8	0.46	1.0		12/09/2019 21:21
	Bromodichloromethane	<0.52	ug/L	1	E8	0.52	1.0		12/09/2019 21:21
	cis-1,3-Dichloropropene	<0.43	ug/L	1	E8	0.43	1.0		12/09/2019 21:21
	trans-1,3-Dichloropropene	<0.52	ug/L	1	E8	0.52	1.0		12/09/2019 21:21
	1,1,2-Trichloroethane	<0.68	ug/L	1	E8	0.68	1.0		12/09/2019 21:21
	Toluene	<0.38	ug/L	1	E8	0.38	1.0		12/09/2019 21:21
	Dibromochloromethane	<0.70	ug/L	1	E8	0.70	1.0		12/09/2019 21:21
	Tetrachloroethylene	<0.38	ug/L	1	E8	0.38	1.0		12/09/2019 21:21
	Chlorobenzene	<0.70	ug/L	1	E8	0.70	1.0		12/09/2019 21:21

* SM20 = Standard Methods 20th Edition SM21 = Standard Methods 21st Edition SM22 = Standard Methods 22nd Edition

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: 2019092297

Sample ID : IB008 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time : 12/08/2019 01:40	Account Number : Stormwater
Approval Date : 01/03/2020 15:28	Sampled by : USGS
Received Date/Time : 12/08/2019 07:26	Delivered : USGS
Sample Type : TIME	Receipt Temperature (°C) : 0.6-3.2
Temperature : 17.9 Deg. C	
pH : 6.72	

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
624-STORM	EPA 624							AL	
	Ethylbenzene	<0.61	ug/L	1	E8	0.61	1.0		12/09/2019 21:21
	m- & p-Xylene	<1.22	ug/L	1	E8	1.22	2.0		12/09/2019 21:21
	Bromoform	<0.81	ug/L	1	E8	0.81	1.0		12/09/2019 21:21
	o-Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/09/2019 21:21
	1,1,2,2-Tetrachloroethane	<0.83	ug/L	1	E8	0.83	1.0		12/09/2019 21:21
	1,3-Dichlorobenzene	<0.87	ug/L	1	E8	0.87	1.0		12/09/2019 21:21
	1,2-Dichlorobenzene	<0.93	ug/L	1	E8	0.93	1.0		12/09/2019 21:21
	1,4-Dichlorobenzene	<0.91	ug/L	1	E8	0.91	1.0		12/09/2019 21:21
	Pentafluorobenzene (Surrogate1)	100	% Recovery	1					12/09/2019 21:21
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/09/2019 21:21
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					12/09/2019 21:21
	Total Xylene	<0.70	ug/L	1	E8	0.70	1.0		12/09/2019 21:21
	1,3-Dichloropropene (cis & trans)	<0.43	ug/L	1	E8	0.43	1.0		12/09/2019 21:21
Method 8260B Stormwater	EPA 8260B							AL	
	1,3,5-Trimethylbenzene	<1.0	ug/L	1		0.75	1.0		12/09/2019 21:21
	1,2,4-Trimethylbenzene	<1.0	ug/L	1		0.80	1.0		12/09/2019 21:21
	Pentafluorobenzene (Surrogate1)	100	% Recovery	1					12/09/2019 21:21
	Fluorobenzene (Surrogate2)	101	% Recovery	1					12/09/2019 21:21
	4-Bromofluorobenzene (Surrogate)	99	% Recovery	1					12/09/2019 21:21

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

* SM20 = Standard Methods 20th Edition SM21 = Standard Methods 21st Edition SM22 = Standard Methods 22nd Edition

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Results Report



Submitter: Water Services Department
 200 W. Washington
 Phoenix, AZ

Type of Project: Stormwater

Lab Number: **2019092298**

Sample ID : IB008 Trip Blank	Project Link Code : Stormwater
Sampling Date/Time: 12/08/2019 01:40	Account Number : Stormwater
Approval Date : 01/03/2020 14:20	Temperature : 17.9 Deg. C
Received Date/Time: 12/08/2019 07:26	pH : 6.72
Sample Type : TIME	Sampled by : USGS
	Delivered : USGS
	Receipt Temperature (°C) : 0.6-3.2

Test	Method*	Result	Units	Dil. Fact.	Data Qualifiers	MDL	Report Limit	Analyst	Analysis Date
GC/MS-Method 624-for Acrolein	EPA 624 α							AL	
Acrolein		<0.55	ug/L	1	N1;E8	0.55	1.0		12/09/2019 14:42
Acrylonitrile		<0.57	ug/L	1	N1;E8	0.57	1.0		12/09/2019 14:42
Pentafluorobenzene (Surrogate1)		99	% Recovery	1					12/09/2019 14:42
Fluorobenzene (Surrogate2)		98	% Recovery	1					12/09/2019 14:42
4-Bromofluorobenzene (Surrogate)		98	% Recovery	1					12/09/2019 14:42

GC/MS-Method 624-for Acrolein and Acrylonitrile Samples Case Narrative: Analysis for screening purposes only. Batch QC did not meet acceptance criteria in 2019092293LFMD and LFMD for acrolein (36%, 27%) and acrylonitrile (46%, 33%); control limits: 70-130%. The LFMD RPD did not meet criteria for acrolein (29%) and acrylonitrile (33%); control limits: </=20%. pH=5.

GC/MS-Method 624-for 2-Chloroethyl vinyl ether	EPA 624 α							AL	
2-Chloroethyl vinyl ether		<0.52	ug/L	1	E8	0.52	1.0		12/09/2019 14:42
Pentafluorobenzene (Surrogate1)		99	% Recovery	1					12/09/2019 14:42
Fluorobenzene (Surrogate2)		98	% Recovery	1					12/09/2019 14:42
4-Bromofluorobenzene (Surrogate)		98	% Recovery	1					12/09/2019 14:42

GC/MS-Method 624-for 2-Chloroethyl vinyl ether samples Case Narrative: The batch QC did not meet acceptance criteria in 2019092293LFMD RPD for 2-CEVE (125%), control limits: </=20%. pH=5.

Sample Condition: Samples received on ice or blue ice in an insulated container. Custody seals were not in place. Temperature Blank also received.

ANALYTICAL REPORT

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

Laboratory Job ID: 550-134108-1

Client Project/Site: Water Services Department

For:

City of Phoenix Water Services
2474 South 22nd Ave
Bld. 31
Phoenix, Arizona 85009

Attn: Britney Dempster



Authorized for release by:
12/5/2019 2:57:33 PM

Rachel Sester, Project Manager I
(602)659-7615

rachel.sester@testamericainc.com

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

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



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Definitions/Glossary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134108-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
R6	LFB/LFBD RPD exceeded method control limit. Recovery met acceptance criteria.

Glossary

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

Case Narrative

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134108-1

Job ID: 550-134108-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-134108-1

Comments

No additional comments.

Receipt

The samples were received on 12/2/2019 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.8° C and 4.5° C.

GC Semi VOA

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

Organic Prep

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

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Sample Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134108-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-134108-1	2019090206	Water	11/29/19 05:36	12/02/19 15:15	
550-134108-2	2019090297	Water	11/29/19 04:32	12/02/19 15:15	
550-134108-3	2019090383	Water	11/29/19 05:23	12/02/19 15:15	
550-134108-4	2019090410	Water	11/29/19 04:32	12/02/19 15:15	
550-134108-5	2019090440	Water	11/29/19 03:59	12/02/19 15:15	
550-134108-6	2019090455	Water	11/29/19 03:52	12/02/19 15:15	
550-134108-7	2019090470	Water	11/29/19 04:33	12/02/19 15:15	

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Client Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134108-1

Client Sample ID: 2019090206

Lab Sample ID: 550-134108-1

Date Collected: 11/29/19 05:36

Matrix: Water

Date Received: 12/02/19 15:15

Method: 608.3 - Organochlorine Pesticides in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	E8	0.050	0.039	ug/L		12/03/19 14:22	12/04/19 18:20	1
4,4'-DDE	ND	E8	0.050	0.043	ug/L		12/03/19 14:22	12/04/19 18:20	1
4,4'-DDT	ND	E8	0.050	0.032	ug/L		12/03/19 14:22	12/04/19 18:20	1
alpha-BHC	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 18:20	1
beta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 18:20	1
Aldrin	ND	E8	0.050	0.045	ug/L		12/03/19 14:22	12/04/19 18:20	1
Chlordane (technical)	ND	E8	0.50	0.17	ug/L		12/03/19 14:22	12/04/19 18:20	1
delta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 18:20	1
Dieldrin	ND	E8	0.050	0.031	ug/L		12/03/19 14:22	12/04/19 18:20	1
Endosulfan I	ND	E8 R6	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 18:20	1
Endosulfan II	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 18:20	1
Endosulfan sulfate	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 18:20	1
Endrin	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 18:20	1
Endrin aldehyde	ND	E8	0.10	0.090	ug/L		12/03/19 14:22	12/04/19 18:20	1
Endrin ketone	ND	E8	0.050	0.050	ug/L		12/03/19 14:22	12/04/19 18:20	1
gamma-BHC (Lindane)	ND	E8	0.050	0.034	ug/L		12/03/19 14:22	12/04/19 18:20	1
Heptachlor	ND	E8	0.10	0.069	ug/L		12/03/19 14:22	12/04/19 18:20	1
Heptachlor epoxide	ND	E8 R6	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 18:20	1
Methoxychlor	ND	E8	0.10	0.091	ug/L		12/03/19 14:22	12/04/19 18:20	1
Toxaphene	ND	E8	1.0	0.40	ug/L		12/03/19 14:22	12/04/19 18:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	94		10 - 125	12/03/19 14:22	12/04/19 18:20	1
DCB Decachlorobiphenyl (Surr)	42		10 - 148	12/03/19 14:22	12/04/19 18:20	1

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	E8	1.0	0.23	ug/L		12/03/19 14:22	12/04/19 16:57	1
PCB-1221	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 16:57	1
PCB-1242	ND	E8	1.0	0.26	ug/L		12/03/19 14:22	12/04/19 16:57	1
PCB-1232	ND	E8	1.0	0.28	ug/L		12/03/19 14:22	12/04/19 16:57	1
PCB-1248	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 16:57	1
PCB-1254	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 16:57	1
PCB-1260	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	85		10 - 148	12/03/19 14:22	12/04/19 16:57	1
DCB Decachlorobiphenyl (Surr)	45		10 - 125	12/03/19 14:22	12/04/19 16:57	1

Client Sample ID: 2019090297

Lab Sample ID: 550-134108-2

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

Method: 608.3 - Organochlorine Pesticides in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	E8	0.050	0.039	ug/L		12/03/19 14:22	12/04/19 18:35	1
4,4'-DDE	ND	E8	0.050	0.043	ug/L		12/03/19 14:22	12/04/19 18:35	1
4,4'-DDT	ND	E8	0.050	0.032	ug/L		12/03/19 14:22	12/04/19 18:35	1
alpha-BHC	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 18:35	1
beta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 18:35	1
Aldrin	ND	E8	0.050	0.045	ug/L		12/03/19 14:22	12/04/19 18:35	1

Eurofins TestAmerica, Phoenix

Client Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134108-1

Client Sample ID: 2019090297

Lab Sample ID: 550-134108-2

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND	E8	0.50	0.17	ug/L		12/03/19 14:22	12/04/19 18:35	1
delta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 18:35	1
Dieldrin	ND	E8	0.050	0.031	ug/L		12/03/19 14:22	12/04/19 18:35	1
Endosulfan I	ND	E8 R6	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 18:35	1
Endosulfan II	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 18:35	1
Endosulfan sulfate	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 18:35	1
Endrin	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 18:35	1
Endrin aldehyde	ND	E8	0.10	0.090	ug/L		12/03/19 14:22	12/04/19 18:35	1
Endrin ketone	ND	E8	0.050	0.050	ug/L		12/03/19 14:22	12/04/19 18:35	1
gamma-BHC (Lindane)	ND	E8	0.050	0.034	ug/L		12/03/19 14:22	12/04/19 18:35	1
Heptachlor	ND	E8	0.10	0.069	ug/L		12/03/19 14:22	12/04/19 18:35	1
Heptachlor epoxide	ND	E8 R6	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 18:35	1
Methoxychlor	ND	E8	0.10	0.091	ug/L		12/03/19 14:22	12/04/19 18:35	1
Toxaphene	ND	E8	1.0	0.40	ug/L		12/03/19 14:22	12/04/19 18:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	91		10 - 125				12/03/19 14:22	12/04/19 18:35	1
<i>DCB Decachlorobiphenyl (Surr)</i>	40		10 - 148				12/03/19 14:22	12/04/19 18:35	1

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	E8	1.0	0.23	ug/L		12/03/19 14:22	12/04/19 17:12	1
PCB-1221	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 17:12	1
PCB-1242	ND	E8	1.0	0.26	ug/L		12/03/19 14:22	12/04/19 17:12	1
PCB-1232	ND	E8	1.0	0.28	ug/L		12/03/19 14:22	12/04/19 17:12	1
PCB-1248	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 17:12	1
PCB-1254	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 17:12	1
PCB-1260	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 17:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene (Surr)</i>	85		10 - 148				12/03/19 14:22	12/04/19 17:12	1
<i>DCB Decachlorobiphenyl (Surr)</i>	44		10 - 125				12/03/19 14:22	12/04/19 17:12	1

Client Sample ID: 2019090383

Lab Sample ID: 550-134108-3

Date Collected: 11/29/19 05:23

Matrix: Water

Date Received: 12/02/19 15:15

Method: 608.3 - Organochlorine Pesticides in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	E8	0.050	0.039	ug/L		12/03/19 14:22	12/04/19 18:51	1
4,4'-DDE	ND	E8	0.050	0.043	ug/L		12/03/19 14:22	12/04/19 18:51	1
4,4'-DDT	ND	E8	0.050	0.032	ug/L		12/03/19 14:22	12/04/19 18:51	1
alpha-BHC	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 18:51	1
beta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 18:51	1
Aldrin	ND	E8	0.050	0.045	ug/L		12/03/19 14:22	12/04/19 18:51	1
Chlordane (technical)	ND	E8	0.50	0.17	ug/L		12/03/19 14:22	12/04/19 18:51	1
delta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 18:51	1
Dieldrin	ND	E8	0.050	0.031	ug/L		12/03/19 14:22	12/04/19 18:51	1
Endosulfan I	ND	E8 R6	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 18:51	1
Endosulfan II	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 18:51	1
Endosulfan sulfate	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 18:51	1

Euofins TestAmerica, Phoenix

Client Sample Results

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134108-1

Client Sample ID: 2019090383

Lab Sample ID: 550-134108-3

Date Collected: 11/29/19 05:23

Matrix: Water

Date Received: 12/02/19 15:15

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 18:51	1
Endrin aldehyde	ND	E8	0.10	0.090	ug/L		12/03/19 14:22	12/04/19 18:51	1
Endrin ketone	ND	E8	0.050	0.050	ug/L		12/03/19 14:22	12/04/19 18:51	1
gamma-BHC (Lindane)	ND	E8	0.050	0.034	ug/L		12/03/19 14:22	12/04/19 18:51	1
Heptachlor	ND	E8	0.10	0.069	ug/L		12/03/19 14:22	12/04/19 18:51	1
Heptachlor epoxide	ND	E8 R6	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 18:51	1
Methoxychlor	ND	E8	0.10	0.091	ug/L		12/03/19 14:22	12/04/19 18:51	1
Toxaphene	ND	E8	1.0	0.40	ug/L		12/03/19 14:22	12/04/19 18:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	78		10 - 125	12/03/19 14:22	12/04/19 18:51	1
DCB Decachlorobiphenyl (Surr)	36		10 - 148	12/03/19 14:22	12/04/19 18:51	1

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	E8	1.0	0.23	ug/L		12/03/19 14:22	12/04/19 17:27	1
PCB-1221	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 17:27	1
PCB-1242	ND	E8	1.0	0.26	ug/L		12/03/19 14:22	12/04/19 17:27	1
PCB-1232	ND	E8	1.0	0.28	ug/L		12/03/19 14:22	12/04/19 17:27	1
PCB-1248	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 17:27	1
PCB-1254	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 17:27	1
PCB-1260	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 17:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	74		10 - 148	12/03/19 14:22	12/04/19 17:27	1
DCB Decachlorobiphenyl (Surr)	38		10 - 125	12/03/19 14:22	12/04/19 17:27	1

Client Sample ID: 2019090410

Lab Sample ID: 550-134108-4

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

Method: 608.3 - Organochlorine Pesticides in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	E8	0.050	0.039	ug/L		12/03/19 14:22	12/04/19 19:07	1
4,4'-DDE	ND	E8	0.050	0.043	ug/L		12/03/19 14:22	12/04/19 19:07	1
4,4'-DDT	ND	E8	0.050	0.032	ug/L		12/03/19 14:22	12/04/19 19:07	1
alpha-BHC	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 19:07	1
beta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 19:07	1
Aldrin	ND	E8	0.050	0.045	ug/L		12/03/19 14:22	12/04/19 19:07	1
Chlordane (technical)	ND	E8	0.50	0.17	ug/L		12/03/19 14:22	12/04/19 19:07	1
delta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 19:07	1
Dieldrin	ND	E8	0.050	0.031	ug/L		12/03/19 14:22	12/04/19 19:07	1
Endosulfan I	0.30	R6	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 19:07	1
Endosulfan II	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 19:07	1
Endosulfan sulfate	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 19:07	1
Endrin	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 19:07	1
Endrin aldehyde	ND	E8	0.10	0.090	ug/L		12/03/19 14:22	12/04/19 19:07	1
Endrin ketone	ND	E8	0.050	0.050	ug/L		12/03/19 14:22	12/04/19 19:07	1
gamma-BHC (Lindane)	ND	E8	0.050	0.034	ug/L		12/03/19 14:22	12/04/19 19:07	1
Heptachlor	ND	E8	0.10	0.069	ug/L		12/03/19 14:22	12/04/19 19:07	1
Heptachlor epoxide	ND	E8 R6	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 19:07	1

Euofins TestAmerica, Phoenix

Client Sample Results

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134108-1

Client Sample ID: 2019090410

Lab Sample ID: 550-134108-4

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	ND	E8	0.10	0.091	ug/L		12/03/19 14:22	12/04/19 19:07	1
Toxaphene	ND	E8	1.0	0.40	ug/L		12/03/19 14:22	12/04/19 19:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	82		10 - 125				12/03/19 14:22	12/04/19 19:07	1
DCB Decachlorobiphenyl (Surr)	55		10 - 148				12/03/19 14:22	12/04/19 19:07	1

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	E8	1.0	0.23	ug/L		12/03/19 14:22	12/04/19 17:42	1
PCB-1221	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 17:42	1
PCB-1242	ND	E8	1.0	0.26	ug/L		12/03/19 14:22	12/04/19 17:42	1
PCB-1232	ND	E8	1.0	0.28	ug/L		12/03/19 14:22	12/04/19 17:42	1
PCB-1248	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 17:42	1
PCB-1254	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 17:42	1
PCB-1260	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 17:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	94		10 - 148				12/03/19 14:22	12/04/19 17:42	1
DCB Decachlorobiphenyl (Surr)	60		10 - 125				12/03/19 14:22	12/04/19 17:42	1

Client Sample ID: 2019090440

Lab Sample ID: 550-134108-5

Date Collected: 11/29/19 03:59

Matrix: Water

Date Received: 12/02/19 15:15

Method: 608.3 - Organochlorine Pesticides in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	E8	0.050	0.039	ug/L		12/03/19 14:22	12/04/19 17:32	1
4,4'-DDE	ND	E8	0.050	0.043	ug/L		12/03/19 14:22	12/04/19 17:32	1
4,4'-DDT	ND	E8	0.050	0.032	ug/L		12/03/19 14:22	12/04/19 17:32	1
alpha-BHC	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 17:32	1
beta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 17:32	1
Aldrin	ND	E8	0.050	0.045	ug/L		12/03/19 14:22	12/04/19 17:32	1
Chlordane (technical)	ND	E8	0.50	0.17	ug/L		12/03/19 14:22	12/04/19 17:32	1
delta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 17:32	1
Dieldrin	ND	E8	0.050	0.031	ug/L		12/03/19 14:22	12/04/19 17:32	1
Endosulfan I	ND	E8 R6	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 17:32	1
Endosulfan II	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 17:32	1
Endosulfan sulfate	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 17:32	1
Endrin	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 17:32	1
Endrin aldehyde	ND	E8	0.10	0.090	ug/L		12/03/19 14:22	12/04/19 17:32	1
Endrin ketone	ND	E8	0.050	0.050	ug/L		12/03/19 14:22	12/04/19 17:32	1
gamma-BHC (Lindane)	ND	E8	0.050	0.034	ug/L		12/03/19 14:22	12/04/19 17:32	1
Heptachlor	ND	E8	0.10	0.069	ug/L		12/03/19 14:22	12/04/19 17:32	1
Heptachlor epoxide	ND	E8 R6	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 17:32	1
Methoxychlor	ND	E8	0.10	0.091	ug/L		12/03/19 14:22	12/04/19 17:32	1
Toxaphene	ND	E8	1.0	0.40	ug/L		12/03/19 14:22	12/04/19 17:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	87		10 - 125				12/03/19 14:22	12/04/19 17:32	1
DCB Decachlorobiphenyl (Surr)	34		10 - 148				12/03/19 14:22	12/04/19 17:32	1

Euofins TestAmerica, Phoenix

Client Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134108-1

Client Sample ID: 2019090440

Lab Sample ID: 550-134108-5

Date Collected: 11/29/19 03:59

Matrix: Water

Date Received: 12/02/19 15:15

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	E8	1.0	0.23	ug/L		12/03/19 14:22	12/04/19 16:12	1
PCB-1221	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 16:12	1
PCB-1242	ND	E8	1.0	0.26	ug/L		12/03/19 14:22	12/04/19 16:12	1
PCB-1232	ND	E8	1.0	0.28	ug/L		12/03/19 14:22	12/04/19 16:12	1
PCB-1248	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 16:12	1
PCB-1254	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 16:12	1
PCB-1260	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 16:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	84		10 - 148	12/03/19 14:22	12/04/19 16:12	1
DCB Decachlorobiphenyl (Surr)	36		10 - 125	12/03/19 14:22	12/04/19 16:12	1

Client Sample ID: 2019090455

Lab Sample ID: 550-134108-6

Date Collected: 11/29/19 03:52

Matrix: Water

Date Received: 12/02/19 15:15

Method: 608.3 - Organochlorine Pesticides in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	E8	0.050	0.039	ug/L		12/03/19 14:22	12/04/19 19:23	1
4,4'-DDE	ND	E8	0.050	0.043	ug/L		12/03/19 14:22	12/04/19 19:23	1
4,4'-DDT	ND	E8	0.050	0.032	ug/L		12/03/19 14:22	12/04/19 19:23	1
alpha-BHC	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 19:23	1
beta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 19:23	1
Aldrin	ND	E8	0.050	0.045	ug/L		12/03/19 14:22	12/04/19 19:23	1
Chlordane (technical)	ND	E8	0.50	0.17	ug/L		12/03/19 14:22	12/04/19 19:23	1
delta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 19:23	1
Dieldrin	ND	E8	0.050	0.031	ug/L		12/03/19 14:22	12/04/19 19:23	1
Endosulfan I	ND	E8 R6	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 19:23	1
Endosulfan II	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 19:23	1
Endosulfan sulfate	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 19:23	1
Endrin	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 19:23	1
Endrin aldehyde	ND	E8	0.10	0.090	ug/L		12/03/19 14:22	12/04/19 19:23	1
Endrin ketone	ND	E8	0.050	0.050	ug/L		12/03/19 14:22	12/04/19 19:23	1
gamma-BHC (Lindane)	ND	E8	0.050	0.034	ug/L		12/03/19 14:22	12/04/19 19:23	1
Heptachlor	ND	E8	0.10	0.069	ug/L		12/03/19 14:22	12/04/19 19:23	1
Heptachlor epoxide	ND	E8 R6	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 19:23	1
Methoxychlor	ND	E8	0.10	0.091	ug/L		12/03/19 14:22	12/04/19 19:23	1
Toxaphene	ND	E8	1.0	0.40	ug/L		12/03/19 14:22	12/04/19 19:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	94		10 - 125	12/03/19 14:22	12/04/19 19:23	1
DCB Decachlorobiphenyl (Surr)	69		10 - 148	12/03/19 14:22	12/04/19 19:23	1

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	E8	1.0	0.23	ug/L		12/03/19 14:22	12/04/19 17:57	1
PCB-1221	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 17:57	1
PCB-1242	ND	E8	1.0	0.26	ug/L		12/03/19 14:22	12/04/19 17:57	1
PCB-1232	ND	E8	1.0	0.28	ug/L		12/03/19 14:22	12/04/19 17:57	1
PCB-1248	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 17:57	1
PCB-1254	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 17:57	1

Euofins TestAmerica, Phoenix

Client Sample Results

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134108-1

Client Sample ID: 2019090455

Lab Sample ID: 550-134108-6

Date Collected: 11/29/19 03:52

Matrix: Water

Date Received: 12/02/19 15:15

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1260	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 17:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	91		10 - 148				12/03/19 14:22	12/04/19 17:57	1
DCB Decachlorobiphenyl (Surr)	72		10 - 125				12/03/19 14:22	12/04/19 17:57	1

Client Sample ID: 2019090470

Lab Sample ID: 550-134108-7

Date Collected: 11/29/19 04:33

Matrix: Water

Date Received: 12/02/19 15:15

Method: 608.3 - Organochlorine Pesticides in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	E8	0.050	0.039	ug/L		12/03/19 14:22	12/04/19 19:39	1
4,4'-DDE	ND	E8	0.050	0.043	ug/L		12/03/19 14:22	12/04/19 19:39	1
4,4'-DDT	ND	E8	0.050	0.032	ug/L		12/03/19 14:22	12/04/19 19:39	1
alpha-BHC	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 19:39	1
beta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 19:39	1
Aldrin	ND	E8	0.050	0.045	ug/L		12/03/19 14:22	12/04/19 19:39	1
Chlordane (technical)	ND	E8	0.50	0.17	ug/L		12/03/19 14:22	12/04/19 19:39	1
delta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 19:39	1
Dieldrin	ND	E8	0.050	0.031	ug/L		12/03/19 14:22	12/04/19 19:39	1
Endosulfan I	ND	E8 R6	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 19:39	1
Endosulfan II	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 19:39	1
Endosulfan sulfate	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 19:39	1
Endrin	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 19:39	1
Endrin aldehyde	ND	E8	0.10	0.090	ug/L		12/03/19 14:22	12/04/19 19:39	1
Endrin ketone	ND	E8	0.050	0.050	ug/L		12/03/19 14:22	12/04/19 19:39	1
gamma-BHC (Lindane)	ND	E8	0.050	0.034	ug/L		12/03/19 14:22	12/04/19 19:39	1
Heptachlor	ND	E8	0.10	0.069	ug/L		12/03/19 14:22	12/04/19 19:39	1
Heptachlor epoxide	ND	E8 R6	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 19:39	1
Methoxychlor	ND	E8	0.10	0.091	ug/L		12/03/19 14:22	12/04/19 19:39	1
Toxaphene	ND	E8	1.0	0.40	ug/L		12/03/19 14:22	12/04/19 19:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	98		10 - 125				12/03/19 14:22	12/04/19 19:39	1
DCB Decachlorobiphenyl (Surr)	40		10 - 148				12/03/19 14:22	12/04/19 19:39	1

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	E8	1.0	0.23	ug/L		12/03/19 14:22	12/04/19 18:12	1
PCB-1221	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 18:12	1
PCB-1242	ND	E8	1.0	0.26	ug/L		12/03/19 14:22	12/04/19 18:12	1
PCB-1232	ND	E8	1.0	0.28	ug/L		12/03/19 14:22	12/04/19 18:12	1
PCB-1248	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 18:12	1
PCB-1254	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 18:12	1
PCB-1260	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 18:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	89		10 - 148				12/03/19 14:22	12/04/19 18:12	1
DCB Decachlorobiphenyl (Surr)	43		10 - 125				12/03/19 14:22	12/04/19 18:12	1

Eurofins TestAmerica, Phoenix

QC Sample Results

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134108-1

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 550-197113/1-A
Matrix: Water
Analysis Batch: 197216

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 197113

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4,4'-DDD	ND	E8	0.050	0.039	ug/L		12/03/19 14:22	12/04/19 14:53	1
4,4'-DDE	ND	E8	0.050	0.043	ug/L		12/03/19 14:22	12/04/19 14:53	1
4,4'-DDT	ND	E8	0.050	0.032	ug/L		12/03/19 14:22	12/04/19 14:53	1
alpha-BHC	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 14:53	1
beta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 14:53	1
Aldrin	ND	E8	0.050	0.045	ug/L		12/03/19 14:22	12/04/19 14:53	1
Chlordane (technical)	ND	E8	0.50	0.17	ug/L		12/03/19 14:22	12/04/19 14:53	1
delta-BHC	ND	E8	0.050	0.041	ug/L		12/03/19 14:22	12/04/19 14:53	1
Dieldrin	ND	E8	0.050	0.031	ug/L		12/03/19 14:22	12/04/19 14:53	1
Endosulfan I	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 14:53	1
Endosulfan II	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 14:53	1
Endosulfan sulfate	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 14:53	1
Endrin	ND	E8	0.050	0.033	ug/L		12/03/19 14:22	12/04/19 14:53	1
Endrin aldehyde	ND	E8	0.10	0.090	ug/L		12/03/19 14:22	12/04/19 14:53	1
Endrin ketone	ND	E8	0.050	0.050	ug/L		12/03/19 14:22	12/04/19 14:53	1
gamma-BHC (Lindane)	ND	E8	0.050	0.034	ug/L		12/03/19 14:22	12/04/19 14:53	1
Heptachlor	ND	E8	0.10	0.069	ug/L		12/03/19 14:22	12/04/19 14:53	1
Heptachlor epoxide	ND	E8	0.050	0.035	ug/L		12/03/19 14:22	12/04/19 14:53	1
Methoxychlor	ND	E8	0.10	0.091	ug/L		12/03/19 14:22	12/04/19 14:53	1
Toxaphene	ND	E8	1.0	0.40	ug/L		12/03/19 14:22	12/04/19 14:53	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene	96		10 - 125	12/03/19 14:22	12/04/19 14:53	1
DCB Decachlorobiphenyl (Surr)	96		10 - 148	12/03/19 14:22	12/04/19 14:53	1

Lab Sample ID: LCS 550-197113/2-A
Matrix: Water
Analysis Batch: 197216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 197113

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
4,4'-DDD	1.00	0.671		ug/L		67	31 - 141
4,4'-DDE	1.00	0.689		ug/L		69	30 - 145
4,4'-DDT	1.00	0.750		ug/L		75	25 - 160
alpha-BHC	1.00	0.664		ug/L		66	37 - 140
beta-BHC	1.00	0.625		ug/L		62	17 - 147
Aldrin	1.00	0.667		ug/L		67	42 - 140
delta-BHC	1.00	0.647		ug/L		65	19 - 140
Dieldrin	1.00	0.685		ug/L		69	36 - 146
Endosulfan I	1.00	0.670		ug/L		67	45 - 153
Endosulfan II	1.00	0.641		ug/L		64	10 - 202
Endosulfan sulfate	1.00	0.713		ug/L		71	26 - 144
Endrin	1.00	0.703		ug/L		70	30 - 147
Endrin aldehyde	1.00	0.709		ug/L		71	48 - 116
Endrin ketone	1.00	0.736		ug/L		74	50 - 150
gamma-BHC (Lindane)	1.00	0.757		ug/L		76	32 - 140
Heptachlor	1.00	0.646		ug/L		65	34 - 140
Heptachlor epoxide	1.00	0.716		ug/L		72	37 - 142
Methoxychlor	1.00	0.738		ug/L		74	50 - 140

Eurofins TestAmerica, Phoenix

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134108-1

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCS 550-197113/2-A
Matrix: Water
Analysis Batch: 197216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 197113

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Tetrachloro-m-xylene</i>	73		10 - 125
<i>DCB Decachlorobiphenyl (Surr)</i>	67		10 - 148

Lab Sample ID: LCSD 550-197113/3-A
Matrix: Water
Analysis Batch: 197216

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 197113

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>	<i>RPD</i>	<i>Limit</i>
4,4'-DDD	1.00	0.956		ug/L		96	31 - 141	35	39
4,4'-DDE	1.00	0.952		ug/L		95	30 - 145	32	35
4,4'-DDT	1.00	1.06		ug/L		106	25 - 160	34	42
alpha-BHC	1.00	0.924		ug/L		92	37 - 140	33	36
beta-BHC	1.00	0.871		ug/L		87	17 - 147	33	44
Aldrin	1.00	0.931		ug/L		93	42 - 140	33	35
delta-BHC	1.00	0.918		ug/L		92	19 - 140	35	52
Dieldrin	1.00	0.955		ug/L		95	36 - 146	33	49
Endosulfan I	1.00	0.933	R6	ug/L		93	45 - 153	33	28
Endosulfan II	1.00	0.894		ug/L		89	10 - 202	33	53
Endosulfan sulfate	1.00	1.04		ug/L		104	26 - 144	38	38
Endrin	1.00	0.978		ug/L		98	30 - 147	33	48
Endrin aldehyde	1.00	0.961		ug/L		96	48 - 116	30	35
Endrin ketone	1.00	1.05		ug/L		105	50 - 150	35	35
gamma-BHC (Lindane)	1.00	1.07		ug/L		107	32 - 140	34	39
Heptachlor	1.00	0.916		ug/L		92	34 - 140	35	43
Heptachlor epoxide	1.00	1.00	R6	ug/L		100	37 - 142	33	26
Methoxychlor	1.00	1.03		ug/L		103	50 - 140	33	35

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Tetrachloro-m-xylene</i>	96		10 - 125
<i>DCB Decachlorobiphenyl (Surr)</i>	82		10 - 148

Lab Sample ID: 550-134108-5 MS
Matrix: Water
Analysis Batch: 197216

Client Sample ID: 2019090440
Prep Type: Total/NA
Prep Batch: 197113

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
4,4'-DDD	ND	E8	1.00	0.904		ug/L		90	31 - 141
4,4'-DDE	ND	E8	1.00	0.735		ug/L		73	30 - 145
4,4'-DDT	ND	E8	1.00	0.799		ug/L		80	25 - 160
alpha-BHC	ND	E8	1.00	0.866		ug/L		87	37 - 140
beta-BHC	ND	E8	1.00	0.787		ug/L		79	17 - 147
Aldrin	ND	E8	1.00	0.786		ug/L		79	42 - 140
delta-BHC	ND	E8	1.00	0.856		ug/L		86	19 - 140
Dieldrin	ND	E8	1.00	0.883		ug/L		88	36 - 146
Endosulfan I	ND	E8 R6	1.00	0.867		ug/L		87	45 - 153
Endosulfan II	ND	E8	1.00	0.916		ug/L		92	10 - 202
Endosulfan sulfate	ND	E8	1.00	1.01		ug/L		101	26 - 144
Endrin	ND	E8	1.00	0.912		ug/L		91	30 - 147

Eurofins TestAmerica, Phoenix

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134108-1

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: 550-134108-5 MS

Matrix: Water

Analysis Batch: 197216

Client Sample ID: 2019090440

Prep Type: Total/NA

Prep Batch: 197113

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Endrin aldehyde	ND	E8	1.00	0.894		ug/L		89	48 - 116
Endrin ketone	ND	E8	1.00	0.991		ug/L		99	50 - 150
gamma-BHC (Lindane)	ND	E8	1.00	0.981		ug/L		98	32 - 140
Heptachlor	ND	E8	1.00	0.813		ug/L		81	34 - 140
Heptachlor epoxide	ND	E8 R6	1.00	0.915		ug/L		92	37 - 142
Methoxychlor	ND	E8	1.00	0.955		ug/L		95	50 - 140

Surrogate	MS %Recovery	MS Qualifier	MS Limits
Tetrachloro-m-xylene	95		10 - 125
DCB Decachlorobiphenyl (Surr)	36		10 - 148

Lab Sample ID: 550-134108-5 MSD

Matrix: Water

Analysis Batch: 197216

Client Sample ID: 2019090440

Prep Type: Total/NA

Prep Batch: 197113

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	ND	E8	1.00	0.933		ug/L		93	31 - 141	3	39
4,4'-DDE	ND	E8	1.00	0.739		ug/L		74	30 - 145	1	35
4,4'-DDT	ND	E8	1.00	0.831		ug/L		83	25 - 160	4	42
alpha-BHC	ND	E8	1.00	0.908		ug/L		91	37 - 140	5	36
beta-BHC	ND	E8	1.00	0.820		ug/L		82	17 - 147	4	44
Aldrin	ND	E8	1.00	0.794		ug/L		79	42 - 140	1	35
delta-BHC	ND	E8	1.00	0.905		ug/L		91	19 - 140	6	52
Dieldrin	ND	E8	1.00	0.922		ug/L		92	36 - 146	4	49
Endosulfan I	ND	E8 R6	1.00	0.907		ug/L		91	45 - 153	5	28
Endosulfan II	ND	E8	1.00	0.952		ug/L		95	10 - 202	4	53
Endosulfan sulfate	ND	E8	1.00	1.07		ug/L		107	26 - 144	5	38
Endrin	ND	E8	1.00	0.953		ug/L		95	30 - 147	4	48
Endrin aldehyde	ND	E8	1.00	0.958		ug/L		96	48 - 116	7	35
Endrin ketone	ND	E8	1.00	1.04		ug/L		104	50 - 150	5	35
gamma-BHC (Lindane)	ND	E8	1.00	1.01		ug/L		101	32 - 140	3	39
Heptachlor	ND	E8	1.00	0.834		ug/L		83	34 - 140	2	43
Heptachlor epoxide	ND	E8 R6	1.00	0.948		ug/L		95	37 - 142	3	26
Methoxychlor	ND	E8	1.00	0.979		ug/L		98	50 - 140	2	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
Tetrachloro-m-xylene	97		10 - 125
DCB Decachlorobiphenyl (Surr)	33		10 - 148

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 550-197113/1-A

Matrix: Water

Analysis Batch: 197224

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 197113

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	E8	1.0	0.23	ug/L		12/03/19 14:22	12/04/19 15:27	1
PCB-1221	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 15:27	1

Eurolins TestAmerica, Phoenix

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134108-1

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Lab Sample ID: MB 550-197113/1-A
Matrix: Water
Analysis Batch: 197224

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 197113

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-1242	ND	E8	1.0	0.26	ug/L		12/03/19 14:22	12/04/19 15:27	1
PCB-1232	ND	E8	1.0	0.28	ug/L		12/03/19 14:22	12/04/19 15:27	1
PCB-1248	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 15:27	1
PCB-1254	ND	E8	1.0	0.25	ug/L		12/03/19 14:22	12/04/19 15:27	1
PCB-1260	ND	E8	1.0	0.21	ug/L		12/03/19 14:22	12/04/19 15:27	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene (Surr)	100		10 - 148	12/03/19 14:22	12/04/19 15:27	1
DCB Decachlorobiphenyl (Surr)	100		10 - 125	12/03/19 14:22	12/04/19 15:27	1

Lab Sample ID: LCS 550-197113/4-A
Matrix: Water
Analysis Batch: 197224

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 197113

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
PCB-1016	10.0	9.94		ug/L		99	47 - 121
PCB-1260	10.0	8.71		ug/L		87	44 - 126

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	87		10 - 148
DCB Decachlorobiphenyl (Surr)	46		10 - 125

Lab Sample ID: LCSD 550-197113/5-A
Matrix: Water
Analysis Batch: 197224

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 197113

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	Limits	RPD	Limit
		Result	Qualifier						
PCB-1016	10.0	10.5		ug/L		105	47 - 121	6	35
PCB-1260	10.0	8.78		ug/L		88	44 - 126	1	35

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	87		10 - 148
DCB Decachlorobiphenyl (Surr)	47		10 - 125

Lab Sample ID: 550-134108-5 MS
Matrix: Water
Analysis Batch: 197224

Client Sample ID: 2019090440
Prep Type: Total/NA
Prep Batch: 197113

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	Limits
	Result	Qualifier		Result	Qualifier				
PCB-1016	ND	E8	10.0	9.64		ug/L		96	50 - 140
PCB-1260	ND	E8	10.0	7.33		ug/L		73	8 - 140

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	86		10 - 148
DCB Decachlorobiphenyl (Surr)	36		10 - 125

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134108-1

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Lab Sample ID: 550-134108-5 MSD

Matrix: Water

Analysis Batch: 197224

Client Sample ID: 2019090440

Prep Type: Total/NA

Prep Batch: 197113

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	ND	E8	10.0	9.10		ug/L		91	50 - 140	6	36
PCB-1260	ND	E8	10.0	7.38		ug/L		74	8 - 140	1	38
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
<i>Tetrachloro-m-xylene (Surr)</i>	86		10 - 148								
<i>DCB Decachlorobiphenyl (Surr)</i>	37		10 - 125								

Lab Chronicle

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134108-1

Client Sample ID: 2019090206

Lab Sample ID: 550-134108-1

Date Collected: 11/29/19 05:36

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197216	12/04/19 18:20	R1K	TAL PHX
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197224	12/04/19 16:57	R1K	TAL PHX

Client Sample ID: 2019090297

Lab Sample ID: 550-134108-2

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197216	12/04/19 18:35	R1K	TAL PHX
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197224	12/04/19 17:12	R1K	TAL PHX

Client Sample ID: 2019090383

Lab Sample ID: 550-134108-3

Date Collected: 11/29/19 05:23

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197216	12/04/19 18:51	R1K	TAL PHX
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197224	12/04/19 17:27	R1K	TAL PHX

Client Sample ID: 2019090410

Lab Sample ID: 550-134108-4

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197216	12/04/19 19:07	R1K	TAL PHX
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197224	12/04/19 17:42	R1K	TAL PHX

Client Sample ID: 2019090440

Lab Sample ID: 550-134108-5

Date Collected: 11/29/19 03:59

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197216	12/04/19 17:32	R1K	TAL PHX
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197224	12/04/19 16:12	R1K	TAL PHX

Lab Chronicle

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134108-1

Client Sample ID: 2019090455

Lab Sample ID: 550-134108-6

Date Collected: 11/29/19 03:52

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197216	12/04/19 19:23	R1K	TAL PHX
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197224	12/04/19 17:57	R1K	TAL PHX

Client Sample ID: 2019090470

Lab Sample ID: 550-134108-7

Date Collected: 11/29/19 04:33

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197216	12/04/19 19:39	R1K	TAL PHX
Total/NA	Prep	608			197113	12/03/19 14:22	EXO	TAL PHX
Total/NA	Analysis	608.3		1	197224	12/04/19 18:12	R1K	TAL PHX

Laboratory References:

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

Accreditation/Certification Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134108-1

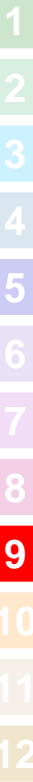
Laboratory: Eurofins TestAmerica, Phoenix

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0728	06-09-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
608.3	608	Water	Endrin ketone



Method Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134108-1

Method	Method Description	Protocol	Laboratory
608.3	Organochlorine Pesticides in Water	40CFR136A	TAL PHX
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL PHX
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

Laboratory References:

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



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phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: DW NPDES RCRA Other:

Project Manager: _____ **Site Contact:** _____ **Date:** _____
Tel/Fax: _____ **Lab Contact:** _____ **Carrier:** _____
 CALENDAR DAYS WORKING DAYS
Analysis Turnaround Time
 TAT if different from Below
 2 weeks 1 week 2 days 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)
-01 2019090206	11/29/19	0530	C	STW	2	X	
-02 2019090297	11/29/19	0430	C	STW	2	X	
-03 2019090383	11/29/19	0523	C	STW	2	X	
-04 2019090410	11/29/19	0430	C	STW	2	X	
-05 2019090440	11/29/19	0359	C	STW	2	X	
-06 2019090455	11/29/19	0350	C	STW	2	X	
-07 2019090470	11/29/19	0433	C	STW	2	X	



550-134108 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other _____
Possible Hazard Identification: Please List any EPA Hazardous Waste for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazardous Flammable Skin Irritant Poison B Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return to Client Disposal by Lab Archive for _____ Months
Custody Seal No.: _____
Relinquished by: [Signature] Yes No
Relinquished by: DAVID D.C.S. 12/2/19 12/2/19 12-02-2019
Relinquished by: [Signature] 4-5-c 2-8-c 12-02-2019

Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-134108-1

Login Number: 134108

List Source: Eurofins TestAmerica, Phoenix

List Number: 1

Creator: Gravlin, Andrea

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

ANALYTICAL REPORT

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

Laboratory Job ID: 550-134112-1

Client Project/Site: Water Services Department

For:

City of Phoenix Water Services
2474 South 22nd Ave
Bld. 31
Phoenix, Arizona 85009

Attn: Britney Dempster



Authorized for release by:

12/12/2019 9:11:05 AM

Ken Baker, Project Manager II

(602)659-7624

ken.baker@testamericainc.com

Designee for

Rachel Sester, Project Manager I

(602)659-7615

rachel.sester@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

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

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



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Definitions/Glossary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134112-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.

Glossary

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

Case Narrative

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134112-1

Job ID: 550-134112-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-134112-1

Comments

No additional comments.

Receipt

The samples were received on 12/2/2019 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.8° C and 2.6° C.

General Chemistry

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

Organic Prep

Methods 1664A, 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation/analysis: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6), 2019090422 (550-134112-8) and 2019090452 (550-134112-10). Method 1664A/B.

Method 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6) and 2019090452 (550-134112-10). Since the HEM results was below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All quality control criteria were met. Method 1664B.

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

Sample Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134112-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-134112-1	2019090213	Water	11/29/19 05:36	12/02/19 15:15	
550-134112-2	2019090218	Water	11/29/19 10:05	12/02/19 15:15	
550-134112-3	2019090304	Water	11/29/19 04:32	12/02/19 15:15	
550-134112-4	2019090309	Water	11/29/19 09:20	12/02/19 15:15	
550-134112-5	2019090390	Water	11/29/19 05:23	12/02/19 15:15	
550-134112-6	2019090395	Water	11/29/19 08:40	12/02/19 15:15	
550-134112-7	2019090417	Water	11/29/19 04:32	12/02/19 15:15	
550-134112-8	2019090422	Water	11/29/19 07:50	12/02/19 15:15	
550-134112-9	2019090447	Water	11/29/19 03:59	12/02/19 15:15	
550-134112-10	2019090452	Water	11/29/19 06:55	12/02/19 15:15	

Client Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134112-1

Client Sample ID: 2019090213

Lab Sample ID: 550-134112-1

Date Collected: 11/29/19 05:36

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	1.1	D2	0.50		mg/L		12/05/19 11:05	12/06/19 14:08	5

Client Sample ID: 2019090218

Lab Sample ID: 550-134112-2

Date Collected: 11/29/19 10:05

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.7		mg/L		12/09/19 06:18	12/09/19 10:40	1
SGT-HEM	ND		5.7		mg/L		12/09/19 06:18	12/09/19 10:40	1

Client Sample ID: 2019090304

Lab Sample ID: 550-134112-3

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	0.43		0.10		mg/L		12/05/19 11:05	12/06/19 14:08	1

Client Sample ID: 2019090309

Lab Sample ID: 550-134112-4

Date Collected: 11/29/19 09:20

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.8		mg/L		12/09/19 06:18	12/09/19 10:40	1
SGT-HEM	ND		5.8		mg/L		12/09/19 06:18	12/09/19 10:40	1

Client Sample ID: 2019090390

Lab Sample ID: 550-134112-5

Date Collected: 11/29/19 05:23

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	1.2	D2	0.50		mg/L		12/05/19 11:05	12/06/19 14:08	5

Client Sample ID: 2019090395

Lab Sample ID: 550-134112-6

Date Collected: 11/29/19 08:40

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		6.3		mg/L		12/09/19 06:18	12/09/19 10:40	1
SGT-HEM	ND		6.3		mg/L		12/09/19 06:18	12/09/19 10:40	1

Client Sample ID: 2019090417

Lab Sample ID: 550-134112-7

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	2.4	D2	1.0		mg/L		12/05/19 11:05	12/06/19 14:08	10

Euofins TestAmerica, Phoenix

Client Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134112-1

Client Sample ID: 2019090422

Lab Sample ID: 550-134112-8

Date Collected: 11/29/19 07:50

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	8.2		5.6		mg/L		12/09/19 06:18	12/09/19 10:40	1
SGT-HEM	ND		5.6		mg/L		12/09/19 06:18	12/09/19 10:40	1

Client Sample ID: 2019090447

Lab Sample ID: 550-134112-9

Date Collected: 11/29/19 03:59

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	0.23		0.10		mg/L		12/05/19 11:05	12/06/19 14:08	1

Client Sample ID: 2019090452

Lab Sample ID: 550-134112-10

Date Collected: 11/29/19 06:55

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		6.5		mg/L		12/09/19 06:26	12/09/19 10:40	1
SGT-HEM	ND		6.5		mg/L		12/09/19 06:26	12/09/19 10:40	1

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134112-1

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 440-584567/1-A
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 584567

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0		mg/L		12/09/19 06:18	12/09/19 10:40	1
SGT-HEM	ND		5.0		mg/L		12/09/19 06:18	12/09/19 10:40	1

Lab Sample ID: LCS 440-584567/2-A
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 584567

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	40.0	34.90		mg/L		87	78 - 114
SGT-HEM	20.0	16.30		mg/L		82	64 - 132

Lab Sample ID: LCSD 440-584567/3-A
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 584567

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	40.0	34.60		mg/L		87	78 - 114	1	11
SGT-HEM	20.0	16.20		mg/L		81	64 - 132	1	28

Lab Sample ID: 440-256380-A-1-A MS
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 584567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	ND		38.6	33.24		mg/L		86	78 - 114

Lab Sample ID: 440-256380-A-1-B MSD
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 584567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	ND		38.8	33.40		mg/L		86	78 - 114	0	18

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 550-197308/3-A
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 197308

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	ND		0.10		mg/L		12/05/19 11:05	12/06/19 14:08	1

Lab Sample ID: LCS 550-197308/4-A
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 197308

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus	0.300	0.303		mg/L		101	90 - 110

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134112-1

Method: SM 4500 P E - Phosphorus (Continued)

Lab Sample ID: LCSD 550-197308/5-A
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 197308

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Total Phosphorus	0.300	0.294		mg/L		98	90 - 110	3	20

Lab Sample ID: 550-134115-A-1-B MS
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 197308

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Total Phosphorus	ND		0.300	0.303		mg/L		101	80 - 120		

Lab Sample ID: 550-134115-A-1-C MSD
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 197308

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Total Phosphorus	ND		0.300	0.298		mg/L		99	80 - 120	2	20

Lab Chronicle

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134112-1

Client Sample ID: 2019090213

Lab Sample ID: 550-134112-1

Date Collected: 11/29/19 05:36

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			197308	12/05/19 11:05	DGS	TAL PHX
Total/NA	Analysis	SM 4500 P E		5	197310	12/06/19 14:08	DGS	TAL PHX

Client Sample ID: 2019090218

Lab Sample ID: 550-134112-2

Date Collected: 11/29/19 10:05

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			584567	12/09/19 06:18	JC1	TAL IRV
Total/NA	Analysis	1664B		1	584669	12/09/19 10:40	JC1	TAL IRV

Client Sample ID: 2019090304

Lab Sample ID: 550-134112-3

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			197308	12/05/19 11:05	DGS	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	197310	12/06/19 14:08	DGS	TAL PHX

Client Sample ID: 2019090309

Lab Sample ID: 550-134112-4

Date Collected: 11/29/19 09:20

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			584567	12/09/19 06:18	JC1	TAL IRV
Total/NA	Analysis	1664B		1	584669	12/09/19 10:40	JC1	TAL IRV

Client Sample ID: 2019090390

Lab Sample ID: 550-134112-5

Date Collected: 11/29/19 05:23

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			197308	12/05/19 11:05	DGS	TAL PHX
Total/NA	Analysis	SM 4500 P E		5	197310	12/06/19 14:08	DGS	TAL PHX

Client Sample ID: 2019090395

Lab Sample ID: 550-134112-6

Date Collected: 11/29/19 08:40

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			584567	12/09/19 06:18	JC1	TAL IRV
Total/NA	Analysis	1664B		1	584669	12/09/19 10:40	JC1	TAL IRV

Lab Chronicle

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134112-1

Client Sample ID: 2019090417

Lab Sample ID: 550-134112-7

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			197308	12/05/19 11:05	DGS	TAL PHX
Total/NA	Analysis	SM 4500 P E		10	197310	12/06/19 14:08	DGS	TAL PHX

Client Sample ID: 2019090422

Lab Sample ID: 550-134112-8

Date Collected: 11/29/19 07:50

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			584567	12/09/19 06:18	JC1	TAL IRV
Total/NA	Analysis	1664B		1	584669	12/09/19 10:40	JC1	TAL IRV

Client Sample ID: 2019090447

Lab Sample ID: 550-134112-9

Date Collected: 11/29/19 03:59

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			197308	12/05/19 11:05	DGS	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	197310	12/06/19 14:08	DGS	TAL PHX

Client Sample ID: 2019090452

Lab Sample ID: 550-134112-10

Date Collected: 11/29/19 06:55

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			584567	12/09/19 06:26	JC1	TAL IRV
Total/NA	Analysis	1664B		1	584669	12/09/19 10:40	JC1	TAL IRV

Laboratory References:

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

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

Accreditation/Certification Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134112-1

Laboratory: Eurofins TestAmerica, Phoenix

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0728	06-09-20

Laboratory: Eurofins TestAmerica, Irvine

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0671	10-14-20

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

Method Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134112-1

Method	Method Description	Protocol	Laboratory
1664B	HEM and SGT-HEM	1664B	TAL IRV
SM 4500 P E	Phosphorus	SM	TAL PHX
1664B	HEM and SGT-HEM (SPE)	1664B	TAL IRV
SM 4500 P B	Phosphorous, Total and Ortho	SM	TAL PHX

Protocol References:

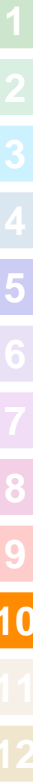
1664B = EPA-821-98-002

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

Laboratory References:

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

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



TestAmerica Phoenix
 4625 East Colton Center Boulevard
 Suite 189
 Phoenix, AZ 85004-4807
 phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: DW NPDES RCRA Other:

COC No: 134112 of 1 COCs

Date: _____

Site Contact: _____

Project Manager: _____

Client Contact: _____

City of Phoenix
 2474 S 22nd Ave
 Phoenix, AZ 85009
 (602) 534-2960

Project Name: _____
 Site: _____
 P O #: _____

Tell/Fax: _____

Carrier: _____

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS

TAT if different from Below _____
 2 weeks
 1 week
 2 days
 1 day

Sample Date Sample Time Sample Type Matrix # of Cont.

2019090213 0536 C STW 1

2019090218 1005 G STW 3

2019090304 0430 C STW 1

2019090309 0920 G STW 3

2019090390 0523 C STW 1

2019090395 0840 G STW 3

2019090417 0430 C STW 1

2019090422 0750 G STW 3

2019090447 0359 C STW 1

2019090448 52 02/21/19 G STW 3

Sample Identification

Sample Specific Notes:

1664 HEM&SGT

Phosphorous

550-134112 Chain of Custody

Filtered Sample (Y/N)

Perform MS/MSD (Y/N)

Return to Client Disposal by Lab Archive for _____ Months

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

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

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

Non-Hazardous Flammable Skin Irritant Poison B Unknown

Cooler Temp. (°C): Obs'd: _____

Received by: _____ Company: _____

Received in Laboratory by: _____ Company: _____

Received by: _____ Company: _____

Therm ID No.: _____

Date/Time: 12/2/19

Date/Time: 14:36

Date/Time: 12/2-15-15

Form No. CA-C-WI-002, Rev. 4.8, dated 11/04/2015

Temp 9.6°C 1.8°C

12/12/2019

Eurofins TestAmerica, Phoenix
 4625 East Cotton Ctr Blvd Suite 189
 Phoenix, AZ 85040
 Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

curolfins



Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)		COC No
TestAmerica Laboratories, Inc		Sester, Rachel E	Sester, Rachel E	550-26598 1		550-26598 1
Address: 17461 Derian Ave, Suite 100, Irvine, CA, 92614-5817		Phone: 949-261-1022(Tel) 949-260-3297(Fax)	E-Mail: rachel.sester@testamericainc.com	State of Origin: Arizona		Page: Page 1 of 1
City: Irvine		Project #	Job #			
State: CA		55002151	550-134112-1			
ZIP: 92614-5817		SSOW#				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)						
Email:						
Project Name: Water Services Department						
Site:						

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (Water, Sealed, On-wash, etc.)	Field Filtered Sample (Yes or No)	164B/164B_SPF	Analysis Requested	Special Instructions/Note:
2019090218 (550-134112-2)	11/29/19	10:05	Water	Water	X	X		Run MS/MSD with batch if there is enough volume
2019090309 (550-134112-4)	11/29/19	09:20	Water	Water	X	X		Run MS/MSD with batch if there is enough volume
2019090395 (550-134112-6)	11/29/19	08:40	Water	Water	X	X		Run MS/MSD with batch if there is enough volume
2019090422 (550-134112-8)	11/29/19	07:50	Water	Water	X	X		Run MS/MSD with batch if there is enough volume
2019090452 (550-134112-10)	11/29/19	06:55	Water	Water	X	X		Run MS/MSD with batch if there is enough volume

Analysis Requested:
 A - HCL
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - NaHSC4
 F - MeOH
 G - Amchlor
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDA
 Other:

Preservation Codes:
 M - Hexane
 N - None
 O - AsNBO2
 P - Na2O4S
 Q - Na2SO3
 R - Na2S2O3
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - MCAA
 W - pH 4-5
 Z - other (specify)

Special Instructions/Note:
 Total Number of Containers: 3
 Run MS/MSD with batch if there is enough volume

Accreditations Required (See note):
 State Program - Arizona

Due Date Requested: 12/9/2019
TAT Requested (days):

Project #: 55002151
SSOW#:

Sample Date: 11/29/19
Sample Time: 10:05
Sample Type: Water
Matrix: Water

Sample Date: 11/29/19
Sample Time: 09:20
Sample Type: Water
Matrix: Water

Sample Date: 11/29/19
Sample Time: 08:40
Sample Type: Water
Matrix: Water

Sample Date: 11/29/19
Sample Time: 07:50
Sample Type: Water
Matrix: Water

Sample Date: 11/29/19
Sample Time: 06:55
Sample Type: Water
Matrix: Water

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc places the ownership of method, analyze & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc

Possible Hazard Identification
 Return To Client
 Disposal By Lab
 Archive For _____ Months

Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank 2

Empty Kit Relinquished by _____ Date: _____
 Relinquished by: Quinn Date/Time: 12/15/2019 14:50 Company: TA 12V
 Relinquished by: _____ Date/Time: _____ Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seal No: 20 2-8 12 89
 Custody Seal Intact: Yes
 Cooler Temperature/Other Remarks: 20 2-8 12 89

Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-134112-1

Login Number: 134112

List Source: Eurofins TestAmerica, Phoenix

List Number: 1

Creator: Gravlin, Andrea

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



Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-134112-1

Login Number: 134112

List Number: 2

Creator: Ornelas, Olga

List Source: Eurofins TestAmerica, Irvine

List Creation: 12/04/19 01:18 PM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 550-134112-1

Client Project/Site: Water Services Department

For:

City of Phoenix Water Services
2474 South 22nd Ave
Bld. 31
Phoenix, Arizona 85009

Attn: Britney Dempster



Authorized for release by:

12/12/2019 9:11:05 AM

Ken Baker, Project Manager II

(602)659-7624

ken.baker@testamericainc.com

Designee for

Rachel Sester, Project Manager I

(602)659-7615

rachel.sester@testamericainc.com

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

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



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Definitions/Glossary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134112-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.

Glossary

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

Case Narrative

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134112-1

Job ID: 550-134112-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-134112-1

Comments

No additional comments.

Receipt

The samples were received on 12/2/2019 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.8° C and 2.6° C.

General Chemistry

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

Organic Prep

Methods 1664A, 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation/analysis: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6), 2019090422 (550-134112-8) and 2019090452 (550-134112-10). Method 1664A/B.

Method 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019090218 (550-134112-2), 2019090309 (550-134112-4), 2019090395 (550-134112-6) and 2019090452 (550-134112-10). Since the HEM results was below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All quality control criteria were met. Method 1664B.

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

Sample Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134112-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-134112-1	2019090213	Water	11/29/19 05:36	12/02/19 15:15	
550-134112-2	2019090218	Water	11/29/19 10:05	12/02/19 15:15	
550-134112-3	2019090304	Water	11/29/19 04:32	12/02/19 15:15	
550-134112-4	2019090309	Water	11/29/19 09:20	12/02/19 15:15	
550-134112-5	2019090390	Water	11/29/19 05:23	12/02/19 15:15	
550-134112-6	2019090395	Water	11/29/19 08:40	12/02/19 15:15	
550-134112-7	2019090417	Water	11/29/19 04:32	12/02/19 15:15	
550-134112-8	2019090422	Water	11/29/19 07:50	12/02/19 15:15	
550-134112-9	2019090447	Water	11/29/19 03:59	12/02/19 15:15	
550-134112-10	2019090452	Water	11/29/19 06:55	12/02/19 15:15	

Client Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134112-1

Client Sample ID: 2019090213

Lab Sample ID: 550-134112-1

Date Collected: 11/29/19 05:36

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	1.1	D2	0.50		mg/L		12/05/19 11:05	12/06/19 14:08	5

Client Sample ID: 2019090218

Lab Sample ID: 550-134112-2

Date Collected: 11/29/19 10:05

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.7		mg/L		12/09/19 06:18	12/09/19 10:40	1
SGT-HEM	ND		5.7		mg/L		12/09/19 06:18	12/09/19 10:40	1

Client Sample ID: 2019090304

Lab Sample ID: 550-134112-3

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	0.43		0.10		mg/L		12/05/19 11:05	12/06/19 14:08	1

Client Sample ID: 2019090309

Lab Sample ID: 550-134112-4

Date Collected: 11/29/19 09:20

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.8		mg/L		12/09/19 06:18	12/09/19 10:40	1
SGT-HEM	ND		5.8		mg/L		12/09/19 06:18	12/09/19 10:40	1

Client Sample ID: 2019090390

Lab Sample ID: 550-134112-5

Date Collected: 11/29/19 05:23

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	1.2	D2	0.50		mg/L		12/05/19 11:05	12/06/19 14:08	5

Client Sample ID: 2019090395

Lab Sample ID: 550-134112-6

Date Collected: 11/29/19 08:40

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		6.3		mg/L		12/09/19 06:18	12/09/19 10:40	1
SGT-HEM	ND		6.3		mg/L		12/09/19 06:18	12/09/19 10:40	1

Client Sample ID: 2019090417

Lab Sample ID: 550-134112-7

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	2.4	D2	1.0		mg/L		12/05/19 11:05	12/06/19 14:08	10

Eurolins TestAmerica, Phoenix

Client Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134112-1

Client Sample ID: 2019090422

Lab Sample ID: 550-134112-8

Date Collected: 11/29/19 07:50

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	8.2		5.6		mg/L		12/09/19 06:18	12/09/19 10:40	1
SGT-HEM	ND		5.6		mg/L		12/09/19 06:18	12/09/19 10:40	1

Client Sample ID: 2019090447

Lab Sample ID: 550-134112-9

Date Collected: 11/29/19 03:59

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	0.23		0.10		mg/L		12/05/19 11:05	12/06/19 14:08	1

Client Sample ID: 2019090452

Lab Sample ID: 550-134112-10

Date Collected: 11/29/19 06:55

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		6.5		mg/L		12/09/19 06:26	12/09/19 10:40	1
SGT-HEM	ND		6.5		mg/L		12/09/19 06:26	12/09/19 10:40	1

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134112-1

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 440-584567/1-A
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 584567

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0		mg/L		12/09/19 06:18	12/09/19 10:40	1
SGT-HEM	ND		5.0		mg/L		12/09/19 06:18	12/09/19 10:40	1

Lab Sample ID: LCS 440-584567/2-A
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 584567

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	40.0	34.90		mg/L		87	78 - 114
SGT-HEM	20.0	16.30		mg/L		82	64 - 132

Lab Sample ID: LCSD 440-584567/3-A
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 584567

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	40.0	34.60		mg/L		87	78 - 114	1	11
SGT-HEM	20.0	16.20		mg/L		81	64 - 132	1	28

Lab Sample ID: 440-256380-A-1-A MS
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 584567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	ND		38.6	33.24		mg/L		86	78 - 114

Lab Sample ID: 440-256380-A-1-B MSD
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 584567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	ND		38.8	33.40		mg/L		86	78 - 114	0	18

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 550-197308/3-A
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 197308

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	ND		0.10		mg/L		12/05/19 11:05	12/06/19 14:08	1

Lab Sample ID: LCS 550-197308/4-A
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 197308

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus	0.300	0.303		mg/L		101	90 - 110

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134112-1

Method: SM 4500 P E - Phosphorus (Continued)

Lab Sample ID: LCSD 550-197308/5-A
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 197308

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Total Phosphorus	0.300	0.294		mg/L		98	90 - 110	3	20

Lab Sample ID: 550-134115-A-1-B MS
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 197308

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Total Phosphorus	ND		0.300	0.303		mg/L		101	80 - 120		

Lab Sample ID: 550-134115-A-1-C MSD
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 197308

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Total Phosphorus	ND		0.300	0.298		mg/L		99	80 - 120	2	20

Lab Chronicle

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134112-1

Client Sample ID: 2019090213

Lab Sample ID: 550-134112-1

Date Collected: 11/29/19 05:36

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			197308	12/05/19 11:05	DGS	TAL PHX
Total/NA	Analysis	SM 4500 P E		5	197310	12/06/19 14:08	DGS	TAL PHX

Client Sample ID: 2019090218

Lab Sample ID: 550-134112-2

Date Collected: 11/29/19 10:05

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			584567	12/09/19 06:18	JC1	TAL IRV
Total/NA	Analysis	1664B		1	584669	12/09/19 10:40	JC1	TAL IRV

Client Sample ID: 2019090304

Lab Sample ID: 550-134112-3

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			197308	12/05/19 11:05	DGS	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	197310	12/06/19 14:08	DGS	TAL PHX

Client Sample ID: 2019090309

Lab Sample ID: 550-134112-4

Date Collected: 11/29/19 09:20

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			584567	12/09/19 06:18	JC1	TAL IRV
Total/NA	Analysis	1664B		1	584669	12/09/19 10:40	JC1	TAL IRV

Client Sample ID: 2019090390

Lab Sample ID: 550-134112-5

Date Collected: 11/29/19 05:23

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			197308	12/05/19 11:05	DGS	TAL PHX
Total/NA	Analysis	SM 4500 P E		5	197310	12/06/19 14:08	DGS	TAL PHX

Client Sample ID: 2019090395

Lab Sample ID: 550-134112-6

Date Collected: 11/29/19 08:40

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			584567	12/09/19 06:18	JC1	TAL IRV
Total/NA	Analysis	1664B		1	584669	12/09/19 10:40	JC1	TAL IRV

Lab Chronicle

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134112-1

Client Sample ID: 2019090417

Lab Sample ID: 550-134112-7

Date Collected: 11/29/19 04:32

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			197308	12/05/19 11:05	DGS	TAL PHX
Total/NA	Analysis	SM 4500 P E		10	197310	12/06/19 14:08	DGS	TAL PHX

Client Sample ID: 2019090422

Lab Sample ID: 550-134112-8

Date Collected: 11/29/19 07:50

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			584567	12/09/19 06:18	JC1	TAL IRV
Total/NA	Analysis	1664B		1	584669	12/09/19 10:40	JC1	TAL IRV

Client Sample ID: 2019090447

Lab Sample ID: 550-134112-9

Date Collected: 11/29/19 03:59

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			197308	12/05/19 11:05	DGS	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	197310	12/06/19 14:08	DGS	TAL PHX

Client Sample ID: 2019090452

Lab Sample ID: 550-134112-10

Date Collected: 11/29/19 06:55

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			584567	12/09/19 06:26	JC1	TAL IRV
Total/NA	Analysis	1664B		1	584669	12/09/19 10:40	JC1	TAL IRV

Laboratory References:

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

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

Accreditation/Certification Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134112-1

Laboratory: Eurofins TestAmerica, Phoenix

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0728	06-09-20

Laboratory: Eurofins TestAmerica, Irvine

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0671	10-14-20



Method Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134112-1

Method	Method Description	Protocol	Laboratory
1664B	HEM and SGT-HEM	1664B	TAL IRV
SM 4500 P E	Phosphorus	SM	TAL PHX
1664B	HEM and SGT-HEM (SPE)	1664B	TAL IRV
SM 4500 P B	Phosphorous, Total and Ortho	SM	TAL PHX

Protocol References:

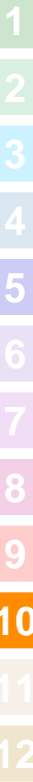
1664B = EPA-821-98-002

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

Laboratory References:

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

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



TestAmerica Phoenix
4625 East Colton Center Boulevard
Suite 189
Phoenix, AZ 85004-4807
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: DW NPDES RCRA Other:

Project Manager: 134112 Project Manager: DW NPDES RCRA Other: _____

Client Contact: _____ Site Contact: _____

Tel/Fax: _____ Date: _____

City of Phoenix Lab Contact: _____

2474 S 22nd Ave Carrier: _____

Phoenix, AZ 85009 For Lab Use Only: _____

(602) 534-2960 Walk-in Client: _____

Analysis Turnaround Time: WORKING DAYS

TAT if different from Below: _____

2 weeks 1 week 2 days 1 day

Sample Identification

Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Phosphorous	1664 HEM&SGT	550-134112 Chain of Custody	Sample Specific Notes:
2019090213	0536	C	STW	1			X			-01
2019090218	1005	G	STW	3			X			-02
2019090304	0430	C	STW	1			X			-03
2019090309	0920	G	STW	3			X			-04
2019090390	0523	C	STW	1			X			-05
2019090395	0840	G	STW	3			X			-06
2019090417	0430	C	STW	1			X			-07
2019090422	0750	G	STW	3			X			-08
2019090447	0359	C	STW	1			X			-09
2019090448	0655	G	STW	3			X			-10

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

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

Non-Hazardous Flammable Skin Irritant Poison B Unknown

Return to Client Disposal by Lab Archive for _____ Months

Custody Seals Intact: Yes No

Relinquished by: _____ Company: City of Phoenix Date/Time: _____

Relinquished by: TESTAMERICA D.C.S. Company: TESTAMERICA D.C.S. Date/Time: 12/2/19

Relinquished by: TESTAMERICA D.C.S. Company: TESTAMERICA D.C.S. Date/Time: 12-02-2015

Therm ID No.: _____ Date/Time: 14:36

Received by: TESTAMERICA D.C.S. Company: _____ Date/Time: _____

Received in Laboratory by: TESTAMERICA D.C.S. Company: _____ Date/Time: _____

TRAP 9-6-18°C



Chain of Custody Record

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No					
Company: TestAmerica Laboratories, Inc		Sester, Rachel E	Sester, Rachel E	550-26598 1	550-26598 1					
Address: 17461 Derian Ave, Suite 100, Irvine, CA, 92614-5817		Phone	E-Mail	State of Origin	Page					
City: Irvine		12/9/2019	rachel.sester@testamericainc.com	Arizona	Page 1 of 1					
State: CA		TAT Requested (days):	Accreditations Required (See note)	Job #	550-134112-1					
Phone: 949-261-1022(Tel) 949-260-3297(Fax)		PO #	State Program - Arizona	Preservation Codes:						
Email		WO #		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHCO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:						
Project Name: Water Services Department		Project #		M - Hexane N - None O - AsNBO2 P - Naz2O4S Q - Naz2SO3 R - Naz2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)						
Site		SSOW#		Total Number of Containers						
				X						
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=solid, O=soil, M=metal, A=Air)	Preservation Code	Field Filtered Sample (Yes or No)	164B/164B_SPF	Analysis Requested	Special Instructions/Note:
2019090218 (550-134112-2)	11/29/19	10:05	Arizona	Water	Water		X		Run MS/MSD with batch if there is enough volume	
2019090309 (550-134112-4)	11/29/19	09:20	Arizona	Water	Water		X		Run MS/MSD with batch if there is enough volume	
2019090395 (550-134112-6)	11/29/19	08:40	Arizona	Water	Water		X		Run MS/MSD with batch if there is enough volume	
2019090422 (550-134112-8)	11/29/19	07:50	Arizona	Water	Water		X		Run MS/MSD with batch if there is enough volume	
2019090452 (550-134112-10)	11/29/19	06:55	Arizona	Water	Water		X		Run MS/MSD with batch if there is enough volume	
<p>Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc places the ownership of method, analyze & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc</p>										
Possible Hazard Identification										
Unconfirmed										
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank 2										
Special Instructions/QC Requirements										
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)										
Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months										
Empty Kit Relinquished by _____ Date _____ Time _____										
Relinquished by _____ Date/Time _____ Company _____										
Relinquished by _____ Date/Time _____ Company _____										
Relinquished by _____ Date/Time _____ Company _____										
Custody Seals Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>										
Cooler Temperature/Other Remarks: 20 2.8 1289										



Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-134112-1

Login Number: 134112

List Source: Eurofins TestAmerica, Phoenix

List Number: 1

Creator: Gravlin, Andrea

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



Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-134112-1

Login Number: 134112

List Number: 2

Creator: Ornelas, Olga

List Source: Eurofins TestAmerica, Irvine

List Creation: 12/04/19 01:18 PM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 550-134113-1
Client Project/Site: Water Services Department

For:
City of Phoenix Water Services
2474 South 22nd Ave
Bld. 31
Phoenix, Arizona 85009

Attn: Britney Dempster



Authorized for release by:
12/12/2019 9:16:14 AM
Ken Baker, Project Manager II
(602)659-7624
ken.baker@testamericainc.com

Designee for
Rachel Sester, Project Manager I
(602)659-7615
rachel.sester@testamericainc.com

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

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



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Definitions/Glossary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134113-1

Glossary

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

Case Narrative

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134113-1

Job ID: 550-134113-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-134113-1

Comments

No additional comments.

Receipt

The samples were received on 12/2/2019 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0° C and 4.5° C.

General Chemistry

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

Organic Prep

Methods 1664A, 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation/analysis: 2019090467 (550-134113-2) and 2019090482 (550-134113-4). Method 1664A/B.

Method 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019090467 (550-134113-2) and 2019090482 (550-134113-4). Since the HEM results was below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All quality control criteria were met. Method 1664B.

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

Sample Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134113-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-134113-1	2019090462	Water	11/29/19 03:52	12/02/19 15:15	
550-134113-2	2019090467	Water	11/29/19 05:30	12/02/19 15:15	
550-134113-3	2019090477	Water	11/29/19 04:33	12/02/19 15:15	
550-134113-4	2019090482	Water	11/29/19 09:21	12/02/19 15:15	

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Client Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134113-1

Client Sample ID: 2019090462

Lab Sample ID: 550-134113-1

Date Collected: 11/29/19 03:52

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	0.56		0.10		mg/L		12/05/19 11:05	12/06/19 14:08	1

Client Sample ID: 2019090467

Lab Sample ID: 550-134113-2

Date Collected: 11/29/19 05:30

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.8		mg/L		12/09/19 06:18	12/09/19 10:40	1
SGT-HEM	ND		5.8		mg/L		12/09/19 06:18	12/09/19 10:40	1

Client Sample ID: 2019090477

Lab Sample ID: 550-134113-3

Date Collected: 11/29/19 04:33

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	0.38		0.10		mg/L		12/05/19 11:05	12/06/19 14:08	1

Client Sample ID: 2019090482

Lab Sample ID: 550-134113-4

Date Collected: 11/29/19 09:21

Matrix: Water

Date Received: 12/02/19 15:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.8		mg/L		12/09/19 06:26	12/09/19 10:40	1
SGT-HEM	ND		5.8		mg/L		12/09/19 06:26	12/09/19 10:40	1

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134113-1

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 440-584567/1-A
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 584567

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0		mg/L		12/09/19 06:18	12/09/19 10:40	1
SGT-HEM	ND		5.0		mg/L		12/09/19 06:18	12/09/19 10:40	1

Lab Sample ID: LCS 440-584567/2-A
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 584567

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	40.0	34.90		mg/L		87	78 - 114
SGT-HEM	20.0	16.30		mg/L		82	64 - 132

Lab Sample ID: LCSD 440-584567/3-A
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 584567

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	40.0	34.60		mg/L		87	78 - 114	1	11
SGT-HEM	20.0	16.20		mg/L		81	64 - 132	1	28

Lab Sample ID: 440-256380-A-1-A MS
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 584567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	ND		38.6	33.24		mg/L		86	78 - 114

Lab Sample ID: 440-256380-A-1-B MSD
Matrix: Water
Analysis Batch: 584669

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 584567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	ND		38.8	33.40		mg/L		86	78 - 114	0	18

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 550-197308/3-A
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 197308

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	ND		0.10		mg/L		12/05/19 11:05	12/06/19 14:08	1

Lab Sample ID: LCS 550-197308/4-A
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 197308

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus	0.300	0.303		mg/L		101	90 - 110

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134113-1

Method: SM 4500 P E - Phosphorus (Continued)

Lab Sample ID: LCSD 550-197308/5-A
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 197308

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Total Phosphorus	0.300	0.294		mg/L		98	90 - 110	3	20

Lab Sample ID: 550-134115-A-1-B MS
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 197308

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Total Phosphorus	ND		0.300	0.303		mg/L		101	80 - 120		

Lab Sample ID: 550-134115-A-1-C MSD
Matrix: Water
Analysis Batch: 197310

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 197308

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Total Phosphorus	ND		0.300	0.298		mg/L		99	80 - 120	2	20

Lab Chronicle

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134113-1

Client Sample ID: 2019090462

Lab Sample ID: 550-134113-1

Date Collected: 11/29/19 03:52

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			197308	12/05/19 11:05	DGS	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	197310	12/06/19 14:08	DGS	TAL PHX

Client Sample ID: 2019090467

Lab Sample ID: 550-134113-2

Date Collected: 11/29/19 05:30

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			584567	12/09/19 06:18	JC1	TAL IRV
Total/NA	Analysis	1664B		1	584669	12/09/19 10:40	JC1	TAL IRV

Client Sample ID: 2019090477

Lab Sample ID: 550-134113-3

Date Collected: 11/29/19 04:33

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			197308	12/05/19 11:05	DGS	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	197310	12/06/19 14:08	DGS	TAL PHX

Client Sample ID: 2019090482

Lab Sample ID: 550-134113-4

Date Collected: 11/29/19 09:21

Matrix: Water

Date Received: 12/02/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			584567	12/09/19 06:26	JC1	TAL IRV
Total/NA	Analysis	1664B		1	584669	12/09/19 10:40	JC1	TAL IRV

Laboratory References:

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

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

Accreditation/Certification Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134113-1

Laboratory: Eurofins TestAmerica, Phoenix

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0728	06-09-20

Laboratory: Eurofins TestAmerica, Irvine

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0671	10-14-20

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- 12

Method Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134113-1

Method	Method Description	Protocol	Laboratory
1664B	HEM and SGT-HEM	1664B	TAL IRV
SM 4500 P E	Phosphorus	SM	TAL PHX
1664B	HEM and SGT-HEM (SPE)	1664B	TAL IRV
SM 4500 P B	Phosphorous, Total and Ortho	SM	TAL PHX

Protocol References:

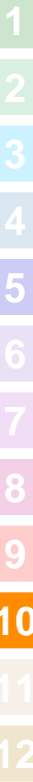
1664B = EPA-821-98-002

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

Laboratory References:

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

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



TestAmerica Phoenix
 4625 East Colton Center Boulevard
 Suite 189
 Phoenix, AZ 85040-4807
 phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: bw NPDES RCRA Other:

134113

Client Contact
 City of Phoenix
 2474 S 22nd Ave
 Phoenix, AZ 85009
 (602) 534-2960

Project Manager: _____
 Tell/Fax: _____

Site Contact:
 Lab Contact: _____
 Perform MS / MSD (Y / N) _____
 Filtered Sample (Y / N) _____
 Phosphorous _____
 1664 HEM&SGT _____

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below _____
 2 weeks
 1 week
 2 days
 1 day

Sample Identification

Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.
-01	2019090462	0352	C	STW	1
-02	2019090467	0530	G	STW	3
-03	2019090477	0433	C	STW	1
-04	2019090484	0921	G	STW	3

Sample Specific Notes:



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

Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown

Return to Client Disposal by Lab Archive for _____ Months

Custody Seals Intact: Yes No

Relinquished by: _____ Date/Time: _____
 Relinquished by: PHOENIX D.C.S. Date/Time: 12/2/19
 Relinquished by: 2 CDO Des Date/Time: 12-02-19 15:15

Company: City of Phoenix
 Company: PHOENIX D.C.S.
 Company: TA-PHX

Received in Laboratory by: TA-PHX
 Received by: TA-PHX
 Received by: PHOENIX D.C.S.

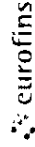
Cooler Temp. (°C): Obs'd: _____
 Date/Time: 12/2/19
 Date/Time: 12-02-19 15:15
 Date/Time: _____

Therm ID No.: _____
 Date/Time: 14:36

Form No. CA-C-WI-002, Rev. 4.8, dated 11/04/2015

Eurofins TestAmerica, Phoenix

4625 East Cotton Cir Blvd Suite 189
Phoenix, AZ 85040
Phone 602-437-3340 Fax 602-454-9303



Chain of Custody Record

Client Information (Sub Contract Lab) Client Contact: Sester, Rachel E Shipping/Receiving: rachel.sester@testamericainc.com Company: TestAmerica Laboratories, Inc Address: 17461 Derian Ave, Suite 100, Irvine State/Zip: CA, 92614-5817 Phone: 949-261-1022(Tel) 949-260-3297(Fax) Email: Project # 55002151 Site: Water Services Department		Lab PM: Sester, Rachel E E-Mail: rachel.sester State of Origin: Arizona Accreditations Required (See note): Slate Program - Arizona	COC No: 550-26598 1 Page: Page 1 of 1 Job #: 550-134113-1
Due Date Requested: 12/9/2019 TAT Requested (days): FO #: WO #: Project #: SSOV#:		Camer Tracking No(s): 1125 3812 3716 State of Origin: Arizona	Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2SO4 Q - NaHSO4 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 X - EDTA Y - EDA Z - other (specify)
Sample Date: 11/29/19 Sample Time: 05:30 Arizona Sample Date: 11/29/19 Sample Time: 09:21 Arizona		Field Filtered Sample (Yes or No): X 164B/164B_SPE	Analysis Requested: Total Number of Containers: 3 Special Instructions/Note: Run MS/MSD with batch if there is enough volume Run MS/MSD with batch if there is enough volume
Sample Identification - Client ID (Lab ID) 2019090467 (550-134113-2) 2019090482 (550-134113-4)		Matrix: Water Preservation Code: X Matrix: Water Preservation Code: X	Sample Type (C=comp, G=grab) Matrix (Water, Solid, Overstabil, etc.) Preservation Code:

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
 Unconfirmed Return To Client Disposal By Lab Archive For _____ Months
 Deliverable Requested I, II, III, IV, Other (specify) **Primary Deliverable Rank 2**

Empty Kit Relinquished by: _____ Date: _____ Method of Shipment: _____
 Relinquished by: **Rachel Sester** Date/Time: **12/9/19 14:50** Company: **TestAmerica**
 Relinquished by: **Jana O'Neil** Date/Time: **12/19/19 10:30** Company: **TestAmerica**
 Relinquished by: **Jana O'Neil** Date/Time: **2.3/2.7** Company: **TestAmerica**
 Custody Seals Intact: Yes No Δ No Δ No
 Colder Temperature(°C) and Other Remarks: **2.3/2.7 ER.94**



Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-134113-1

Login Number: 134113

List Source: Eurofins TestAmerica, Phoenix

List Number: 1

Creator: Gravlin, Andrea

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

Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-134113-1

Login Number: 134113

List Number: 2

Creator: Ornelas, Olga

List Source: Eurofins TestAmerica, Irvine

List Creation: 12/04/19 01:12 PM

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



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OUTFALL IB008

Storm of December 8, 2019

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ANALYTICAL REPORT

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

Laboratory Job ID: 550-134570-1
Client Project/Site: Water Services Department

For:
City of Phoenix Water Services
2474 South 22nd Ave
Bld. 31
Phoenix, Arizona 85009

Attn: Britney Dempster



Authorized for release by:
12/18/2019 4:22:35 PM

Rachel Sester, Project Manager I
(602)659-7615
rachel.sester@testamericainc.com

LINKS

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results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

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

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



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Definitions/Glossary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134570-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

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

Case Narrative

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134570-1

Job ID: 550-134570-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

**Job Narrative
550-134570-1**

Comments

No additional comments.

Receipt

The samples were received on 12/10/2019 3:03 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5° C.

GC Semi VOA

Method 608.3: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-585911 and analytical batch 440-586402. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-585911/4-A)

Method 608.3: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-585911 and analytical batch 440-586146. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-585911/2-A)

Method 608.3: The closing continuing calibration verification (CCV) standard associated with batch 440-586486 failed to meet acceptance limits. The associated samples were re-analyzed following a successful CCV and produced similar results, indicating that the sample matrix is adversely affecting the instrument and causing the failures.

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

Organic Prep

Methods 3510C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-585911. Method 8081-8082

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

Sample Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134570-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-134570-1	2019092284	Water	12/07/19 23:25	12/10/19 15:03	
550-134570-2	2019092513	Water	12/10/19 07:36	12/10/19 15:03	

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Client Sample Results

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134570-1

Client Sample ID: 2019092284

Lab Sample ID: 550-134570-1

Date Collected: 12/07/19 23:25

Matrix: Water

Date Received: 12/10/19 15:03

Method: 608.3 - Organochlorine Pesticides in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	E8	0.10	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
4,4'-DDE	ND	E8	0.10	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
4,4'-DDT	ND	E8	0.10	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
Aldrin	ND	E8	0.10	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
alpha-BHC	ND	E8	0.10	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
beta-BHC	ND	E8	0.10	0.031	ug/L		12/14/19 12:03	12/17/19 18:30	1
Chlordane (technical)	ND	E8	1.0	0.21	ug/L		12/14/19 12:03	12/17/19 18:30	1
delta-BHC	ND	E8	0.21	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
Dieldrin	ND	E8	0.10	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
Endosulfan I	0.038	E4	0.10	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
Endosulfan II	ND	E8	0.10	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
Endosulfan sulfate	ND	E8	0.21	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
Endrin	ND	E8	0.10	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
Endrin aldehyde	ND	E8	0.10	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
Endrin ketone	ND	E8	0.10	0.042	ug/L		12/14/19 12:03	12/17/19 18:30	1
gamma-BHC (Lindane)	ND	E8	0.10	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
Heptachlor	ND	E8	0.10	0.031	ug/L		12/14/19 12:03	12/17/19 18:30	1
Heptachlor epoxide	ND	E8	0.10	0.031	ug/L		12/14/19 12:03	12/17/19 18:30	1
Methoxychlor	ND	E8	0.10	0.021	ug/L		12/14/19 12:03	12/17/19 18:30	1
Toxaphene	ND	E8	5.2	0.52	ug/L		12/14/19 12:03	12/17/19 18:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	81		18 - 134	12/14/19 12:03	12/17/19 18:30	1
Tetrachloro-m-xylene	65		10 - 104	12/14/19 12:03	12/17/19 18:30	1

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	E8	1.0	0.26	ug/L		12/14/19 12:03	12/16/19 16:54	1
PCB-1260	ND	E8	1.0	0.26	ug/L		12/14/19 12:03	12/16/19 16:54	1
PCB-1221	ND	E8	1.0	0.26	ug/L		12/14/19 12:03	12/16/19 16:54	1
PCB-1232	ND	E8	1.0	0.26	ug/L		12/14/19 12:03	12/16/19 16:54	1
PCB-1242	ND	E8	1.0	0.26	ug/L		12/14/19 12:03	12/16/19 16:54	1
PCB-1248	ND	E8	1.0	0.26	ug/L		12/14/19 12:03	12/16/19 16:54	1
PCB-1254	ND	E8	1.0	0.26	ug/L		12/14/19 12:03	12/16/19 16:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	65		18 - 134	12/14/19 12:03	12/16/19 16:54	1
Tetrachloro-m-xylene (Surr)	53		10 - 104	12/14/19 12:03	12/16/19 16:54	1

Client Sample ID: 2019092513

Lab Sample ID: 550-134570-2

Date Collected: 12/10/19 07:36

Matrix: Water

Date Received: 12/10/19 15:03

Method: 608.3 - Organochlorine Pesticides in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND	E8	0.10	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
4,4'-DDE	ND	E8	0.10	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
4,4'-DDT	ND	E8	0.10	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
Aldrin	ND	E8	0.10	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
alpha-BHC	ND	E8	0.10	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
beta-BHC	ND	E8	0.10	0.030	ug/L		12/14/19 12:03	12/16/19 15:22	1

Eurofins TestAmerica, Phoenix

Client Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134570-1

Client Sample ID: 2019092513

Lab Sample ID: 550-134570-2

Date Collected: 12/10/19 07:36

Matrix: Water

Date Received: 12/10/19 15:03

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND	E8	1.0	0.20	ug/L		12/14/19 12:03	12/16/19 15:22	1
delta-BHC	ND	E8	0.20	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
Dieldrin	ND	E8	0.10	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
Endosulfan I	ND	E8	0.10	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
Endosulfan II	ND	E8	0.10	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
Endosulfan sulfate	ND	E8	0.20	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
Endrin	ND	E8	0.10	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
Endrin aldehyde	ND	E8	0.10	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
Endrin ketone	ND	E8	0.10	0.041	ug/L		12/14/19 12:03	12/16/19 15:22	1
gamma-BHC (Lindane)	ND	E8	0.10	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
Heptachlor	ND	E8	0.10	0.030	ug/L		12/14/19 12:03	12/16/19 15:22	1
Heptachlor epoxide	ND	E8	0.10	0.030	ug/L		12/14/19 12:03	12/16/19 15:22	1
Methoxychlor	ND	E8	0.10	0.020	ug/L		12/14/19 12:03	12/16/19 15:22	1
Toxaphene	ND	E8	5.1	0.51	ug/L		12/14/19 12:03	12/16/19 15:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>DCB Decachlorobiphenyl (Surr)</i>	73		18 - 134				12/14/19 12:03	12/16/19 15:22	1
<i>Tetrachloro-m-xylene</i>	65		10 - 104				12/14/19 12:03	12/16/19 15:22	1

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	E8	1.0	0.25	ug/L		12/14/19 12:03	12/16/19 17:08	1
PCB-1260	ND	E8	1.0	0.25	ug/L		12/14/19 12:03	12/16/19 17:08	1
PCB-1221	ND	E8	1.0	0.25	ug/L		12/14/19 12:03	12/16/19 17:08	1
PCB-1232	ND	E8	1.0	0.25	ug/L		12/14/19 12:03	12/16/19 17:08	1
PCB-1242	ND	E8	1.0	0.25	ug/L		12/14/19 12:03	12/16/19 17:08	1
PCB-1248	ND	E8	1.0	0.25	ug/L		12/14/19 12:03	12/16/19 17:08	1
PCB-1254	ND	E8	1.0	0.25	ug/L		12/14/19 12:03	12/16/19 17:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>DCB Decachlorobiphenyl (Surr)</i>	55		18 - 134				12/14/19 12:03	12/16/19 17:08	1
<i>Tetrachloro-m-xylene (Surr)</i>	49		10 - 104				12/14/19 12:03	12/16/19 17:08	1

QC Sample Results

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134570-1

Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 440-585911/1-A
Matrix: Water
Analysis Batch: 586146

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 585911

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4,4'-DDD	ND	E8	0.10	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
4,4'-DDE	ND	E8	0.10	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
4,4'-DDT	ND	E8	0.10	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
Aldrin	ND	E8	0.10	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
alpha-BHC	ND	E8	0.10	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
beta-BHC	ND	E8	0.10	0.030	ug/L		12/14/19 05:46	12/16/19 13:52	1
Chlordane (technical)	ND	E8	1.0	0.20	ug/L		12/14/19 05:46	12/16/19 13:52	1
delta-BHC	ND	E8	0.20	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
Dieldrin	ND	E8	0.10	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
Endosulfan I	ND	E8	0.10	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
Endosulfan II	ND	E8	0.10	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
Endosulfan sulfate	ND	E8	0.20	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
Endrin	ND	E8	0.10	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
Endrin aldehyde	ND	E8	0.10	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
Endrin ketone	ND	E8	0.10	0.040	ug/L		12/14/19 05:46	12/16/19 13:52	1
gamma-BHC (Lindane)	ND	E8	0.10	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
Heptachlor	ND	E8	0.10	0.030	ug/L		12/14/19 05:46	12/16/19 13:52	1
Heptachlor epoxide	ND	E8	0.10	0.030	ug/L		12/14/19 05:46	12/16/19 13:52	1
Methoxychlor	ND	E8	0.10	0.020	ug/L		12/14/19 05:46	12/16/19 13:52	1
Toxaphene	ND	E8	5.0	0.50	ug/L		12/14/19 05:46	12/16/19 13:52	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
DCB Decachlorobiphenyl (Surr)	71		18 - 134	12/14/19 05:46	12/16/19 13:52	1
Tetrachloro-m-xylene	58		10 - 104	12/14/19 05:46	12/16/19 13:52	1

Lab Sample ID: LCS 440-585911/2-A
Matrix: Water
Analysis Batch: 586146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 585911

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
4,4'-DDD	0.400	0.345		ug/L		86	31 - 141
4,4'-DDE	0.400	0.323		ug/L		81	30 - 145
4,4'-DDT	0.400	0.372		ug/L		93	25 - 160
Aldrin	0.400	0.303		ug/L		76	42 - 140
alpha-BHC	0.400	0.321		ug/L		80	37 - 140
beta-BHC	0.400	0.324		ug/L		81	17 - 147
delta-BHC	0.400	0.327		ug/L		82	19 - 140
Dieldrin	0.400	0.321		ug/L		80	36 - 146
Endosulfan I	0.400	0.323		ug/L		81	45 - 153
Endosulfan II	0.400	0.324		ug/L		81	10 - 202
Endosulfan sulfate	0.400	0.337		ug/L		84	26 - 144
Endrin	0.400	0.325		ug/L		81	30 - 147
Endrin aldehyde	0.400	0.315		ug/L		79	60 - 140
Endrin ketone	0.400	0.331		ug/L		83	60 - 140
gamma-BHC (Lindane)	0.400	0.317		ug/L		79	32 - 140
Heptachlor	0.400	0.309		ug/L		77	34 - 140
Heptachlor epoxide	0.400	0.320		ug/L		80	37 - 142
Methoxychlor	0.400	0.393		ug/L		98	60 - 140

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QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134570-1

Method: 608.3 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: LCS 440-585911/2-A
Matrix: Water
Analysis Batch: 586146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 585911

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr)	84		18 - 134
Tetrachloro-m-xylene	75		10 - 104

Lab Sample ID: LCSD 440-585911/3-A
Matrix: Water
Analysis Batch: 586146

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 585911

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
4,4'-DDD	0.400	0.327		ug/L		82	31 - 141	5	39	
4,4'-DDE	0.400	0.307		ug/L		77	30 - 145	5	35	
4,4'-DDT	0.400	0.355		ug/L		89	25 - 160	5	42	
Aldrin	0.400	0.288		ug/L		72	42 - 140	5	35	
alpha-BHC	0.400	0.306		ug/L		77	37 - 140	5	36	
beta-BHC	0.400	0.314		ug/L		79	17 - 147	3	44	
delta-BHC	0.400	0.307		ug/L		77	19 - 140	6	52	
Dieldrin	0.400	0.304		ug/L		76	36 - 146	6	49	
Endosulfan I	0.400	0.306		ug/L		77	45 - 153	5	28	
Endosulfan II	0.400	0.302		ug/L		75	10 - 202	7	53	
Endosulfan sulfate	0.400	0.320		ug/L		80	26 - 144	5	38	
Endrin	0.400	0.307		ug/L		77	30 - 147	6	48	
Endrin aldehyde	0.400	0.306		ug/L		76	60 - 140	3	30	
Endrin ketone	0.400	0.314		ug/L		79	60 - 140	5	30	
gamma-BHC (Lindane)	0.400	0.302		ug/L		76	32 - 140	5	39	
Heptachlor	0.400	0.293		ug/L		73	34 - 140	5	43	
Heptachlor epoxide	0.400	0.303		ug/L		76	37 - 142	5	26	
Methoxychlor	0.400	0.365		ug/L		91	60 - 140	7	30	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr)	79		18 - 134
Tetrachloro-m-xylene	71		10 - 104

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 440-585911/1-A
Matrix: Water
Analysis Batch: 586402

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 585911

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-1016	ND	E8	1.0	0.25	ug/L		12/14/19 05:46	12/16/19 16:00	1
PCB-1260	ND	E8	1.0	0.25	ug/L		12/14/19 05:46	12/16/19 16:00	1
PCB-1221	ND	E8	1.0	0.25	ug/L		12/14/19 05:46	12/16/19 16:00	1
PCB-1232	ND	E8	1.0	0.25	ug/L		12/14/19 05:46	12/16/19 16:00	1
PCB-1242	ND	E8	1.0	0.25	ug/L		12/14/19 05:46	12/16/19 16:00	1
PCB-1248	ND	E8	1.0	0.25	ug/L		12/14/19 05:46	12/16/19 16:00	1
PCB-1254	ND	E8	1.0	0.25	ug/L		12/14/19 05:46	12/16/19 16:00	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
DCB Decachlorobiphenyl (Surr)	48		18 - 134	12/14/19 05:46	12/16/19 16:00	1

Euofins TestAmerica, Phoenix

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134570-1

Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Lab Sample ID: MB 440-585911/1-A
Matrix: Water
Analysis Batch: 586402

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 585911

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene (Surr)	40		10 - 104	12/14/19 05:46	12/16/19 16:00	1

Lab Sample ID: LCS 440-585911/4-A
Matrix: Water
Analysis Batch: 586402

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 585911

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	
							%Rec.	Limits
PCB-1016	4.00	2.16		ug/L		54	50 - 140	
PCB-1260	4.00	2.19		ug/L		55	8 - 140	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr)	56		18 - 134
Tetrachloro-m-xylene (Surr)	52		10 - 104

Lab Sample ID: LCSD 440-585911/5-A
Matrix: Water
Analysis Batch: 586402

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 585911

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits		RPD	Limit
							%Rec.	RPD	Limit	
PCB-1016	4.00	2.34		ug/L		59	50 - 140	8	36	
PCB-1260	4.00	2.38		ug/L		60	8 - 140	8	38	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr)	60		18 - 134
Tetrachloro-m-xylene (Surr)	56		10 - 104

Lab Chronicle

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134570-1

Client Sample ID: 2019092284

Lab Sample ID: 550-134570-1

Date Collected: 12/07/19 23:25

Matrix: Water

Date Received: 12/10/19 15:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			585911	12/14/19 12:03	L1H	TAL IRV
Total/NA	Analysis	608.3		1	586486	12/17/19 18:30	D1D	TAL IRV
Total/NA	Prep	608			585911	12/14/19 12:03	L1H	TAL IRV
Total/NA	Analysis	608.3		1	586402	12/16/19 16:54	D1D	TAL IRV

Client Sample ID: 2019092513

Lab Sample ID: 550-134570-2

Date Collected: 12/10/19 07:36

Matrix: Water

Date Received: 12/10/19 15:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			585911	12/14/19 12:03	L1H	TAL IRV
Total/NA	Analysis	608.3		1	586146	12/16/19 15:22	D1D	TAL IRV
Total/NA	Prep	608			585911	12/14/19 12:03	L1H	TAL IRV
Total/NA	Analysis	608.3		1	586402	12/16/19 17:08	D1D	TAL IRV

Laboratory References:

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

Accreditation/Certification Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134570-1

Laboratory: Eurofins TestAmerica, Phoenix

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0728	06-09-20

Laboratory: Eurofins TestAmerica, Irvine

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0671	10-14-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
608.3	608	Water	Chlordane (technical)



Method Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134570-1

Method	Method Description	Protocol	Laboratory
608.3	Organochlorine Pesticides in Water	40CFR136A	TAL IRV
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL IRV
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	TAL IRV

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

Laboratory References:

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



TestAmerica Phoenix
 4625 East Cotton Center Boulevard
 Suite 189
 Phoenix, AZ 85040-4807
 Phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: DW NPDES RCRA Other:

Client Contact
 City of Phoenix
 2474 S 22nd Ave
 Phoenix, AZ 85009
 (602) 534-2960

Project Manager: Tel/Fax: _____
 Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT, if different from Below _____
 2 weeks
 1 week
 2 days
 1 day

Site Contact: Lab Contact: _____
 Date: _____
 Carrier: _____

Project Name: _____
Site: _____
P O # _____

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	608.3	X	X	Sample Specific Notes:
-01 2019092284	12/7/19	2325	C	StW	3						Report to MDL*
-02 2019092513	12/10/19	0736	G	WW	1						



Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other _____
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Cooler Temp. (°C): Obs'd _____
 Therm ID No.: _____
 Received by: _____ Date/Time: 12/10/19 14:21
 Company: DCS
 Received by: _____ Date/Time: _____
 Company: _____
 Received in Laboratory by: _____ Date/Time: 12/10/19 15:03
 Company: DCS



134570

Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-134570-1

Login Number: 134570

List Source: Eurofins TestAmerica, Phoenix

List Number: 1

Creator: Gravlin, Andrea

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



Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-134570-1

Login Number: 134570

List Number: 2

Creator: Dolidze, Lado

List Source: Eurofins TestAmerica, Irvine

List Creation: 12/14/19 11:59 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 550-134571-1
Client Project/Site: Water Services Department

For:
City of Phoenix Water Services
2474 South 22nd Ave
Bld. 31
Phoenix, Arizona 85009

Attn: Britney Dempster



Authorized for release by:
12/26/2019 1:04:49 PM

Rachel Sester, Project Manager I
(602)659-7615
rachel.sester@testamericainc.com

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www.testamericainc.com

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

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



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Definitions/Glossary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134571-1

Glossary

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

Case Narrative

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134571-1

Job ID: 550-134571-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

**Job Narrative
550-134571-1**

Comments

No additional comments.

Receipt

The samples were received on 12/10/2019 3:03 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5° C.

General Chemistry

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

Organic Prep

Methods 1664A, 1664B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-587829 and analytical batch 440-587869. The Laboratory Control Sample (LCS) was performed in duplicate to provide precise data for this batch. Method 1664A/1664B.

Method 1664B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation/analysis: 2019092296 (550-134571-2). Method 1664B.

Method 1664B: Analysis for Hexane Extractable Material (HEM) was performed for the following samples: 2019092296 (550-134571-2). Since the HEM results were below the reporting limit (RL), the results for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) were reported as a non-detect. All HEM quality control criteria were met. Method 1664B.

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

Sample Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134571-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-134571-1	2019092291	Water	12/07/19 23:25	12/10/19 15:03	
550-134571-2	2019092296	Water	12/08/19 01:40	12/10/19 15:03	

1

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Client Sample Results

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134571-1

Client Sample ID: 2019092291

Lab Sample ID: 550-134571-1

Date Collected: 12/07/19 23:25

Matrix: Water

Date Received: 12/10/19 15:03

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	0.19		0.10		mg/L		12/11/19 10:00	12/12/19 08:59	1

Client Sample ID: 2019092296

Lab Sample ID: 550-134571-2

Date Collected: 12/08/19 01:40

Matrix: Water

Date Received: 12/10/19 15:03

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.8		mg/L		12/24/19 13:37	12/24/19 15:46	1
SGT-HEM	ND		5.8		mg/L		12/24/19 13:37	12/24/19 15:46	1

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134571-1

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 440-587829/1-A
Matrix: Water
Analysis Batch: 587869

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 587829

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0		mg/L		12/24/19 13:37	12/24/19 15:46	1
SGT-HEM	ND		5.0		mg/L		12/24/19 13:37	12/24/19 15:46	1

Lab Sample ID: LCS 440-587829/2-A
Matrix: Water
Analysis Batch: 587869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 587829

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	40.0	36.60		mg/L		92	78 - 114
SGT-HEM	20.0	15.70		mg/L		78	64 - 132

Lab Sample ID: LCSD 440-587829/3-A
Matrix: Water
Analysis Batch: 587869

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 587829

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	40.0	34.70		mg/L		87	78 - 114	5	11
SGT-HEM	20.0	14.60		mg/L		73	64 - 132	7	28

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 550-197692/3-A
Matrix: Water
Analysis Batch: 197693

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 197692

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	ND		0.10		mg/L		12/11/19 10:00	12/12/19 08:59	1

Lab Sample ID: LCS 550-197692/4-A
Matrix: Water
Analysis Batch: 197693

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 197692

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus	0.300	0.304		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-197692/5-A
Matrix: Water
Analysis Batch: 197693

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 197692

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Phosphorus	0.300	0.297		mg/L		99	90 - 110	2	20

Lab Sample ID: 550-134569-C-2-B MS
Matrix: Water
Analysis Batch: 197693

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 197692

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus	0.15		0.300	0.448		mg/L		99	80 - 120

Eurolins TestAmerica, Phoenix

QC Sample Results

Client: City of Phoenix Water Services
 Project/Site: Water Services Department

Job ID: 550-134571-1

Method: SM 4500 P E - Phosphorus (Continued)

Lab Sample ID: 550-134569-C-2-C MSD
Matrix: Water
Analysis Batch: 197693

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 197692

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Total Phosphorus	0.15		0.300	0.436		mg/L		95	80 - 120	3	20

- 1
- 2
- 3
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- 12

Lab Chronicle

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134571-1

Client Sample ID: 2019092291

Date Collected: 12/07/19 23:25

Date Received: 12/10/19 15:03

Lab Sample ID: 550-134571-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 P B			197692	12/11/19 10:00	DGS	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	197693	12/12/19 08:59	DGS	TAL PHX

Client Sample ID: 2019092296

Date Collected: 12/08/19 01:40

Date Received: 12/10/19 15:03

Lab Sample ID: 550-134571-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			587829	12/24/19 13:37	EGC	TAL IRV
Total/NA	Analysis	1664B		1	587869	12/24/19 15:46	AJH	TAL IRV

Laboratory References:

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

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

Accreditation/Certification Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134571-1

Laboratory: Eurofins TestAmerica, Phoenix

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0728	06-09-20

Laboratory: Eurofins TestAmerica, Irvine

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0671	10-14-20

- 1
- 2
- 3
- 4
- 5
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- 11
- 12

Method Summary

Client: City of Phoenix Water Services
Project/Site: Water Services Department

Job ID: 550-134571-1

Method	Method Description	Protocol	Laboratory
1664B	HEM and SGT-HEM	1664B	TAL IRV
SM 4500 P E	Phosphorus	SM	TAL PHX
1664B	HEM and SGT-HEM (SPE)	1664B	TAL IRV
SM 4500 P B	Phosphorous, Total and Ortho	SM	TAL PHX

Protocol References:

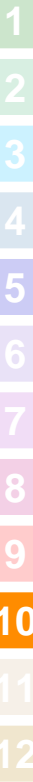
1664B = EPA-821-98-002

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

Laboratory References:

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

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



TestAmerica Phoenix
 4825 East Cotton Center Boulevard
 Suite 189
 Phoenix, AZ 85040-4807
 phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

City of Phoenix
 2474 S 22nd Ave
 Phoenix, AZ 85009
 (602) 534-2960

Project Name:
 Site:
 P O #

Regulatory Program: DW NPDES RCRA Other:

Project Manager:
 Tel/Fax:

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below
 2 weeks
 1 week
 2 days
 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Site Contact:		Date:
						Lab Contact:	Carrier:	
20190922291	12/7/19	2325	C	StW	1	Phosphorous	1664 HEM&SGT	
20190922296	12/8/19	0140	G	StW	3			



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

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

Special Instructions/QC Requirements & Comments:
 Non-Hazard Flammable Skin Irritant Poison B Unknown

Cooler Temp. (°C): Obs'd: _____

Therm ID No.: _____

Received by: _____ Date/Time: 12/16/19 14:21
 Company: DCS

Received by: _____ Date/Time: _____
 Company: DCS

Received in Laboratory by: _____ Date/Time: 12-10-19 15:03
 Company: APLC

2.5°C

1 2 3 4 5 6 7 8 9 10 11 12

Sample # Sample ID

2019092284



City of Phoenix, Water Services
Environmental Services Division
Chain of Custody Report



Project ID: **STORMWATER**

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
2019092284							
92284	Stormwater	TAM	608-STORM	3-1	12/19	2325	ICE
92285	Stormwater		625-STORM	3-1			ICE
92286	Stormwater		TOTAL METALS STORMWATER	1			HNO3
92287	Stormwater		METALS DISSOLVED STORMWATER	1			HNO3/FIELD FILTERED
92288	Stormwater		NH3-WC and TKN-WC	1			H2SO4
2019092289	Stormwater		Group A with TDS	1			ICE
92290	Stormwater		IC300 Nitrate, Nitrite, Orthophosphate	1			ICE
92291	Stormwater	TAM	TOTAL PHOSPHOROUS	1			H2SO4

RECEIVED
INSTAB

DEC 08 2019

TIME 0720

TEMP °C 3.2

Sampler Print & Sign/Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
KENNEDY Fossum / Kenned	12/19/2019	0720	FRIDGE	
Relinquished	12/19/2019	0720	Core Andek	0

Page 1 of 2

TIME: _____
TEMP °C: _____
ON 12-08-19

1 2 3 4 5 6 7 8 9 10 11 12

Sample # 2019092292

City of Phoenix, Water Services
Environmental Services Division
Chain of Custody Report



Project ID: STORMWATER

LIMS Number (Lab Use Only)	Bill Code / Account ID	Sample Location	Test Requested	Bottle Count	Collection Date	Collection Time	Preservation
2019092292							
92292	Stormwater	IB008	8260B-Storm 624-Storm	6	12/8/19	0140	HCL
92293	Stormwater	IB008	624 ACAC 624 CEVE	6			ICE
2019092294	Stormwater	IB008	COLILERT - MPN	1			NaSO4
92295	Stormwater	IB008	CYANIDE	1			NaOH
92296	Stormwater	IB008 TAM	1664 HEMSGT	3			H2SO4
92297	Stormwater	IB008 Trip Blank	8260B-Storm 624-Storm	2			HCL
92298	Stormwater	IB008 Trip Blank	624 ACAC 624 CEVE	2			ICE

GRAB SAMPLES

pH 6.72 Air Temp 8.5 Water Temp 17.9 Specific Conductance 46.5

Barometric Pressure 727 Dissolved Oxygen 9.01

RECEIVED
MS LAB
DEC 08 2019
TIME 07:19
TEMP 1.3 - 0.4

Sampler Print & Sign/Relinquished By	Date	Time	Received By	Condition (Lab Use Only)
KENNETH FOSSUM / <i>[Signature]</i>	12/8/19	0315	FRIDGE	
Refrigerator	12/8/19	07:19	<i>[Signature]</i>	U



Chain of Custody Record



Client Information (Sub Contract Lab) Client Contact: Rachel Sester, Rachel E Shipping/Receiving: rachel.sester@testamericainc.com Company: TestAmerica Laboratorios, Inc Address: 17461 Denan Ave, Suite 100, Irvine State, Zip: CA, 92614-5817 Phone: 949-261-1022(Tel) 949-260-3297(Fax) Email:		Lab PM: Sester, Rachel E E-Mail: rachel.sester@testamericainc.com Accreditations Required (See note): State Program - Arizona		Carrier Tracking No(s): 1389 1531 Y82 State of Origin: Arizona Page 1 of 1 Job #: 550-134571-1		COC No: 550-26675 1	
Due Date Requested: 12/17/2019 TAT Requested (days):		Analysis Requested 164B/164B_SPE		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		Special Instructions/Note: Run MS/MSD with batch if there is enough volume	
Sample Identification - Client ID (Lab ID) 2019092296 (550-134571-2)		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>		Total Number of Containers 3		Sample Date 12/8/19	
Sample Time 01:40 Arizona		Sample Type (C=Comp, G=grab) G=grab		Matrix (W=water, S=solid, D=wastewater, BT=biological, A=air) Water		Sample Date 12/8/19	
Project # 55002151 SSOV#		Project Name Water Services Department Site		Received by [Signature]		Date 12/11/19	
Company Water Services Department		Company Water Services Department		Company Water Services Department		Company Water Services Department	
Primary Deliverable Rank 2		Special Instructions/QC Requirements		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Method of Shipment	
Empty Kit Relinquished by [Signature]		Relinquished by [Signature]		Relinquished by [Signature]		Relinquished by [Signature]	
Relinquished by [Signature]		Relinquished by [Signature]		Relinquished by [Signature]		Relinquished by [Signature]	
Relinquished by [Signature]		Relinquished by [Signature]		Relinquished by [Signature]		Relinquished by [Signature]	
Custody Seals Intact. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No. 2.2/1.9		Cooler Temperature(s) °C and Other Remarks 12/11/19 10:00 P/KU		Ver 01/16/2019	



Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-134571-1

Login Number: 134571

List Source: Eurofins TestAmerica, Phoenix

List Number: 1

Creator: Gravlin, Andrea

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

Login Sample Receipt Checklist

Client: City of Phoenix Water Services

Job Number: 550-134571-1

Login Number: 134571

List Number: 2

Creator: Ornelas, Olga

List Source: Eurofins TestAmerica, Irvine

List Creation: 12/11/19 12:16 PM

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

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QUALITY CONTROL DATA

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Method 624	RL Check
Date	12/3/2019
CHLOROMETHANE	1.00
VINYL CHLORIDE	1.01
BROMOMETHANE	0.97
CHLOROETHANE	1.03
TRICHLOROFLUOROMETHANE	1.02
1,1-DICHLOROETHYLENE	1.02
METHYLENE CHLORIDE	1.18
TRANS-1,2-DICHLOROETHENE	1.02
MTBE **	0.97
1,1-DICHLOROETHANE	1.01
CHLOROFORM	0.98
1,2-DICHLOROETHANE	1.04
1,1,1-TRICHLOROETHANE	1.01
CARBON TETRACHLORIDE	1.03
BENZENE	1.03
1,2-DICHLOROPROPANE	0.99
TRICHLOROETHYLENE	1.01
BROMODICHLOROMETHANE	1.01
CIS-1,3-DICHLOROPROPENE	0.91
TRANS-1,3-DICHLOROPROPENE	0.93
1,1,2-TRICHLOROETHANE	1.03
TOLUENE	0.97
DIBROMOCHLOROMETHANE	0.96
TETRACHLOROETHYLENE (PCE)	1.02
CHLOROBENZENE	0.98
ETHYLBENZENE	0.94
M,P-XYLENE	1.84
BROMOFORM	0.95
O-XYLENE	0.97
1,1,2,2-TETRACHLOROETHANE	0.96
1,3,5-TRIMETHYLBENZENE	0.91
1,2,4-TRIMETHYLBENZENE	0.87
1,3-DCB	1.03
1,4-DCB	0.86
1,2-DCB	0.92

6/12/19

Asphalt

Cherry

RL Check spiked at 1.0 ug/L for all except m,p-xylene at 2.0 ug/L.

Method 624
PTMSD #3
LFM/LFMD

PTMSD #1 Control Chart Masters 3026R0wks

Method 624	LFM	LFMD
Date	12/3/2019	12/3/2019
CHLOROMETHANE	90	90
VINYL CHLORIDE	90	91
BROMOMETHANE	76	77
CHLOROETHANE	94	93
TRICHLOROFLUOROMETHANE	105	104
1,1-DICHLOROETHYLENE	114	113
METHYLENE CHLORIDE	95	94
TRANS-1,2-DICHLOROETHENE	107	106
MTBE **	102	100
1,1-DICHLOROETHANE	106	105
CHLOROFORM	102	100
1,2-DICHLOROETHANE	101	99
1,1,1-TRICHLOROETHANE	107	106
CARBON TETRACHLORIDE	113	111
BENZENE	102	100
1,2-DICHLOROPROPANE	99	98
TRICHLOROETHYLENE	103	103
BROMODICHLOROMETHANE	104	103
CIS-1,3-DICHLOROPROPENE	99	98
TRANS-1,3-DICHLOROPROPENE	102	101
1,1,2-TRICHLOROETHANE	103	102
TOLUENE	105	104
DIBROMOCHLOROMETHANE	102	100
TETRACHLOROETHYLENE (PCE)	106	105
CHLOROBENZENE	102	101
ETHYLBENZENE	108	107
M,P-XYLENE	109	109
BROMOFORM	103	102
O-XYLENE	104	103
1,1,2,2-TETRACHLOROETHANE	104	103
1,3,5-TRIMETHYLBENZENE	106	106
1,2,4-TRIMETHYLBENZENE	111	111
1,3-DCB	107	108
1,4-DCB	110	109
1,2-DCB	107	106

12/19/19

12/17/19

12/19/19

LFM/LFMD spiked at 20.0 ug/L for all except m,p-xylene at 40.0 ug/L.

Method 624	RPD
Date	12/3/2019
CHLOROMETHANE	1
VINYL CHLORIDE	1
BROMOMETHANE	2
CHLOROETHANE	2
TRICHLOROFLUOROMETHANE	1
1,1-DICHLOROETHYLENE	1
METHYLENE CHLORIDE	1
TRANS-1,2-DICHLOROETHENE	1
MTBE **	2
1,1-DICHLOROETHANE	1
CHLOROFORM	1
1,2-DICHLOROETHANE	2
1,1,1-TRICHLOROETHANE	1
CARBON TETRACHLORIDE	1
BENZENE	1
1,2-DICHLOROPROPANE	1
TRICHLOROETHYLENE	0
BROMODICHLOROMETHANE	1
CIS-1,3-DICHLOROPROPENE	1
TRANS-1,3-DICHLOROPROPENE	1
1,1,2-TRICHLOROETHANE	1
TOLUENE	1
DIBROMOCHLOROMETHANE	1
TETRACHLOROETHYLENE (PCE)	1
CHLOROBENZENE	1
ETHYLBENZENE	1
M,P-XYLENE	1
BROMOFORM	1
O-XYLENE	1
1,1,2,2-TETRACHLOROETHANE	1
1,3,5-TRIMETHYLBENZENE	0
1,2,4-TRIMETHYLBENZENE	0
1,3-DCB	1
1,4-DCB	1
1,2-DCB	1

12/19/19

12/19/19

12/19/19

LFMD spiked at 20.0 ug/L for all except m,p-xylene at 40.0 ug/L.

Method 624	QCS	QCS
Date	11/29/2019	11/29/2019
ACROLEIN	20.81	23.23
ACRYLONITRILE	19.39	23.05
2-CEVE	20.52	21.53

1/13/20

1/13/20

QCS spiked at 20.0 ug/L.

3026R0wks

Method Path : C:\MSDchem\1\METHODS\
Method File : 112919SL.M
Title : Method 624
Last Update : Mon Dec 02 08:04:59 2019
Response Via : Initial Calibration

Datafile Path: D:\msdchem\Data\624\112919\

-----Sample-----

File : 1129014.D
Name : 2019090306
Acq Time: 29 Nov 2019 22:20

-----Spike-----

File : 1129015.D
Name : 2019090306 LFM
Acq Time: 29 Nov 2019 22:44

--Spike Duplicate--

File : 1129016.D
Name : 2019090306 LFMD
Acq Time: 29 Nov 2019 23:08

Compound	Sample	Spike	Spike	Dup	Spike	Dup	RPD	QC Limits	
	Conc	Added	Res	Res	%Rec	%Rec		RPD	% Rec
Acrolein	0.3	20	12	13	61#	62#	1	20	70-130
Acrylonitrile	0.0	20	17	18	87	92	5	20	70-130
2-Chloroethyl vinyl	0.0	20	19	19	97	95	1	20	1-305

- Fails Limit Check

112919SL.M Thu Dec 05 15:40:49 2019

12/20

12/19/19

12/19/19

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Method 624SL

PTMSD #3 Control Chart Masters 3026R0wks

PTMSD #3

RL Check

Method 624	RL CHECK
Date	11/29/2019
ACROLEIN	0.94
ACRYLONITRILE	0.94
2-CEVE	0.89

1/13/20

12/19/19

3/2/20

RL Check spiked at 1.0 ug/L.

3026R0wks

Method 624SL

PTMSD #3 Control Chart Masters 3026R0wks

PTMSD #3

LFM/LFMD

Method 624	LFM	LFMD
Date	11/29/2019	11/29/2219
ACROLEIN	61	62
ACRYLONITRILE	87	92
2-CEVE	97	95

11/3/20

*12/15/19
12/19/19*

12/13/19

LFM LFMD spiked at 20.0 ug/L.

3026R0wks

Method 624SL

PTMSD #3

LFMD RPD

PTMSD #3 Control Chart Masters 3026R0wks

Method 624	RPD
Date	11/29/2019
ACROLEIN	1
ACRYLONITRILE	5
2-CEVE	1

Q 12/19/19

Q 1/3/20

U 12/15/19

LFMD spiked at 20.0 ug/L.

3026R0wks

1205006.D
 Sample Name: BNA 2nd Source
 Misc Info: 625-6402

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/5/2019 10:27
 Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	144844
1-FLUORONAPHTHALENE IS#2	215550
2-FLUOROBIPHENYL IS#3	202842

Compound Name	Conc.	% Rec.	Range	Compound Name	Conc.	% Rec.	Range
B41 n-NITROSODIMETHYLAMINE	77.32	97	80 - 120	B24 DIETHYLPHTHALATE	75.27	94	80 - 120
A10 PHENOL	79.36	99	80 - 120	B17 4-CHLOROPHENYLPHENYLETHER	77.38	97	80 - 120
B11 BIS(2-CHLOROETHYL)ETHER	80.65	101	80 - 120	B32 FLUORENE	74.24	93	80 - 120
A01 2-CHLOROPHENOL	78.15	98	80 - 120	A04 2-METHYL-4,6-DINITROPHENOL	77.54	97	80 - 120
B21 1,3-DICHLOROENZENE	81.88	102	80 - 120	B43 n-NITROSODIPHENYLAMINE	70.84	89	80 - 120
B22 1,4-DICHLOROENZENE	80.25	100	80 - 120	B30 1,2-DIPHENYLHYDRAZINE(AZOBENZE	71.73	90	80 - 120
B20 1,2-DICHLOROENZENE	79.47	99	80 - 120	B14 4-BROMOPHENYL PHENYL ETHER	80.34	100	80 - 120
B12 BIS(2-CHLOROISOPROPYL) ETHER	72.81	91	80 - 120	B33 HEXACHLOROENZENE	79.03	99	80 - 120
B42 n-NITROSODI-N-PROPYLAMINE	76.86	96	80 - 120	A09 PENTACHLOROPHENOL	75.93	95	80 - 120
B36 HEXACHLOROETHANE	80.26	100	80 - 120	B44 PHENANTHRENE	74.61	93	80 - 120
B40 NITROENZENE	79.80	100	80 - 120	B03 ANTHRACENE	87.52	109	80 - 120
B38 ISOPHORONE	81.01	101	80 - 120	B26 DI-N-BUTYL PHTHALATE	80.26	100	80 - 120
A06 2-NITROPHENOL	79.39	99	80 - 120	B31 FLUORANTHENE	75.06	94	80 - 120
A03 2,4-DIMETHYLPHENOL	64.12	80	80 - 120	B04 BENZIDINE	73.10	91	80 - 120
B10 BIS(2-CHLOROETHOXY)METHANE	76.43	96	80 - 120	B45 PYRENE	75.29	94	80 - 120
A02 2,4-DICHLOROPHENOL	79.52	99	80 - 120	B15 BENZYL BUTYL PHTHALATE	81.08	101	80 - 120
B46 1,2,4-TRICHLOROENZENE	80.19	100	80 - 120	B23 3,3-DICHLOROENZIDINE	75.80	95	80 - 120
B39 NAPHTHALENE	76.46	96	80 - 120	B05 BENZO(A)ANTHRACENE	79.60	99	80 - 120
B34 HEXACHLOROBUTADIENE	83.00	104	80 - 120	B18 CHRYSENE	77.94	97	80 - 120
A08 4-CHLORO-3-METHYLPHENOL	77.39	97	80 - 120	B13 bis(2-ETHYLHEXYL)PHTHALATE	78.18	98	80 - 120
B35 HEXACHLOROCYCLOPENTADIENE	75.88	95	80 - 120	B29 DI-n-OCTYLPHTHALATE	75.19	94	80 - 120
A11 2,4,6-TRICHLOROPHENOL	83.75	105	80 - 120	B07 BENZO(b)FLUORANTHENE	80.42	101	80 - 120
B16 2-CHLORONAPHTHALENE	76.57	96	80 - 120	B09 BENZO(k)FLUORANTHENE	81.68	102	80 - 120
B25 DIMETHYL PHTHALATE	76.16	95	80 - 120	B06 BENZO(a)PYRENE	79.47	99	80 - 120
B28 2,6-DINITROTOLUENE	80.89	101	80 - 120	B37 INDENO(1,2,3-cd)PYRENE	74.31	93	80 - 120
B02 ACENAPHTHYLENE	71.32	89	80 - 120	B19 DIBENZO(a,h) ANTHRACENE	82.57	103	80 - 120
B01 ACENAPHTHENE	74.44	93	80 - 120	B08 BENZO(ghi)PERYLENE	86.50	108	80 - 120
A05 2,4-DINITROPHENOL	70.06	88	80 - 120	S06 2,4,6-TRIBROMOPHENOL SURR. #1	83.04	104	80 - 120
A07 4-NITROPHENOL	78.42	98	80 - 120	S07 DIBROMOOCTAFLUROBIPHENYL S2	43.83	110	80 - 120
B27 2,4-DINITROTOLUENE	78.47	98	80 - 120	S08 4,4-DIBROMOBIPHENYL SURR#3	37.95	95	80 - 120

*cm
r/hika*

12/10/19 AM

Data File Name: 1205015.D
 Sample Name: LRB
 Misc Info: ext. 12/3/19

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/5/2019 14:10
 Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	131878
1-FLUORONAPHTHALENE IS#2	199868
2-FLUOROBIPHENYL IS#3	198148

Compound Name	Result	RL	Compound Name	Result	RL
B01 ACENAPHTHENE	<RL	1.19	B31 FLUORANTHENE	<RL	1.27
B02 ACENAPHTHYLENE	<RL	1.41	B32 FLUORENE	<RL	1.18
B03 ANTHRACENE	<RL	1.20	B33 HEXACHLOROBENZENE	<RL	1.01
B04 BENZIDINE	<RL	21.06	B34 HEXACHLOROBUTADIENE	<RL	1.20
B05 BENZO(A)ANTHRACENE	<RL	1.02	B35 HEXACHLOROCYCLOPENTADIENE	<RL	3.07
B06 BENZO(a)PYRENE	<RL	1.08	B36 HEXACHLOROETHANE	<RL	1.35
B07 BENZO(b)FLUORANTHENE	<RL	0.38	B37 INDENO(1,2,3-cd)PYRENE	<RL	1.07
B08 BENZO(ghi)PERYLENE	<RL	1.14	B38 ISOPHORONE	<RL	1.32
B09 BENZO(k)FLUORANTHENE	<RL	1.03	B39 NAPHTHALENE	<RL	1.48
B10 BIS(2-CHLOROETHOXY)METHANE	<RL	1.69	B40 NITROBENZENE	<RL	1.55
B11 BIS(2-CHLOROETHYL)ETHER	<RL	1.79	B41 n-NITROSODIMETHYLAMINE	<RL	1.67
B12 BIS(2-CHLOROISOPROPYL) ETHER	<RL	1.95	B42 n-NITROSODI-N-PROPYLAMINE	<RL	1.65
B13 bis(2-ETHYLHEXYL)PHTHALATE	<RL	1.25	B43 n-NITROSODIPHENYLAMINE	<RL	1.07
B14 4-BROMOPHENYL PHENYL ETHER	<RL	1.04	B44 PHENANTHRENE	<RL	1.33
B15 BENZYL BUTYL PHTHALATE	<RL	1.03	B45 PYRENE	<RL	1.20
B16 2-CHLORONAPHTHALENE	<RL	1.34	B46 1,2,4-TRICHLOROBENZENE	<RL	1.34
B17 4-CHLOROPHENYLPHENYLETHER	<RL	1.17	A01 2-CHLOROPHENOL	<RL	4.52
B18 CHRYSENE	<RL	1.16	A02 2,4-DICHLOROPHENOL	<RL	4.77
B19 DIBENZO(a,h) ANTHRACENE	<RL	1.02	A03 2,4-DIMETHYLPHENOL	<RL	2.04
B20 1,2-DICHLOROBENZENE	<RL	1.43	A04 2-METHYL-4,6-DINITROPHENOL	<RL	3.36
B21 1,3-DICHLOROBENZENE	<RL	1.39	A05 2,4-DINITROPHENOL	<RL	3.41
B22 1,4-DICHLOROBENZENE	<RL	1.48	A06 2-NITROPHENOL	<RL	4.68
B23 3,3-DICHLOROBENZIDINE	<RL	6.99	A07 4-NITROPHENOL	<RL	3.52
B24 DIETHYLPHTHALATE	<RL	1.08	A08 4-CHLORO-3-METHYLPHENOL	<RL	4.76
B25 DIMETHYL PHTHALATE	<RL	1.17	A09 PENTACHLOROPHENOL	<RL	4.00
B26 DI-N-BUTYL PHTHALATE	<RL	1.12	A10 PHENOL	<RL	4.08
B27 2,4-DINITROTOLUENE	<RL	1.17	A11 2,4,6-TRICHLOROPHENOL	<RL	5.27
B28 2,6-DINITROTOLUENE	<RL	1.13	S06 2,4,6-TRIBROMOPHENOL SURR. #1	52.68	
B29 DI-n-OCTYLPHTHALATE	<RL	2.05	S07 DIBROMOOCTAFLUOROBIPHENYL S2	87.65	
B30 1,2-DIPHENYLHYDRAZINE(AZOBENZENE)	<RL	1.11	S08 4,4-DIBROMOBIPHENYL SURR#3	82.97	

TRUE
 TRUE
 TRUE

Data File Name: 1205016.D
 Sample Name: LFB
 Misc Info: ext. 12/3/19

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/5/2019 14:34
 Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	139798
1-FLUORONAPHTHALENE IS#2	204587
2-FLUOROBIPHENYL IS#3	193812

Compound Name	Conc.	% Rec	Range			Compound Name	Conc.	% Rec	Range		
B01 ACENAPHTHENE	77.16	77	47	-	145	B31 FLUORANTHENE	85.46	85	26	-	137
B02 ACENAPHTHYLENE	71.92	72	33	-	145	B32 FLUORENE	79.18	79	59	-	121
B03 ANTHRACENE	94.03	94	27	-	133	B33 HEXACHLOROENZENE	85.01	85	1	-	152
B04 BENZIDINE	21.50	21	1	-	51	B34 HEXACHLOROBUTADIENE	70.33	70	24	-	116
B05 BENZO(A)ANTHRACENE	92.36	92	33	-	143	B35 HEXACHLOROCYCLOPENTADIENE	35.03	35	13	-	80
B06 BENZO(a)PYRENE	89.26	89	17	-	163	B36 HEXACHLOROETHANE	64.55	65	40	-	113
B07 BENZO(b)FLUORANTHENE	94.02	94	24	-	159	B37 INDENO(1,2,3-cd)PYRENE	82.56	83	1	-	171
B08 BENZO(ghi)PERYLENE	98.99	99	1	-	219	B38 ISOPHORONE	79.59	80	21	-	196
B09 BENZO(k)FLUORANTHENE	92.64	93	11	-	162	B39 NAPHTHALENE	73.72	74	21	-	133
B10 BIS(2-CHLOROETHOXY)METHANE	74.27	74	33	-	184	B40 NITROBENZENE	73.48	73	35	-	180
B11 BIS(2-CHLOROETHYL)ETHER	77.46	77	12	-	158	B41 n-NITROSODIMETHYLAMINE	67.28	67	57	-	92
B12 BIS(2-CHLOROISOPROPYL) ETHER	67.17	67	36	-	166	B42 n-NITROSODI-N-PROPYLAMINE	73.23	73	1	-	230
B13 bis(2-ETHYLHEXYL)PHTHALATE	91.45	91	8	-	158	B43 n-NITROSODIPHENYLAMINE	73.10	73	49	-	118
B14 4-BROMOPHENYL PHENYL ETHER	87.41	87	53	-	127	B44 PHENANTHRENE	83.46	83	54	-	120
B15 BENZYL BUTYL PHTHALATE	96.28	96	1	-	152	B45 PYRENE	85.14	85	52	-	115
B16 2-CHLORONAPHTHALENE	74.62	75	60	-	118	B46 1,2,4-TRICHLOROENZENE	70.29	70	44	-	142
B17 4-CHLOROPHENYLPHENYLETHER	81.61	82	25	-	158	A01 2-CHLOROPHENOL	43.23	43	23	-	134
B18 CHRYSENE	89.95	90	17	-	168	A02 2,4-DICHLOROPHENOL	48.23	48	39	-	135
B19 DIBENZO(a,h) ANTHRACENE	95.26	95	1	-	227	A03 2,4-DIMETHYLPHENOL	71.64	72	32	-	119
B20 1,2-DICHLOROENZENE	67.39	67	32	-	129	A04 2-METHYL-4,6-DINITROPHENOL	60.62	61	1	-	181
B21 1,3-DICHLOROENZENE	65.94	66	1	-	172	A05 2,4-DINITROPHENOL	49.05	49	1	-	191
B22 1,4-DICHLOROENZENE	67.49	67	20	-	124	A06 2-NITROPHENOL	45.79	46	29	-	182
B23 3,3-DICHLOROENZIDINE	31.52	32	1	-	262	A07 4-NITROPHENOL	57.59	58	1	-	132
B24 DIETHYLPHTHALATE	83.56	84	1	-	114	A08 4-CHLORO-3-METHYLPHENOL	61.02	61	22	-	147
B25 DIMETHYL PHTHALATE	82.94	83	1	-	112	A09 PENTACHLOROPHENOL	57.93	58	14	-	176
B26 DI-N-BUTYL PHTHALATE	90.83	91	1	-	118	A10 PHENOL	50.11	50	5	-	112
B27 2,4-DINITROTOLUENE	86.42	86	39	-	139	A11 2,4,6-TRICHLOROPHENOL	46.89	47	37	-	144
B28 2,6-DINITROTOLUENE	87.21	87	50	-	158	S06 2,4,6-TRIBROMOPHENOL SURR. #1	61.53	62	1	-	166
B29 DI-n-OCTYLPHTHALATE	88.79	89	4	-	146	S07 DIBROMOOCTAFLUOROBIPHENYL S2	48.15	96	16	-	148
B30 1,2-DIPHENYLHYDRAZINE(AZOENZE	74.90	75	59	-	110	S08 4,4-DIBROMOBIPHENYL SURR#3	44.55	89	24	-	134

Data File Name: 1205023.D
 Sample Name: 2019090456 LFM
 Misc Info: ext. 12/3/19

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/5/2019 17:24
 Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	152202
1-FLUORONAPHTHALENE IS#2	224176
2-FLUOROBIPHENYL IS#3	209167

Compound Name	Sample	Conc.	% Rec	Range	Compound Name	Sample	Conc.	% Rec	Range
B01 ACENAPHTHENE	0.00	67.95	68	47 - 145	B31 FLUORANTHENE	0.00	68.24	68	26 - 137
B02 ACENAPHTHYLENE	0.00	63.50	64	33 - 145	B32 FLUORENE	0.00	72.54	73	59 - 121
B03 ANTHRACENE	0.00	78.82	79	27 - 133	B33 HEXACHLOROENZENE	0.00	67.71	68	1 - 152
B04 BENZIDINE	0.00	0.00	0	1 - 51	B34 HEXACHLOROBUTADIENE	0.00	51.55	52	24 - 116
B05 BENZO(A)ANTHRACENE	0.00	66.87	67	33 - 143	B35 HEXACHLOROCYCLOPENTADIENE	0.00	28.69	29	13 - 80
B06 BENZO(a)PYRENE	3.65	65.18	62	17 - 163	B36 HEXACHLOROETHANE	0.00	51.06	51	40 - 113
B07 BENZO(b)FLUORANTHENE	0.00	67.25	67	24 - 159	B37 INDENO(1,2,3-cd)PYRENE	4.55	68.18	64	1 - 171
B08 BENZO(ghi)PERYLENE	0.00	76.26	76	1 - 219	B38 ISOPHORONE	0.00	65.81	66	21 - 196
B09 BENZO(k)FLUORANTHENE	0.00	69.52	70	11 - 162	B39 NAPHTHALENE	0.00	58.80	59	21 - 133
B10 BIS(2-CHLOROETHOXY)METHANE	0.00	60.43	60	33 - 184	B40 NITROBENZENE	0.00	59.45	59	35 - 180
B11 BIS(2-CHLOROETHYL)ETHER	0.00	61.25	61	12 - 158	B41 n-NITROSODIMETHYLAMINE	0.00	53.67	54	57 - 92
B12 BIS(2-CHLOROISOPROPYL) ETHER	0.00	53.82	54	36 - 166	B42 n-NITROSODI-N-PROPYLAMINE	0.00	60.55	61	1 - 230
B13 bis(2-ETHYLHEXYL)PHTHALATE	4.82	71.85	67	8 - 158	B43 n-NITROSODIPHENYLAMINE	0.00	35.99	36	49 - 118
B14 4-BROMOPHENYL PHENYL ETHER	0.00	75.23	75	53 - 127	B44 PHENANTHRENE	0.00	74.31	74	54 - 120
B15 BENZYL BUTYL PHTHALATE	0.00	77.42	77	1 - 152	B45 PYRENE	0.00	67.34	67	52 - 115
B16 2-CHLORONAPHTHALENE	0.00	62.65	63	60 - 118	B46 1,2,4-TRICHLOROENZENE	0.00	56.31	56	44 - 142
B17 4-CHLOROPHENYLPHENYLETHER	0.00	71.10	71	25 - 158	A01 2-CHLOROPHENOL	0.00	41.15	41	23 - 134
B18 CHRYSENE	0.00	66.81	67	17 - 168	A02 2,4-DICHLOROPHENOL	0.00	54.36	54	39 - 135
B19 DIBENZO(a,h) ANTHRACENE	0.00	73.41	73	1 - 227	A03 2,4-DIMETHYLPHENOL	0.00	65.54	66	32 - 119
B20 1,2-DICHLOROENZENE	0.00	53.61	54	32 - 129	A04 2-METHYL-4,6-DINITROPHENOL	0.00	87.71	88	1 - 181
B21 1,3-DICHLOROENZENE	0.00	53.14	53	1 - 172	A05 2,4-DINITROPHENOL	0.00	89.21	89	1 - 191
B22 1,4-DICHLOROENZENE	0.00	52.41	52	20 - 124	A06 2-NITROPHENOL	0.00	51.82	52	29 - 182
B23 3,3-DICHLOROENZIDINE	0.00	0.00	0	1 - 262	A07 4-NITROPHENOL	0.00	89.04	89	1 - 132
B24 DIETHYLPHTHALATE	0.00	81.79	82	1 - 114	A08 4-CHLORO-3-METHYLPHENOL	0.00	73.07	73	22 - 147
B25 DIMETHYL PHTHALATE	0.00	79.25	79	1 - 112	A09 PENTACHLOROPHENOL	0.00	84.00	84	14 - 176
B26 DI-N-BUTYL PHTHALATE	0.00	79.91	80	1 - 118	A10 PHENOL	0.00	45.54	46	5 - 112
B27 2,4-DINITROTOLUENE	0.00	86.00	86	39 - 139	A11 2,4,6-TRICHLOROPHENOL	0.00	69.95	70	37 - 144
B28 2,6-DINITROTOLUENE	0.00	86.45	86	50 - 158	S06 2,4,6-TRIBROMOPHENOL SURR. #1	91.38	91.98	92	1 - 166
B29 DI-n-OCTYLPHTHALATE	0.00	70.67	71	4 - 146	S07 DIBROMOOCTAFLUROBIPHENYL S2	30.64	35.82	72	16 - 148
B30 1,2-DIPHENYLHYDRAZINE(AZOBE	0.00	65.95	66	59 - 110	S08 4,4-DIBROMOBIPHENYL SURR#3	30.91	33.93	68	24 - 134

* DDC flag

CR 12/11/19

C:\GCMS\ICUSTRPT\625 LFM.CRT
 **DDC only, NT for Storm

12/10/19 AM

Data File Name: 1205024.D
 Sample Name: 2019090456 LFMD
 Misc Info: ext. 12/3/19

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/5/2019 17:48
 Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	154253
1-FLUORONAPHTHALENE IS#2	229302
2-FLUOROBIPHENYL IS#3	211058

Compound Name	Sample	Conc.	% Rec	Range	Compound Name	Sample	Conc.	% Rec	Range
B01 ACENAPHTHENE	0.00	62.10	62	47 - 145	B31 FLUORANTHENE	0.00	61.13	61	26 - 137
B02 ACENAPHTHYLENE	0.00	59.15	59	33 - 145	B32 FLUORENE	0.00	67.72	68	59 - 121
B03 ANTHRACENE	0.00	72.09	72	27 - 133	B33 HEXACHLORO BENZENE	0.00	56.80	57	1 - 152
B04 BENZIDINE	0.00	0.00	0	1 - 51	B34 HEXACHLOROBUTADIENE	0.00	44.80	45	24 - 116
B05 BENZO(A)ANTHRACENE	0.00	56.88	57	33 - 143	B35 HEXACHLOROCYCLOPENTADIENE	0.00	26.08	26	13 - 80
B06 BENZO(a)PYRENE	3.65	55.83	52	17 - 163	B36 HEXACHLOROETHANE	0.00	46.68	47	40 - 113
B07 BENZO(b)FLUORANTHENE	0.00	57.53	58	24 - 159	B37 INDENO(1,2,3-cd)PYRENE	4.55	58.20	54	1 - 171
B08 BENZO(ghi)PERYLENE	0.00	64.17	64	1 - 219	B38 ISOPHORONE	0.00	61.35	61	21 - 196
B09 BENZO(k)FLUORANTHENE	0.00	58.60	59	11 - 162	B39 NAPHTHALENE	0.00	54.14	54	21 - 133
B10 BIS(2-CHLOROETHOXY)METHANE	0.00	55.55	56	33 - 184	B40 NITROBENZENE	0.00	55.18	55	35 - 180
B11 BIS(2-CHLOROETHYL)ETHER	0.00	57.12	57	12 - 158	B41 n-NITROSODIMETHYLAMINE	0.00	49.52	50	57 - 92
B12 BIS(2-CHLOROISOPROPYL) ETHER	0.00	49.51	50	36 - 166	B42 n-NITROSODI-N-PROPYLAMINE	0.00	55.51	56	1 - 230
B13 bis(2-ETHYLHEXYL)PHTHALATE	4.82	61.17	56	8 - 158	B43 n-NITROSODIPHENYLAMINE	0.00	34.13	34	49 - 118
B14 4-BROMOPHENYL PHENYL ETHER	0.00	66.81	67	53 - 127	B44 PHENANTHRENE	0.00	69.16	69	54 - 120
B15 BENZYL BUTYL PHTHALATE	0.00	68.21	68	1 - 152	B45 PYRENE	0.00	59.78	60	52 - 115
B16 2-CHLORONAPHTHALENE	0.00	58.47	58	60 - 118	B46 1,2,4-TRICHLORO BENZENE	0.00	52.00	52	44 - 142
B17 4-CHLOROPHENYLPHENYLETHER	0.00	63.74	64	25 - 158	A01 2-CHLOROPHENOL	0.00	41.39	41	23 - 134
B18 CHRYSENE	0.00	57.49	57	17 - 168	A02 2,4-DICHLOROPHENOL	0.00	51.33	51	39 - 135
B19 DIBENZO(a,h) ANTHRACENE	0.00	62.22	62	1 - 227	A03 2,4-DIMETHYLPHENOL	0.00	59.55	60	32 - 119
B20 1,2-DICHLORO BENZENE	0.00	49.15	49	32 - 129	A04 2-METHYL-4,6-DINITROPHENOL	0.00	85.24	85	1 - 181
B21 1,3-DICHLORO BENZENE	0.00	48.36	48	1 - 172	A05 2,4-DINITROPHENOL	0.00	84.26	84	1 - 191
B22 1,4-DICHLORO BENZENE	0.00	49.55	50	20 - 124	A06 2-NITROPHENOL	0.00	48.72	49	29 - 182
B23 3,3-DICHLORO BENZIDINE	0.00	0.00	0	1 - 262	A07 4-NITROPHENOL	0.00	84.04	84	1 - 132
B24 DIETHYL PHTHALATE	0.00	77.52	78	1 - 114	A08 4-CHLORO-3-METHYLPHENOL	0.00	66.67	67	22 - 147
B25 DIMETHYL PHTHALATE	0.00	74.99	75	1 - 112	A09 PENTACHLOROPHENOL	0.00	81.32	81	14 - 176
B26 DI-N-BUTYL PHTHALATE	0.00	73.12	73	1 - 118	A10 PHENOL	0.00	44.52	45	5 - 112
B27 2,4-DINITROTOLUENE	0.00	82.94	83	39 - 139	A11 2,4,6-TRICHLOROPHENOL	0.00	63.23	63	37 - 144
B28 2,6-DINITROTOLUENE	0.00	82.36	82	50 - 158	S06 2,4,6-TRIBROMOPHENOL SURR. #1	91.38	87.78	88	1 - 166
B29 DI-n-OCTYL PHTHALATE	0.00	59.94	60	4 - 146	S07 DIBROMOOCTAFLUOROBIPHENYL S2	30.64	28.04	56	16 - 148
B30 1,2-DIPHENYLHYDRAZINE(AZO BEN)	0.00	61.51	62	59 - 110	S08 4,4-DIBROMOBIPHENYL SURR#3	30.91	27.99	56	24 - 134

12/11/19

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12/10/19 AM

Data File Name: 1205023.D 1205024.D
 Sample Name: 2019090456 2019090456 LFMD
 Misc Info: A. Martin A. Martin

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/5/2019 17:48
 Sample Multiplier: 1

Compound Name	Conc.	Conc.	RPD		Name	Conc.	Conc.	RPD	
B01 ACENAPHTHENE	67.95	62.10	9		B31 FLUORANTHENE	68.24	61.13	11	
B02 ACENAPHTHYLENE	63.50	59.15	7		B32 FLUORENE	72.54	67.72	7	
B03 ANTHRACENE	78.82	72.09	9		B33 HEXACHLOROBENZENE	67.71	56.80	18	
B04 BENZIDINE	0.00	0.00	N/A	outside range	B34 HEXACHLOROBUTADIENE	51.55	44.80	14	
B05 BENZO(A)ANTHRACENE	66.87	56.88	16		B35 HEXACHLOROCYCLOPENTADIENE	28.69	26.08	10	
B06 BENZO(a)PYRENE	65.18	55.83	15		B36 HEXACHLOROETHANE	51.06	46.68	9	
B07 BENZO(b)FLUORANTHENE	67.25	57.53	16		B37 INDENO(1,2,3-cd)PYRENE	68.18	58.20	16	
B08 BENZO(ghi)PERYLENE	76.26	64.17	17		B38 ISOPHORONE	65.81	61.35	7	
B09 BENZO(k)FLUORANTHENE	69.52	58.60	17		B39 NAPHTHALENE	58.80	54.14	8	
B10 BIS(2-CHLOROETHOXY)METHANE	60.43	55.55	8		B40 NITROBENZENE	59.45	55.18	7	
B11 BIS(2-CHLOROETHYL)ETHER	61.25	57.12	7		B41 n-NITROSODIMETHYLAMINE	53.67	49.52	8	
B12 BIS(2-CHLOROISOPROPYL) ETHER	53.82	49.51	8		B42 n-NITROSODI-N-PROPYLAMINE	60.55	55.51	9	
B13 bis(2-ETHYLHEXYL)PHTHALATE	71.85	61.17	16		B43 n-NITROSODIPHENYLAMINE	35.99	34.13	5	
B14 4-BROMOPHENYL PHENYL ETHER	75.23	66.81	12		B44 PHENANTHRENE	74.31	69.16	7	
B15 BENZYL BUTYL PHTHALATE	77.42	68.21	13		B45 PYRENE	67.34	59.78	12	
B16 2-CHLORONAPHTHALENE	62.65	58.47	7		B46 1,2,4-TRICHLOROBENZENE	56.31	52.00	8	
B17 4-CHLOROPHENYLPHENYLETHER	71.10	63.74	11		A01 2-CHLOROPHENOL	41.15	41.39	1	
B18 CHRYSENE	66.81	57.49	15		A02 2,4-DICHLOROPHENOL	54.36	51.33	6	
B19 DIBENZO(a,h) ANTHRACENE	73.41	62.22	16		A03 2,4-DIMETHYLPHENOL	65.54	59.55	10	
B20 1,2-DICHLOROBENZENE	53.61	49.15	9		A04 2-METHYL-4,6-DINITROPHENOL	87.71	85.24	3	
B21 1,3-DICHLOROBENZENE	53.14	48.36	9		A05 2,4-DINITROPHENOL	89.21	84.26	6	
B22 1,4-DICHLOROBENZENE	52.41	49.55	6		A06 2-NITROPHENOL	51.82	48.72	6	
B23 3,3-DICHLOROBENZIDINE	0.00	0.00	N/A	outside range	A07 4-NITROPHENOL	89.04	84.04	6	
B24 DIETHYLPHTHALATE	81.79	77.52	5		A08 4-CHLORO-3-METHYLPHENOL	73.07	66.67	9	
B25 DIMETHYL PHTHALATE	79.25	74.99	6		A09 PENTACHLOROPHENOL	84.00	81.32	3	
B26 DI-N-BUTYL PHTHALATE	79.91	73.12	9		A10 PHENOL	45.54	44.52	2	
B27 2,4-DINITROTOLUENE	86.00	82.94	4		A11 2,4,6-TRICHLOROPHENOL	69.95	63.23	10	
B28 2,6-DINITROTOLUENE	86.45	82.36	5		S06 2,4,6-TRIBROMOPHENOL SURR. #1	91.98	87.78	5	
B29 DI-n-OCTYLPHTHALATE	70.67	59.94	16		S07 DIBROMOOCTAFLUOROBIPHENYL S2	35.82	28.04	24	outside range
B30 1,2-DIPHENYLHYDRAZINE(AZOBEZE	65.95	61.51	7		S08 4,4-DIBROMOBIPHENYL SURR#3	33.93	27.99	19	

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on 12/11/19

12/10/19 AM

**Doc. only, NT for storm

1205027.D
 Sample Name: BNA 2nd Source
 Misc Info: 625-6402

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/5/2019 19:00
 Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	160932
1-FLUORONAPHTHALENE IS#2	237813
2-FLUOROBIPHENYL IS#3	226130

Compound Name	Conc.	% Rec.	Range	Compound Name	Conc.	% Rec.	Range
B41 n-NITROSODIMETHYLAMINE	75.86	95	80 - 120	B24 DIETHYLPHTHALATE	73.79	92	80 - 120
A10 PHENOL	79.14	99	80 - 120	B17 4-CHLOROPHENYLPHENYLETHER	75.46	94	80 - 120
B11 BIS(2-CHLOROETHYL)ETHER	79.12	99	80 - 120	B32 FLUORENE	72.40	90	80 - 120
A01 2-CHLOROPHENOL	77.93	97	80 - 120	A04 2-METHYL-4,6-DINITROPHENOL	81.58	102	80 - 120
B21 1,3-DICHLOROENZENE	81.28	102	80 - 120	B43 n-NITROSODIPHENYLAMINE	70.65	88	80 - 120
B22 1,4-DICHLOROENZENE	79.38	99	80 - 120	B30 1,2-DIPHENYLHYDRAZINE(AZOBENZE	69.24	87	80 - 120
B20 1,2-DICHLOROENZENE	77.95	97	80 - 120	B14 4-BROMOPHENYL PHENYL ETHER	78.77	98	80 - 120
B12 BIS(2-CHLOROISOPROPYL) ETHER	70.48	88	80 - 120	B33 HEXACHLOROENZENE	76.78	96	80 - 120
B42 n-NITROSODI-N-PROPYLAMINE	75.25	94	80 - 120	A09 PENTACHLOROPHENOL	76.58	96	80 - 120
B36 HEXACHLOROETHANE	79.39	99	80 - 120	B44 PHENANTHRENE	72.26	90	80 - 120
B40 NITROENZENE	78.11	98	80 - 120	B03 ANTHRACENE	86.64	108	80 - 120
B38 ISOPHORONE	80.69	101	80 - 120	B26 DI-N-BUTYL PHTHALATE	79.35	99	80 - 120
A06 2-NITROPHENOL	81.42	102	80 - 120	B31 FLUORANTHENE	72.37	90	80 - 120
A03 2,4-DIMETHYLPHENOL	63.85	80	80 - 120	B04 BENZIDINE	64.39	80	80 - 120
B10 BIS(2-CHLOROETHOXY)METHANE	75.20	94	80 - 120	B45 PYRENE	72.46	91	80 - 120
A02 2,4-DICHLOROPHENOL	79.26	99	80 - 120	B15 BENZYL BUTYL PHTHALATE	81.35	102	80 - 120
B46 1,2,4-TRICHLOROENZENE	78.89	99	80 - 120	B23 3,3-DICHLOROENZIDINE	77.97	97	80 - 120
B39 NAPHTHALENE	76.07	95	80 - 120	B05 BENZO(A)ANTHRACENE	76.98	96	80 - 120
B34 HEXACHLOROBUTADIENE	81.87	102	80 - 120	B18 CHRYSENE	74.94	94	80 - 120
A08 4-CHLORO-3-METHYLPHENOL	78.37	98	80 - 120	B13 bis(2-ETHYLHEXYL)PHTHALATE	79.30	99	80 - 120
B35 HEXACHLOROCYCLOPENTADIENE	61.91	77	80 - 120	B29 DI-n-OCTYLPHTHALATE	77.35	97	80 - 120
A11 2,4,6-TRICHLOROPHENOL	83.67	105	80 - 120	B07 BENZO(b)FLUORANTHENE	79.96	100	80 - 120
B16 2-CHLORONAPHTHALENE	75.33	94	80 - 120	B09 BENZO(k)FLUORANTHENE	76.09	95	80 - 120
B25 DIMETHYL PHTHALATE	74.88	94	80 - 120	B06 BENZO(a)PYRENE	78.58	98	80 - 120
B28 2,6-DINITROTOLUENE	80.66	101	80 - 120	B37 INDENO(1,2,3-cd)PYRENE	75.66	95	80 - 120
B02 ACENAPHTHYLENE	69.90	87	80 - 120	B19 DIBENZO(a,h) ANTHRACENE	83.05	104	80 - 120
B01 ACENAPHTHENE	73.67	92	80 - 120	B08 BENZO(ghi)PERYLENE	86.65	108	80 - 120
A05 2,4-DINITROPHENOL	80.50	101	80 - 120	S06 2,4,6-TRIBROMOPHENOL SURR. #1	85.08	106	96 - 132
A07 4-NITROPHENOL	77.26	97	80 - 120	S07 DIBROMOOCTAFLUOROBIPHENYL S2	42.68	107	89 - 129
B27 2,4-DINITROTOLUENE	79.04	99	80 - 120	S08 4,4-DIBROMOBIPHENYL SURR#3	37.05	93	88 - 110

*see PR

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12/10/19 PR

1205029.D
 Sample Name: BNA 2nd Source, RR
 Misc Info: 625-6402

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/6/2019 6:10
 Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	171580
1-FLUORONAPHTHALENE IS#2	250641
2-FLUOROBIPHENYL IS#3	239589

Compound Name	Conc.	% Rec.	Range			Compound Name	Conc.	% Rec.	Range		
B41 n-NITROSODIMETHYLAMINE	76.28	95	80	-	120	B24 DIETHYLPHTHALATE	74.60	93	80	-	120
A10 PHENOL	78.94	99	80	-	120	B17 4-CHLOROPHENYLPHENYLEETHER	76.02	95	80	-	120
B11 BIS(2-CHLOROETHYL)ETHER	80.00	100	80	-	120	B32 FLUORENE	72.50	91	80	-	120
A01 2-CHLOROPHENOL	77.55	97	80	-	120	A04 2-METHYL-4,6-DINITROPHENOL	83.85	105	80	-	120
B21 1,3-DICHLOROENZENE	80.43	101	80	-	120	B43 n-NITROSODIPHENYLAMINE	70.90	89	80	-	120
B22 1,4-DICHLOROENZENE	79.23	99	80	-	120	B30 1,2-DIPHENYLHYDRAZINE(AZOBENZE	69.51	87	80	-	120
B20 1,2-DICHLOROENZENE	78.13	98	80	-	120	B14 4-BROMOPHENYL PHENYL ETHER	80.36	100	80	-	120
B12 BIS(2-CHLOROISOPROPYL) ETHER	70.37	88	80	-	120	B33 HEXACHLOROENZENE	79.04	99	80	-	120
B42 n-NITROSODI-N-PROPYLAMINE	75.33	94	80	-	120	A09 PENTACHLOROPHENOL	82.29	103	80	-	120
B36 HEXACHLOROETHANE	79.30	99	80	-	120	B44 PHENANTHRENE	73.34	92	80	-	120
B40 NITROENZENE	78.20	98	80	-	120	B03 ANTHRACENE	85.25	107	80	-	120
B38 ISOPHORONE	80.64	101	80	-	120	B26 DI-N-BUTYL PHTHALATE	79.83	100	80	-	120
A06 2-NITROPHENOL	80.56	101	80	-	120	B31 FLUORANTHENE	72.92	91	80	-	120
A03 2,4-DIMETHYLPHENOL	62.38	78	80	-	120	B04 BENZIDINE	64.39	80	80	-	120
B10 BIS(2-CHLOROETHOXY)METHANE	74.25	93	80	-	120	B45 PYRENE	73.25	92	80	-	120
A02 2,4-DICHLOROPHENOL	79.42	99	80	-	120	B15 BENZYL BUTYL PHTHALATE	82.43	103	80	-	120
B46 1,2,4-TRICHLOROENZENE	79.08	99	80	-	120	B23 3,3-DICHLOROENZIDINE	77.97	97	80	-	120
B39 NAPHTHALENE	76.15	95	80	-	120	B05 BENZO(A)ANTHRACENE	77.53	97	80	-	120
B34 HEXACHLOROBUTADIENE	82.43	103	80	-	120	B18 CHRYSENE	75.37	94	80	-	120
A08 4-CHLORO-3-METHYLPHENOL	79.29	99	80	-	120	B13 bis(2-ETHYLHEXYL)PHTHALATE	80.53	101	80	-	120
B35 HEXACHLOROCYCLOPENTADIENE	67.36	84	80	-	120	B29 DI-n-OCTYLPHTHALATE	78.90	99	80	-	120
A11 2,4,6-TRICHLOROPHENOL	84.06	105	80	-	120	B07 BENZO(b)FLUORANTHENE	81.52	102	80	-	120
B16 2-CHLORONAPHTHALENE	75.07	94	80	-	120	B09 BENZO(k)FLUORANTHENE	76.01	95	80	-	120
B25 DIMETHYL PHTHALATE	74.85	94	80	-	120	B06 BENZO(a)PYRENE	79.48	99	80	-	120
B28 2,6-DINITROTOLUENE	81.88	102	80	-	120	B37 INDENO(1,2,3-cd)PYRENE	78.01	98	80	-	120
B02 ACENAPHTHYLENE	69.66	87	80	-	120	B19 DIBENZO(a,h) ANTHRACENE	83.45	104	80	-	120
B01 ACENAPHTHENE	73.29	92	80	-	120	B08 BENZO(ghi)PERYLENE	87.55	109	80	-	120
A05 2,4-DINITROPHENOL	86.94	109	80	-	120	S06 2,4,6-TRIBROMOPHENOL SURR. #1	86.96	109	96	-	132
A07 4-NITROPHENOL	79.67	100	80	-	120	S07 DIBROMOOCTAFLUOROBIPHENYL S2	43.84	110	89	-	129
B27 2,4-DINITROTOLUENE	79.77	100	80	-	120	S08 4,4-DIBROMOBIPHENYL SURR#3	37.47	94	88	-	110

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initials

12/10/19 *AM*

1212007.D
 Sample Name: BNA 2nd Source
 Misc Info: 625-6433

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/12/2019 10:02
 Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	123376
1-FLUORONAPHTHALENE IS#2	191244
2-FLUOROBIPHENYL IS#3	182233

Compound Name	Conc.	% Rec.	Range		Compound Name	Conc.	% Rec.	Range	
B41 n-NITROSODIMETHYLAMINE	77.51	97	80	- 120	B24 DIETHYLPHTHALATE	74.91	94	80	- 120
A10 PHENOL	80.26	100	80	- 120	B17 4-CHLOROPHENYLPHENYLEETHER	77.78	97	80	- 120
B11 BIS(2-CHLOROETHYL)ETHER	80.92	101	80	- 120	B32 FLUORENE	74.59	93	80	- 120
A01 2-CHLOROPHENOL	79.76	100	80	- 120	A04 2-METHYL-4,6-DINITROPHENOL	78.65	98	80	- 120
B21 1,3-DICHLOROENZENE	83.93	105	80	- 120	B43 n-NITROSODIPHENYLAMINE	70.20	88	80	- 120
B22 1,4-DICHLOROENZENE	83.12	104	80	- 120	B30 1,2-DIPHENYLHYDRAZINE(AZOBENZE	70.21	88	80	- 120
B20 1,2-DICHLOROENZENE	81.36	102	80	- 120	B14 4-BROMOPHENYL PHENYL ETHER	80.73	101	80	- 120
B12 BIS(2-CHLOROISOPROPYL) ETHER	72.10	90	80	- 120	B33 HEXACHLOROENZENE	80.75	101	80	- 120
B42 n-NITROSODI-N-PROPYLAMINE	75.16	94	80	- 120	A09 PENTACHLOROPHENOL	77.12	96	80	- 120
B36 HEXACHLOROETHANE	81.71	102	80	- 120	B44 PHENANTHRENE	75.52	94	80	- 120
B40 NITROENZENE	81.31	102	80	- 120	B03 ANTHRACENE	88.54	111	80	- 120
B38 ISOPHORONE	82.68	103	80	- 120	B26 DI-N-BUTYL PHTHALATE	79.71	100	80	- 120
A06 2-NITROPHENOL	80.91	101	80	- 120	B31 FLUORANTHENE	75.88	95	80	- 120
A03 2,4-DIMETHYLPHENOL	81.37	102	80	- 120	B04 BENZIDINE	72.39	90	80	- 120
B10 BIS(2-CHLOROETHOXY)METHANE	77.45	97	80	- 120	B45 PYRENE	75.63	95	80	- 120
A02 2,4-DICHLOROPHENOL	82.78	103	80	- 120	B15 BENZYL BUTYL PHTHALATE	79.35	99	80	- 120
B46 1,2,4-TRICHLOROENZENE	83.20	104	80	- 120	B23 3,3-DICHLOROENZIDINE	71.34	89	80	- 120
B39 NAPHTHALENE	75.52	94	80	- 120	B05 BENZO(A)ANTHRACENE	77.52	97	80	- 120
B34 HEXACHLOROBUTADIENE	82.75	103	80	- 120	B18 CHRYSENE	78.84	99	80	- 120
A08 4-CHLORO-3-METHYLPHENOL	75.65	95	80	- 120	B13 bis(2-ETHYLHEXYL)PHTHALATE	77.35	97	80	- 120
B35 HEXACHLOROCYCLOPENTADIENE	67.71	85	80	- 120	B29 DI-n-OCTYLPHTHALATE	73.40	92	80	- 120
A11 2,4,6-TRICHLOROPHENOL	82.32	103	80	- 120	B07 BENZO(b)FLUORANTHENE	76.92	96	80	- 120
B16 2-CHLORONAPHTHALENE	76.06	95	80	- 120	B09 BENZO(k)FLUORANTHENE	82.93	104	80	- 120
B25 DIMETHYL PHTHALATE	74.77	93	80	- 120	B06 BENZO(a)PYRENE	78.40	98	80	- 120
B28 2,6-DINITROTOLUENE	80.42	101	80	- 120	B37 INDENO(1,2,3-cd)PYRENE	66.51	83	80	- 120
B02 ACENAPHTHYLENE	71.80	90	80	- 120	B19 DIBENZO(a,h) ANTHRACENE	80.25	100	80	- 120
B01 ACENAPHTHENE	73.58	92	80	- 120	B08 BENZO(ghi)PERYLENE	84.33	105	80	- 120
A05 2,4-DINITROPHENOL	73.11	91	80	- 120	S06 2,4,6-TRIBROMOPHENOL SURR. #1	81.90	102	80	- 120
A07 4-NITROPHENOL	75.43	94	80	- 120	S07 DIBROMOOCTAFLUROBIPHENYL S2	44.35	111	80	- 120
B27 2,4-DINITROTOLUENE	79.69	100	80	- 120	S08 4,4-DIBROMOBIPHENYL SURR#3	38.14	95	80	- 120

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*12/12/19 AM
 OM 12/31/19*

Data File Name: 1212010.D
 Sample Name: LRB
 Misc Info: ext. 12/9/19

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/12/2019 12:28
 Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	126137
1-FLUORONAPHTHALENE IS#2	184783
2-FLUOROBIPHENYL IS#3	186694

Compound Name	Result	RL	Compound Name	Result	RL
B01 ACENAPHTHENE	<RL	1.19	B31 FLUORANTHENE	<RL	1.27
B02 ACENAPHTHYLENE	<RL	1.41	B32 FLUORENE	<RL	1.18
B03 ANTHRACENE	<RL	1.20	B33 HEXACHLOROBENZENE	<RL	1.01
B04 BENZIDINE	<RL	21.06	B34 HEXACHLOROBUTADIENE	<RL	1.20
B05 BENZO(A)ANTHRACENE	<RL	1.02	B35 HEXACHLOROCYCLOPENTADIENE	<RL	3.07
B06 BENZO(a)PYRENE	<RL	1.08	B36 HEXACHLOROETHANE	<RL	1.35
B07 BENZO(b)FLUORANTHENE	<RL	0.38	B37 INDENO(1,2,3-cd)PYRENE	<RL	1.07
B08 BENZO(ghi)PERYLENE	<RL	1.14	B38 ISOPHORONE	<RL	1.32
B09 BENZO(k)FLUORANTHENE	<RL	1.03	B39 NAPHTHALENE	<RL	1.48
B10 BIS(2-CHLOROETHOXY)METHANE	<RL	1.69	B40 NITROBENZENE	<RL	1.55
B11 BIS(2-CHLOROETHYL)ETHER	<RL	1.79	B41 n-NITROSODIMETHYLAMINE	<RL	1.67
B12 BIS(2-CHLOROISOPROPYL) ETHER	<RL	1.95	B42 n-NITROSODI-N-PROPYLAMINE	<RL	1.65
B13 bis(2-ETHYLHEXYL)PHTHALATE	<RL	1.25	B43 n-NITROSODIPHENYLAMINE	<RL	1.07
B14 4-BROMOPHENYL PHENYL ETHER	<RL	1.04	B44 PHENANTHRENE	<RL	1.33
B15 BENZYL BUTYL PHTHALATE	<RL	1.03	B45 PYRENE	<RL	1.20
B16 2-CHLORONAPHTHALENE	<RL	1.34	B46 1,2,4-TRICHLOROBENZENE	<RL	1.34
B17 4-CHLOROPHENYLPHENYLETHER	<RL	1.17	A01 2-CHLOROPHENOL	<RL	4.52
B18 CHRYSENE	<RL	1.16	A02 2,4-DICHLOROPHENOL	<RL	4.77
B19 DIBENZO(a,h) ANTHRACENE	<RL	1.02	A03 2,4-DIMETHYLPHENOL	<RL	2.04
B20 1,2-DICHLOROBENZENE	<RL	1.43	A04 2-METHYL-4,6-DINITROPHENOL	<RL	3.36
B21 1,3-DICHLOROBENZENE	<RL	1.39	A05 2,4-DINITROPHENOL	<RL	3.41
B22 1,4-DICHLOROBENZENE	<RL	1.48	A06 2-NITROPHENOL	<RL	4.68
B23 3,3-DICHLOROBENZIDINE	<RL	6.99	A07 4-NITROPHENOL	<RL	3.52
B24 DIETHYLPHTHALATE	<RL	1.08	A08 4-CHLORO-3-METHYLPHENOL	<RL	4.76
B25 DIMETHYL PHTHALATE	<RL	1.17	A09 PENTACHLOROPHENOL	<RL	4.00
B26 DI-N-BUTYL PHTHALATE	<RL	1.12	A10 PHENOL	<RL	4.08
B27 2,4-DINITROTOLUENE	<RL	1.17	A11 2,4,6-TRICHLOROPHENOL	<RL	5.27
B28 2,6-DINITROTOLUENE	<RL	1.13	S06 2,4,6-TRIBROMOPHENOL SURR. #1	80.08	
B29 DI-n-OCTYLPHTHALATE	<RL	2.05	S07 DIBROMOOCTAFLUOROBIPHENYL S2	96.57	
B30 1,2-DIPHENYLHYDRAZINE(AZO)BENZENE	<RL	1.11	S08 4,4-DIBROMOBIPHENYL SURR#3	88.09	

TRUE
 TRUE
 TRUE

AM 12/31/19

12/20

12/16/19 AM

Data File Name: 1212011.D

Sample Name: LRB (exp. surr.)

Misc Info: ext. 12/9/19

Instrument Name: GCMS #6

Operator: A. Martin

Date Acquired: 12/12/2019 12:52

Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	122982
1-FLUORONAPHTHALENE IS#2	189732
2-FLUOROBIPHENYL IS#3	179948

Compound Name	Result	RL	Compound Name	Result	RL
B01 ACENAPHTHENE	<RL	1.19	B31 FLUORANTHENE	<RL	1.27
B02 ACENAPHTHYLENE	<RL	1.41	B32 FLUORENE	<RL	1.18
B03 ANTHRACENE	<RL	1.20	B33 HEXACHLOROBENZENE	<RL	1.01
B04 BENZIDINE	<RL	21.06	B34 HEXACHLOROBUTADIENE	<RL	1.20
B05 BENZO(A)ANTHRACENE	<RL	1.02	B35 HEXACHLOROCYCLOPENTADIENE	<RL	3.07
B06 BENZO(a)PYRENE	<RL	1.08	B36 HEXACHLOROETHANE	<RL	1.35
B07 BENZO(b)FLUORANTHENE	<RL	0.38	B37 INDENO(1,2,3-cd)PYRENE	<RL	1.07
B08 BENZO(ghi)PERYLENE	<RL	1.14	B38 ISOPHORONE	<RL	1.32
B09 BENZO(k)FLUORANTHENE	<RL	1.03	B39 NAPHTHALENE	<RL	1.48
B10 BIS(2-CHLOROETHOXY)METHANE	<RL	1.69	B40 NITROBENZENE	<RL	1.55
B11 BIS(2-CHLOROETHYL)ETHER	<RL	1.79	B41 n-NITROSODIMETHYLAMINE	<RL	1.67
B12 BIS(2-CHLOROISOPROPYL) ETHER	<RL	1.95	B42 n-NITROSODI-N-PROPYLAMINE	<RL	1.65
B13 bis(2-ETHYLHEXYL)PHTHALATE	<RL	1.25	B43 n-NITROSODIPHENYLAMINE	<RL	1.07
B14 4-BROMOPHENYL PHENYL ETHER	<RL	1.04	B44 PHENANTHRENE	<RL	1.33
B15 BENZYL BUTYL PHTHALATE	<RL	1.03	B45 PYRENE	<RL	1.20
B16 2-CHLORONAPHTHALENE	<RL	1.34	B46 1,2,4-TRICHLOROBENZENE	<RL	1.34
B17 4-CHLOROPHENYLPHENYLETHER	<RL	1.17	A01 2-CHLOROPHENOL	<RL	4.52
B18 CHRYSENE	<RL	1.16	A02 2,4-DICHLOROPHENOL	<RL	4.77
B19 DIBENZO(a,h) ANTHRACENE	<RL	1.02	A03 2,4-DIMETHYLPHENOL	<RL	2.04
B20 1,2-DICHLOROBENZENE	<RL	1.43	A04 2-METHYL-4,6-DINITROPHENOL	<RL	3.36
B21 1,3-DICHLOROBENZENE	<RL	1.39	A05 2,4-DINITROPHENOL	<RL	3.41
B22 1,4-DICHLOROBENZENE	<RL	1.48	A06 2-NITROPHENOL	<RL	4.68
B23 3,3-DICHLOROBENZIDINE	<RL	6.99	A07 4-NITROPHENOL	<RL	3.52
B24 DIETHYLPHTHALATE	<RL	1.08	A08 4-CHLORO-3-METHYLPHENOL	<RL	4.76
B25 DIMETHYL PHTHALATE	<RL	1.17	A09 PENTACHLOROPHENOL	<RL	4.00
B26 DI-N-BUTYL PHTHALATE	<RL	1.12	A10 PHENOL	<RL	4.08
B27 2,4-DINITROTOLUENE	<RL	1.17	A11 2,4,6-TRICHLOROPHENOL	<RL	5.27
B28 2,6-DINITROTOLUENE	<RL	1.13	S06 2,4,6-TRIBROMOPHENOL SURR. #1	67.15	TRUE
B29 DI-n-OCTYLPHTHALATE	<RL	2.05	S07 DIBROMOOCTAFLUOROBIPHENYL S2	100.45	TRUE
B30 1,2-DIPHENYLHYDRAZINE(AZOBENZENE)	<RL	1.11	S08 4,4-DIBROMOBIPHENYL SURR#3	91.43	TRUE

12/20

12/20/19 AM

12/31/19

Data File Name: 1212012.D
 Sample Name: LFB
 Misc Info: ext. 12/9/19

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/12/2019 13:16
 Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	133976
1-FLUORONAPHTHALENE IS#2	203941
2-FLUOROBIPHENYL IS#3	192788

Compound Name	Conc.	% Rec	Range		Compound Name	Conc.	% Rec	Range	
B01 ACENAPHTHENE	75.99	76	47	- 145	B31 FLUORANTHENE	83.42	83	26	- 137
B02 ACENAPHTHYLENE	71.38	71	33	- 145	B32 FLUORENE	77.94	78	59	- 121
B03 ANTHRACENE	92.87	93	27	- 133	B33 HEXACHLOROBENZENE	84.28	84	1	- 152
B04 BENZIDINE	30.98	31	1	- 51	B34 HEXACHLOROBUTADIENE	60.48	60	24	- 116
B05 BENZO(A)ANTHRACENE	88.21	88	33	- 143	B35 HEXACHLOROCYCLOPENTADIENE	38.61	39	13	- 80
B06 BENZO(a)PYRENE	87.17	87	17	- 163	B36 HEXACHLOROETHANE	58.31	58	40	- 113
B07 BENZO(b)FLUORANTHENE	91.29	91	24	- 159	B37 INDENO(1,2,3-cd)PYRENE	77.06	77	1	- 171
B08 BENZO(ghi)PERYLENE	95.90	96	1	- 219	B38 ISOPHORONE	82.04	82	21	- 196
B09 BENZO(k)FLUORANTHENE	89.49	89	11	- 162	B39 NAPHTHALENE	70.86	71	21	- 133
B10 BIS(2-CHLOROETHOXY)METHANE	75.39	75	33	- 184	B40 NITROBENZENE	74.56	75	35	- 180
B11 BIS(2-CHLOROETHYL)ETHER	79.11	79	12	- 158	B41 n-NITROSODIMETHYLAMINE	68.34	68	57	- 92
B12 BIS(2-CHLOROISOPROPYL) ETHER	64.24	64	36	- 166	B42 n-NITROSODI-N-PROPYLAMINE	73.05	73	1	- 230
B13 bis(2-ETHYLHEXYL)PHTHALATE	87.93	88	8	- 158	B43 n-NITROSODIPHENYLAMINE	72.08	72	49	- 118
B14 4-BROMOPHENYL PHENYL ETHER	85.81	86	53	- 127	B44 PHENANTHRENE	81.64	82	54	- 120
B15 BENZYL BUTYL PHTHALATE	91.48	91	1	- 152	B45 PYRENE	83.30	83	52	- 115
B16 2-CHLORONAPHTHALENE	73.05	73	60	- 118	B46 1,2,4-TRICHLOROBENZENE	68.84	69	44	- 142
B17 4-CHLOROPHENYLPHENYLETHER	81.24	81	25	- 158	A01 2-CHLOROPHENOL	50.14	50	23	- 134
B18 CHRYSENE	87.85	88	17	- 168	A02 2,4-DICHLOROPHENOL	57.21	57	39	- 135
B19 DIBENZO(a,h) ANTHRACENE	91.68	92	1	- 227	A03 2,4-DIMETHYLPHENOL	71.40	71	32	- 119
B20 1,2-DICHLOROBENZENE	66.97	67	32	- 129	A04 2-METHYL-4,6-DINITROPHENOL	79.68	80	1	- 181
B21 1,3-DICHLOROBENZENE	66.44	66	1	- 172	A05 2,4-DINITROPHENOL	66.97	67	1	- 191
B22 1,4-DICHLOROBENZENE	66.06	66	20	- 124	A06 2-NITROPHENOL	55.80	56	29	- 182
B23 3,3-DICHLOROBENZIDINE	35.92	36	1	- 262	A07 4-NITROPHENOL	73.48	73	1	- 132
B24 DIETHYLPHTHALATE	82.19	82	1	- 114	A08 4-CHLORO-3-METHYLPHENOL	61.78	62	22	- 147
B25 DIMETHYL PHTHALATE	80.51	81	1	- 112	A09 PENTACHLOROPHENOL	74.83	75	14	- 176
B26 DI-N-BUTYL PHTHALATE	87.53	88	1	- 118	A10 PHENOL	55.88	56	5	- 112
B27 2,4-DINITROTOLUENE	86.06	86	39	- 139	A11 2,4,6-TRICHLOROPHENOL	60.25	60	37	- 144
B28 2,6-DINITROTOLUENE	83.93	84	50	- 158	S06 2,4,6-TRIBROMOPHENOL SURR. #1	74.57	75	1	- 166
B29 DI-n-OCTYLPHTHALATE	83.61	84	4	- 146	S07 DIBROMOOCTAFLUOROBIPHENYL S2	49.62	99	16	- 148
B30 1,2-DIPHENYLHYDRAZINE(AZOBEZE	72.36	72	59	- 110	S08 4,4-DIBROMOBIPHENYL SURR#3	43.55	87	24	- 134

Data File Name: 1212013.D
 Sample Name: LFB
 Misc Info: ext. 12/9/19

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/12/2019 13:40
 Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	133125
1-FLUORONAPHTHALENE IS#2	197525
2-FLUOROBIPHENYL IS#3	188767

Compound Name	Conc.	% Rec	Range		Compound Name	Conc.	% Rec	Range	
B01 ACENAPHTHENE	77.70	78	47	- 145	B31 FLUORANTHENE	83.31	83	26	- 137
B02 ACENAPHTHYLENE	73.63	74	33	- 145	B32 FLUORENE	80.31	80	59	- 121
B03 ANTHRACENE	94.65	95	27	- 133	B33 HEXACHLOROBENZENE	85.62	86	1	- 152
B04 BENZIDINE	39.55	40	1	- 51	B34 HEXACHLOROBUTADIENE	61.65	62	24	- 116
B05 BENZO(A)ANTHRACENE	87.31	87	33	- 143	B35 HEXACHLOROCYCLOPENTADIENE	43.25	43	13	- 80
B06 BENZO(a)PYRENE	86.01	86	17	- 163	B36 HEXACHLOROETHANE	60.07	60	40	- 113
B07 BENZO(b)FLUORANTHENE	89.47	89	24	- 159	B37 INDENO(1,2,3-cd)PYRENE	75.60	76	1	- 171
B08 BENZO(ghi)PERYLENE	93.92	94	1	- 219	B38 ISOPHORONE	82.34	82	21	- 196
B09 BENZO(k)FLUORANTHENE	89.06	89	11	- 162	B39 NAPHTHALENE	73.84	74	21	- 133
B10 BIS(2-CHLOROETHOXY)METHANE	75.28	75	33	- 184	B40 NITROBENZENE	75.82	76	35	- 180
B11 BIS(2-CHLOROETHYL)ETHER	78.95	79	12	- 158	B41 n-NITROSODIMETHYLAMINE	68.66	69	57	- 92
B12 BIS(2-CHLOROISOPROPYL) ETHER	62.73	63	36	- 166	B42 n-NITROSODI-N-PROPYLAMINE	72.59	73	1	- 230
B13 bis(2-ETHYLHEXYL)PHTHALATE	87.97	88	8	- 158	B43 n-NITROSODIPHENYLAMINE	73.80	74	49	- 118
B14 4-BROMOPHENYL PHENYL ETHER	88.27	88	53	- 127	B44 PHENANTHRENE	83.07	83	54	- 120
B15 BENZYL BUTYL PHTHALATE	91.44	91	1	- 152	B45 PYRENE	83.24	83	52	- 115
B16 2-CHLORONAPHTHALENE	75.12	75	60	- 118	B46 1,2,4-TRICHLOROBENZENE	69.29	69	44	- 142
B17 4-CHLOROPHENYLPHENYLEETHER	82.61	83	25	- 158	A01 2-CHLOROPHENOL	59.64	60	23	- 134
B18 CHRYSENE	87.03	87	17	- 168	A02 2,4-DICHLOROPHENOL	67.80	68	39	- 135
B19 DIBENZO(a,h) ANTHRACENE	91.90	92	1	- 227	A03 2,4-DIMETHYLPHENOL	75.24	75	32	- 119
B20 1,2-DICHLOROBEZENE	68.33	68	32	- 129	A04 2-METHYL-4,6-DINITROPHENOL	84.26	84	1	- 181
B21 1,3-DICHLOROBEZENE	67.16	67	1	- 172	A05 2,4-DINITROPHENOL	77.15	77	1	- 191
B22 1,4-DICHLOROBEZENE	67.09	67	20	- 124	A06 2-NITROPHENOL	65.20	65	29	- 182
B23 3,3-DICHLOROBEZIDINE	31.34	31	1	- 262	A07 4-NITROPHENOL	78.27	78	1	- 132
B24 DIETHYLPHTHALATE	83.44	83	1	- 114	A08 4-CHLORO-3-METHYLPHENOL	71.14	71	22	- 147
B25 DIMETHYL PHTHALATE	82.51	83	1	- 112	A09 PENTACHLOROPHENOL	79.97	80	14	- 176
B26 DI-N-BUTYL PHTHALATE	89.47	89	1	- 118	A10 PHENOL	64.80	65	5	- 112
B27 2,4-DINITROTOLUENE	87.72	88	39	- 139	A11 2,4,6-TRICHLOROPHENOL	72.66	73	37	- 144
B28 2,6-DINITROTOLUENE	87.76	88	50	- 158	S06 2,4,6-TRIBROMOPHENOL SURR. #1	84.36	84	1	- 166
B29 DI-n-OCTYLPHTHALATE	83.35	83	4	- 146	S07 DIBROMOOCTAFLUOROBIPHENYL S2	49.70	99	16	- 148
B30 1,2-DIPHENYLHYDRAZINE(AZOBEZNE	73.89	74	59	- 110	S08 4,4-DIBROMOBIPHENYL SURR#3	43.28	87	24	- 134

Data File Name: 1212012.D 1212013.D
 Sample Name: LFB LFBD
 Misc Info: A. Martin A. Martin

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/12/2019 13:40
 Sample Multiplier: 1

Compound Name	Conc.	Conc.	RPD		Name	Conc.	Conc.	RPD
B01 ACENAPHTHENE	75.99	77.70	2		B31 FLUORANTHENE	83.42	83.31	0
B02 ACENAPHTHYLENE	71.38	73.63	3		B32 FLUORENE	77.94	80.31	3
B03 ANTHRACENE	92.87	94.65	2		B33 HEXACHLOROBENZENE	84.28	85.62	2
B04 BENZIDINE	30.98	39.55	24	outside range	B34 HEXACHLOROBUTADIENE	60.48	61.65	2
B05 BENZO(A)ANTHRACENE	88.21	87.31	1		B35 HEXACHLOROCYCLOPENTADIENE	38.61	43.25	11
B06 BENZO(a)PYRENE	87.17	86.01	1		B36 HEXACHLOROETHANE	58.31	60.07	3
B07 BENZO(b)FLUORANTHENE	91.29	89.47	2		B37 INDENO(1,2,3-cd)PYRENE	77.06	75.60	2
B08 BENZO(ghi)PERYLENE	95.90	93.92	2		B38 ISOPHORONE	82.04	82.34	0
B09 BENZO(k)FLUORANTHENE	89.49	89.06	0		B39 NAPHTHALENE	70.86	73.84	4
B10 BIS(2-CHLOROETHOXY)METHANE	75.39	75.28	0		B40 NITROBENZENE	74.56	75.82	2
B11 BIS(2-CHLOROETHYL)ETHER	79.11	78.95	0		B41 n-NITROSODIMETHYLAMINE	68.34	68.66	0
B12 BIS(2-CHLOROISOPROPYL) ETHER	64.24	62.73	2		B42 n-NITROSODI-N-PROPYLAMINE	73.05	72.59	1
B13 bis(2-ETHYLHEXYL)PHTHALATE	87.93	87.97	0		B43 n-NITROSODIPHENYLAMINE	72.08	73.80	2
B14 4-BROMOPHENYL PHENYL ETHER	85.81	88.27	3		B44 PHENANTHRENE	81.64	83.07	2
B15 BENZYL BUTYL PHTHALATE	91.48	91.44	0		B45 PYRENE	83.30	83.24	0
B16 2-CHLORONAPHTHALENE	73.05	75.12	3		B46 1,2,4-TRICHLOROBENZENE	68.84	69.29	1
B17 4-CHLOROPHENYLPHENYLETHER	81.24	82.61	2		A01 2-CHLOROPHENOL	50.14	59.64	17
B18 CHRYSENE	87.85	87.03	1		A02 2,4-DICHLOROPHENOL	57.21	67.80	17
B19 DIBENZO(a,h) ANTHRACENE	91.68	91.90	0		A03 2,4-DIMETHYLPHENOL	71.40	75.24	5
B20 1,2-DICHLOROBENZENE	66.97	68.33	2		A04 2-METHYL-4,6-DINITROPHENOL	79.68	84.26	6
B21 1,3-DICHLOROBENZENE	66.44	67.16	1		A05 2,4-DINITROPHENOL	66.97	77.15	14
B22 1,4-DICHLOROBENZENE	66.06	67.09	2		A06 2-NITROPHENOL	55.80	65.20	16
B23 3,3-DICHLOROBENZIDINE	35.92	31.34	14		A07 4-NITROPHENOL	73.48	78.27	6
B24 DIETHYLPHTHALATE	82.19	83.44	2		A08 4-CHLORO-3-METHYLPHENOL	61.78	71.14	14
B25 DIMETHYL PHTHALATE	80.51	82.51	2		A09 PENTACHLOROPHENOL	74.83	79.97	7
B26 DI-N-BUTYL PHTHALATE	87.53	89.47	2		A10 PHENOL	55.88	64.80	15
B27 2,4-DINITROTOLUENE	86.06	87.72	2		A11 2,4,6-TRICHLOROPHENOL	60.25	72.66	19
B28 2,6-DINITROTOLUENE	83.93	87.76	4		S06 2,4,6-TRIBROMOPHENOL SURR. #1	74.57	84.36	12
B29 DI-n-OCTYLPHTHALATE	83.61	83.35	0		S07 DIBROMOOCTAFLUOROBIPHENYL S2	49.62	49.70	0
B30 1,2-DIPHENYLHYDRAZINE(AZOBENZE	72.36	73.89	2		S08 4,4-DIBROMOBIPHENYL SURR#3	43.55	43.28	1

*DOC & flag, doc only storm

12/20

12/12/19 AM 12/13/19

Data File Name: 1212016.D

Sample Name: 2019089028 LFM

Misc Info: ext. 12/9/19* *Exp. SWY*

Instrument Name: GCMS #6

Operator: A. Martin

Date Acquired: 12/12/2019 14:53

Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	130757
1-FLUORONAPHTHALENE IS#2	194113
2-FLUOROBIPHENYL IS#3	182582

Compound Name	Sample	Conc.	% Rec	Range	Compound Name	Sample	Conc.	% Rec	Range
B01 ACENAPHTHENE	0.00	74.37	74	47 - 145	B31 FLUORANTHENE	0.00	82.21	82	26 - 137
B02 ACENAPHTHYLENE	0.00	64.70	65	33 - 145	B32 FLUORENE	0.00	78.18	78	59 - 121
B03 ANTHRACENE	0.00	95.99	96	27 - 133	B33 HEXACHLOROBENZENE	0.00	83.77	84	1 - 152
B04 BENZIDINE	0.00	12.56	13	1 - 51	B34 HEXACHLOROBUTADIENE	0.00	47.91	48	24 - 116
B05 BENZO(A)ANTHRACENE	0.00	87.99	88	33 - 143	B35 HEXACHLOROCYCLOPENTADIENE	0.00	15.45	15	13 - 80
B06 BENZO(a)PYRENE	0.00	85.68	86	17 - 163	B36 HEXACHLOROETHANE	0.00	46.69	47	40 - 113
B07 BENZO(b)FLUORANTHENE	0.00	87.04	87	24 - 159	B37 INDENO(1,2,3-cd)PYRENE	0.00	80.06	80	1 - 171
B08 BENZO(ghi)PERYLENE	0.00	95.26	95	1 - 219	B38 ISOPHORONE	0.00	71.07	71	21 - 196
B09 BENZO(k)FLUORANTHENE	0.00	89.10	89	11 - 162	B39 NAPHTHALENE	0.00	60.81	61	21 - 133
B10 BIS(2-CHLOROETHOXYMETHANE	0.00	63.92	64	33 - 184	B40 NITROBENZENE	0.00	61.40	61	35 - 180
B11 BIS(2-CHLOROETHYL)ETHER	0.00	62.64	63	12 - 158	B41 n-NITROSODIMETHYLAMINE	0.00	55.18	55	57 - 92
B12 BIS(2-CHLOROISOPROPYL) ETHER	0.00	52.96	53	36 - 166	B42 n-NITROSODI-N-PROPYLAMINE	0.00	62.93	63	1 - 230
B13 bis(2-ETHYLHEXYL)PHTHALATE	4.47	90.84	86	8 - 158	B43 n-NITROSODIPHENYLAMINE	0.00	79.36	79	49 - 118
B14 4-BROMOPHENYL PHENYL ETHER	0.00	86.65	87	53 - 127	B44 PHENANTHRENE	0.00	81.87	82	54 - 120
B15 BENZYL BUTYL PHTHALATE	0.00	93.31	93	1 - 152	B45 PYRENE	0.00	82.36	82	52 - 115
B16 2-CHLORONAPHTHALENE	0.00	67.32	67	60 - 118	B46 1,2,4-TRICHLOROBENZENE	0.00	55.17	55	44 - 142
B17 4-CHLOROPHENYLPHENYLETHER	0.00	79.11	79	25 - 158	A01 2-CHLOROPHENOL	0.00	43.79	44	23 - 134
B18 CHRYSENE	0.00	86.01	86	17 - 168	A02 2,4-DICHLOROPHENOL	0.00	53.65	54	39 - 135
B19 DIBENZO(a,h) ANTHRACENE	0.00	93.25	93	1 - 227	A03 2,4-DIMETHYLPHENOL	0.00	70.40	70	32 - 119
B20 1,2-DICHLOROBENZENE	0.00	54.18	54	32 - 129	A04 2-METHYL-4,6-DINITROPHENOL	0.00	86.65	87	1 - 181
B21 1,3-DICHLOROBENZENE	0.00	53.56	54	1 - 172	A05 2,4-DINITROPHENOL	0.00	81.15	81	1 - 191
B22 1,4-DICHLOROBENZENE	0.00	53.54	54	20 - 124	A06 2-NITROPHENOL	0.00	49.76	50	29 - 182
B23 3,3-DICHLOROBENZIDINE	0.00	43.93	44	1 - 262	A07 4-NITROPHENOL	0.00	89.32	89	1 - 132
B24 DIETHYLPHTHALATE	0.00	82.48	82	1 - 114	A08 4-CHLORO-3-METHYLPHENOL	0.00	70.99	71	22 - 147
B25 DIMETHYL PHTHALATE	0.00	81.18	81	1 - 112	A09 PENTACHLOROPHENOL	0.00	85.97	86	14 - 176
B26 DI-N-BUTYL PHTHALATE	0.00	87.66	88	1 - 118	A10 PHENOL	0.00	48.37	48	5 - 112
B27 2,4-DINITROTOLUENE	0.00	88.66	89	39 - 139	A11 2,4,6-TRICHLOROPHENOL	0.00	67.96	68	37 - 144
B28 2,6-DINITROTOLUENE	0.00	89.76	90	50 - 158	S06 2,4,6-TRIBROMOPHENOL SURR. #1	82.81	97.57	98	1 - 166
B29 DI-n-OCTYLPHTHALATE	0.00	87.03	87	4 - 146	S07 DIBROMOOCTAFLUOROBIPHENYL S2	35.76	48.31	97	16 - 148
B30 1,2-DIPHENYLHYDRAZINE(AZOBE	0.00	70.80	71	59 - 110	S08 4,4-DIBROMOBIPHENYL SURR#3	31.25	39.54	79	24 - 134

CA 12/20

**Doc & flag 9/12/31/19*

1/8/2020

Data File Name: 1212017.D
 Sample Name: 2019089028 LFMD
 Misc Info: ext. 12/9/19*exp SUR

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/12/2019 15:17
 Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	145898
1-FLUORONAPHTHALENE IS#2	217693
2-FLUOROBIPHENYL IS#3	202238

Compound Name	Sample	Conc.	% Rec	Range	Compound Name	Sample	Conc.	% Rec	Range
B01 ACENAPHTHENE	0.00	65.67	66	47 - 145	B31 FLUORANTHENE	0.00	74.44	74	26 - 137
B02 ACENAPHTHYLENE	0.00	57.40	57	33 - 145	B32 FLUORENE	0.00	70.29	70	59 - 121
B03 ANTHRACENE	0.00	86.49	86	27 - 133	B33 HEXACHLOROBENZENE	0.00	75.57	76	1 - 152
B04 BENZIDINE	0.00	6.57	7	1 - 51	B34 HEXACHLOROBUTADIENE	0.00	40.42	40	24 - 116
B05 BENZO(A)ANTHRACENE	0.00	80.84	81	33 - 143	B35 HEXACHLOROCYCLOPENTADIENE	0.00	13.48	13	13 - 80
B06 BENZO(a)PYRENE	0.00	79.54	80	17 - 163	B36 HEXACHLOROETHANE	0.00	35.08	35	40 - 113
B07 BENZO(b)FLUORANTHENE	0.00	79.42	79	24 - 159	B37 INDENO(1,2,3-cd)PYRENE	0.00	74.01	74	1 - 171
B08 BENZO(gh)PERYLENE	0.00	88.93	89	1 - 219	B38 ISOPHORONE	0.00	60.24	60	21 - 196
B09 BENZO(k)FLUORANTHENE	0.00	82.32	82	11 - 162	B39 NAPHTHALENE	0.00	49.75	50	21 - 133
B10 BIS(2-CHLOROETHOXY)METHANE	0.00	53.54	54	33 - 184	B40 NITROBENZENE	0.00	50.45	50	35 - 180
B11 BIS(2-CHLOROETHYL)ETHER	0.00	46.08	46	12 - 158	B41 n-NITROSODIMETHYLAMINE	0.00	37.88	38	57 - 92
B12 BIS(2-CHLOROISOPROPYL) ETHER	0.00	40.56	41	36 - 166	B42 n-NITROSODI-N-PROPYLAMINE	0.00	52.50	53	1 - 230
B13 bis(2-ETHYLHEXYL)PHTHALATE	4.47	83.32	79	8 - 158	B43 n-NITROSODIPHENYLAMINE	0.00	72.01	72	49 - 118
B14 4-BROMOPHENYL PHENYL ETHER	0.00	76.76	77	53 - 127	B44 PHENANTHRENE	0.00	74.86	75	54 - 120
B15 BENZYL BUTYL PHTHALATE	0.00	85.66	86	1 - 152	B45 PYRENE	0.00	75.29	75	52 - 115
B16 2-CHLORONAPHTHALENE	0.00	59.40	59	60 - 118	B46 1,2,4-TRICHLOROBENZENE	0.00	45.61	46	44 - 142
B17 4-CHLOROPHENYLPHENYLETHER	0.00	69.96	70	25 - 158	A01 2-CHLOROPHENOL	0.00	24.47	24	23 - 134
B18 CHRYSENE	0.00	78.12	78	17 - 168	A02 2,4-DICHLOROPHENOL	0.00	36.83	37	39 - 135
B19 DIBENZO(a,h) ANTHRACENE	0.00	86.62	87	1 - 227	A03 2,4-DIMETHYLPHENOL	0.00	60.32	60	32 - 119
B20 1,2-DICHLOROBENZENE	0.00	39.08	39	32 - 129	A04 2-METHYL-4,6-DINITROPHENOL	0.00	83.87	84	1 - 181
B21 1,3-DICHLOROBENZENE	0.00	38.03	38	1 - 172	A05 2,4-DINITROPHENOL	0.00	78.59	79	1 - 191
B22 1,4-DICHLOROBENZENE	0.00	38.10	38	20 - 124	A06 2-NITROPHENOL	0.00	32.28	32	29 - 182
B23 3,3-DICHLOROBENZIDINE	0.00	48.78	49	1 - 262	A07 4-NITROPHENOL	0.00	88.29	88	1 - 132
B24 DIETHYLPHTHALATE	0.00	75.27	75	1 - 114	A08 4-CHLORO-3-METHYLPHENOL	0.00	57.02	57	22 - 147
B25 DIMETHYL PHTHALATE	0.00	72.29	72	1 - 112	A09 PENTACHLOROPHENOL	0.00	80.58	81	14 - 176
B26 DI-N-BUTYL PHTHALATE	0.00	80.19	80	1 - 118	A10 PHENOL	0.00	30.69	31	5 - 112
B27 2,4-DINITROTOLUENE	0.00	79.48	79	39 - 139	A11 2,4,6-TRICHLOROPHENOL	0.00	50.58	51	37 - 144
B28 2,6-DINITROTOLUENE	0.00	80.51	81	50 - 158	S06 2,4,6-TRIBROMOPHENOL SURR. #1	82.81	86.22	86	1 - 166
B29 DI-n-OCTYLPHTHALATE	0.00	80.48	80	4 - 146	S07 DIBROMOOCTAFLUOROBIPHENYL S2	35.76	44.47	89	16 - 148
B30 1,2-DIPHENYLHYDRAZINE(AZOBEN	0.00	63.12	63	59 - 110	S08 4,4-DIBROMOBIPHENYL SURR#3	31.25	36.72	73	24 - 134

gm/2/31/19

07/26

**Doc #119*

12/12/19

Data File Name: 1212016.D 1212017.D
 Sample Name: 2019089028 2019089028 LFMD
 Misc Info: A. Martin A. Martin

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/12/2019 15:17
 Sample Multiplier: 1

Compound Name	Conc.	Conc.	RPD		Name	Conc.	Conc.	RPD	
B01 ACENAPHTHENE	74.37	65.67	12		B31 FLUORANTHENE	82.21	74.44	10	
B02 ACENAPHTHYLENE	64.70	57.40	12		B32 FLUORENE	78.18	70.29	11	
B03 ANTHRACENE	95.99	86.49	10		B33 HEXACHLORO BENZENE	83.77	75.57	10	
B04 BENZIDINE	12.56	6.57	63	outside range	B34 HEXACHLOROBUTADIENE	47.91	40.42	17	
B05 BENZO(A)ANTHRACENE	87.99	80.84	8		B35 HEXACHLOROCYCLOPENTADIENE	15.45	13.48	14	
B06 BENZO(a)PYRENE	85.68	79.54	7		B36 HEXACHLOROETHANE	46.69	35.08	28	outside range
B07 BENZO(b)FLUORANTHENE	87.04	79.42	9		B37 INDENO(1,2,3-cd)PYRENE	80.06	74.01	8	
B08 BENZO(ghi)PERYLENE	95.26	88.93	7		B38 ISOPHORONE	71.07	60.24	16	
B09 BENZO(k)FLUORANTHENE	89.10	82.32	8		B39 NAPHTHALENE	60.81	49.75	20	outside range
B10 BIS(2-CHLOROETHOXY)METHANE	63.92	53.54	18		B40 NITROBENZENE	61.40	50.45	20	
B11 BIS(2-CHLOROETHYL)ETHER	62.64	46.08	30	outside range	B41 n-NITROSODIMETHYLAMINE	55.18	37.88	37	outside range
B12 BIS(2-CHLOROISOPROPYL) ETHER	52.96	40.56	27	outside range	B42 n-NITROSODI-N-PROPYLAMINE	62.93	52.50	18	
B13 bis(2-ETHYLHEXYL)PHTHALATE	90.84	83.32	9		B43 n-NITROSODIPHENYLAMINE	79.36	72.01	10	
B14 4-BROMOPHENYL PHENYL ETHER	86.65	76.76	12		B44 PHENANTHRENE	81.87	74.86	9	
B15 BENZYL BUTYL PHTHALATE	93.31	85.66	9		B45 PYRENE	82.36	75.29	9	
B16 2-CHLORONAPHTHALENE	67.32	59.40	12		B46 1,2,4-TRICHLORO BENZENE	55.17	45.61	19	
B17 4-CHLOROPHENYLPHENYLETHER	79.11	69.96	12		A01 2-CHLOROPHENOL	43.79	24.47	57	outside range
B18 CHRYSENE	86.01	78.12	10		A02 2,4-DICHLOROPHENOL	53.65	36.83	37	outside range
B19 DIBENZO(a,h) ANTHRACENE	93.25	86.62	7		A03 2,4-DIMETHYLPHENOL	70.40	60.32	15	
B20 1,2-DICHLORO BENZENE	54.18	39.08	32	outside range	A04 2-METHYL-4,6-DINITROPHENOL	86.65	83.87	3	
B21 1,3-DICHLORO BENZENE	53.56	38.03	34	outside range	A05 2,4-DINITROPHENOL	81.15	78.59	3	
B22 1,4-DICHLORO BENZENE	53.54	38.10	34	outside range	A06 2-NITROPHENOL	49.76	32.28	43	outside range
B23 3,3-DICHLORO BENZIDINE	43.93	48.78	10		A07 4-NITROPHENOL	89.32	88.29	1	
B24 DIETHYL PHTHALATE	82.48	75.27	9		A08 4-CHLORO-3-METHYLPHENOL	70.99	57.02	22	outside range
B25 DIMETHYL PHTHALATE	81.18	72.29	12		A09 PENTACHLOROPHENOL	85.97	80.58	6	
B26 DI-N-BUTYL PHTHALATE	87.66	80.19	9		A10 PHENOL	48.37	30.69	45	outside range
B27 2,4-DINITROTOLUENE	88.66	79.48	11		A11 2,4,6-TRICHLOROPHENOL	67.96	50.58	29	outside range
B28 2,6-DINITROTOLUENE	89.76	80.51	11		S06 2,4,6-TRIBROMOPHENOL SURR. #1	97.57	86.22	12	
B29 DI-n-OCTYL PHTHALATE	87.03	80.48	8		S07 DIBROMOOCTAFLUOROBIPHENYL S2	48.31	44.47	8	
B30 1,2-DIPHENYLHYDRAZINE(AZO BENZE	70.80	63.12	11		S08 4,4-DIBROMOBIPHENYL SURR#3	39.54	36.72	7	

XDOC flag

JMR/31/19

12/20

izhulian

1212023.D
 Sample Name: BNA 2nd Source
 Misc Info: 625-6433

Instrument Name: GCMS #6
 Operator: A. Martin
 Date Acquired: 12/12/2019 17:42
 Dilution Factor: 1

Internal Standard	Area Response
2-FLUOROPHENOL IS#1	128683
1-FLUORONAPHTHALENE IS#2	198443
2-FLUOROBIPHENYL IS#3	185940

Compound Name	Conc.	% Rec.	Range			Compound Name	Conc.	% Rec.	Range		
B41 n-NITROSODIMETHYLAMINE	76.27	95	80	-	120	B24 DIETHYLPHTHALATE	74.64	93	80	-	120
A10 PHENOL	80.05	100	80	-	120	B17 4-CHLOROPHENYLPHENYLEETHER	76.25	95	80	-	120
B11 BIS(2-CHLOROETHYL)ETHER	80.18	100	80	-	120	B32 FLUORENE	73.70	92	80	-	120
A01 2-CHLOROPHENOL	78.60	98	80	-	120	A04 2-METHYL-4,6-DINITROPHENOL	78.80	99	80	-	120
B21 1,3-DICHLOROBENZENE	82.99	104	80	-	120	B43 n-NITROSODIPHENYLAMINE	71.62	90	80	-	120
B22 1,4-DICHLOROBENZENE	81.29	102	80	-	120	B30 1,2-DIPHENYLHYDRAZINE(AZOBENZE	69.96	87	80	-	120
B20 1,2-DICHLOROBENZENE	80.43	101	80	-	120	B14 4-BROMOPHENYL PHENYL ETHER	79.38	99	80	-	120
B12 BIS(2-CHLOROISOPROPYL) ETHER	72.19	90	80	-	120	B33 HEXACHLOROBENZENE	79.05	99	80	-	120
B42 n-NITROSODI-N-PROPYLAMINE	76.03	95	80	-	120	A09 PENTACHLOROPHENOL	78.37	98	80	-	120
B36 HEXACHLOROETHANE	81.13	101	80	-	120	B44 PHENANTHRENE	73.78	92	80	-	120
B40 NITROBENZENE	80.31	100	80	-	120	B03 ANTHRACENE	88.89	111	80	-	120
B38 ISOPHORONE	82.35	103	80	-	120	B26 DI-N-BUTYL PHTHALATE	80.21	100	80	-	120
A06 2-NITROPHENOL	81.86	102	80	-	120	B31 FLUORANTHENE	74.66	93	80	-	120
A03 2,4-DIMETHYLPHENOL	81.81	102	80	-	120	B04 BENZIDINE	66.94	84	80	-	120
B10 BIS(2-CHLOROETHOXY)METHANE	75.69	95	80	-	120	B45 PYRENE	74.37	93	80	-	120
A02 2,4-DICHLOROPHENOL	80.83	101	80	-	120	B15 BENZYL BUTYL PHTHALATE	81.81	102	80	-	120
B46 1,2,4-TRICHLOROBENZENE	81.03	101	80	-	120	B23 3,3-DICHLOROBENZIDINE	73.65	92	80	-	120
B39 NAPHTHALENE	74.74	93	80	-	120	B05 BENZO(A)ANTHRACENE	76.58	96	80	-	120
B34 HEXACHLOROBUTADIENE	81.26	102	80	-	120	B18 CHRYSENE	76.76	96	80	-	120
A08 4-CHLORO-3-METHYLPHENOL	76.82	96	80	-	120	B13 bis(2-ETHYLHEXYL)PHTHALATE	79.37	99	80	-	120
B35 HEXACHLOROCYCLOPENTADIENE	64.51	81	80	-	120	B29 DI-n-OCTYLPHTHALATE	76.74	96	80	-	120
A11 2,4,6-TRICHLOROPHENOL	82.56	103	80	-	120	B07 BENZO(b)FLUORANTHENE	78.32	98	80	-	120
B16 2-CHLORONAPHTHALENE	76.06	95	80	-	120	B09 BENZO(k)FLUORANTHENE	78.13	98	80	-	120
B25 DIMETHYL PHTHALATE	74.73	93	80	-	120	B06 BENZO(a)PYRENE	78.18	98	80	-	120
B28 2,6-DINITROTOLUENE	81.55	102	80	-	120	B37 INDENO(1,2,3-cd)PYRENE	69.65	87	80	-	120
B02 ACENAPHTHYLENE	71.92	90	80	-	120	B19 DIBENZO(a,h) ANTHRACENE	81.95	102	80	-	120
B01 ACENAPHTHENE	73.91	92	80	-	120	B08 BENZO(ghi)PERYLENE	83.87	105	80	-	120
A05 2,4-DINITROPHENOL	77.63	97	80	-	120	S06 2,4,6-TRIBROMOPHENOL SURR. #1	86.31	108	96	-	132
A07 4-NITROPHENOL	76.67	96	80	-	120	S07 DIBROMOOCTAFLUOROBIPHENYL S2	44.23	111	89	-	129
B27 2,4-DINITROTOLUENE	78.75	98	80	-	120	S08 4,4-DIBROMOBIPHENYL SURR#3	37.28	93	88	-	110

09/13/20

01/23/19

12/13/2019

LIMS Number	Sample Date	Method	Analyte	Required LFMD precision %RPD	Actual LFMD precision %RPD
2019090209	11/29/2019	EPA 200.8	Antimony - Dissolved	20%	0.0
2019090300	11/29/2019	EPA 200.8	Antimony - Dissolved	20%	0.0
2019090386	11/29/2019	EPA 200.8	Antimony - Dissolved	20%	0.0
2019090413	11/29/2019	EPA 200.8	Antimony - Dissolved	20%	0.0
2019090443	11/29/2019	EPA 200.8	Antimony - Dissolved	20%	0.0
2019090458	11/29/2019	EPA 200.8	Antimony - Dissolved	20%	0.0
2019090473	11/29/2019	EPA 200.8	Antimony - Dissolved	20%	0.0
2019092287	12/7/2019	EPA 200.8	Antimony - Dissolved	20%	0.0
2019090208	11/29/2019	EPA 200.8	Antimony - Total Recoverable	20%	1.0
2019090299	11/29/2019	EPA 200.8	Antimony - Total Recoverable	20%	1.0
2019090385	11/29/2019	EPA 200.8	Antimony - Total Recoverable	20%	1.0
2019090412	11/29/2019	EPA 200.8	Antimony - Total Recoverable	20%	1.0
2019090442	11/29/2019	EPA 200.8	Antimony - Total Recoverable	20%	0.3
2019090457	11/29/2019	EPA 200.8	Antimony - Total Recoverable	20%	0.3
2019090472	11/29/2019	EPA 200.8	Antimony - Total Recoverable	20%	0.3
2019092286	12/7/2019	EPA 200.8	Antimony - Total Recoverable	20%	0.4
2019090209	11/29/2019	EPA 200.8	Arsenic - Dissolved	20%	0.2
2019090300	11/29/2019	EPA 200.8	Arsenic - Dissolved	20%	0.2
2019090386	11/29/2019	EPA 200.8	Arsenic - Dissolved	20%	0.2
2019090413	11/29/2019	EPA 200.8	Arsenic - Dissolved	20%	0.2
2019090443	11/29/2019	EPA 200.8	Arsenic - Dissolved	20%	0.2
2019090458	11/29/2019	EPA 200.8	Arsenic - Dissolved	20%	0.2
2019090473	11/29/2019	EPA 200.8	Arsenic - Dissolved	20%	0.2
2019092287	12/7/2019	EPA 200.8	Arsenic - Dissolved	20%	0.2
2019090208	11/29/2019	EPA 200.8	Arsenic - Total Recoverable	20%	2.1
2019090299	11/29/2019	EPA 200.8	Arsenic - Total Recoverable	20%	2.1
2019090385	11/29/2019	EPA 200.8	Arsenic - Total Recoverable	20%	2.1
2019090412	11/29/2019	EPA 200.8	Arsenic - Total Recoverable	20%	2.1
2019090442	11/29/2019	EPA 200.8	Arsenic - Total Recoverable	20%	0.3
2019090457	11/29/2019	EPA 200.8	Arsenic - Total Recoverable	20%	0.3
2019090472	11/29/2019	EPA 200.8	Arsenic - Total Recoverable	20%	0.3
2019092286	12/7/2019	EPA 200.8	Arsenic - Total Recoverable	20%	0.2
2019090209	11/29/2019	EPA 200.8	Barium - Dissolved	20%	0.7
2019090300	11/29/2019	EPA 200.8	Barium - Dissolved	20%	0.7
2019090386	11/29/2019	EPA 200.8	Barium - Dissolved	20%	0.7
2019090413	11/29/2019	EPA 200.8	Barium - Dissolved	20%	0.7
2019090443	11/29/2019	EPA 200.8	Barium - Dissolved	20%	0.7
2019090458	11/29/2019	EPA 200.8	Barium - Dissolved	20%	0.7
2019090473	11/29/2019	EPA 200.8	Barium - Dissolved	20%	0.7
2019092287	12/7/2019	EPA 200.8	Barium - Dissolved	20%	0.7
2019090208	11/29/2019	EPA 200.8	Barium - Total Recoverable	20%	2.0
2019090299	11/29/2019	EPA 200.8	Barium - Total Recoverable	20%	2.0
2019090385	11/29/2019	EPA 200.8	Barium - Total Recoverable	20%	2.0
2019090412	11/29/2019	EPA 200.8	Barium - Total Recoverable	20%	2.0
2019090442	11/29/2019	EPA 200.8	Barium - Total Recoverable	20%	0.7
2019090457	11/29/2019	EPA 200.8	Barium - Total Recoverable	20%	0.7
2019090472	11/29/2019	EPA 200.8	Barium - Total Recoverable	20%	0.7
2019092286	12/7/2019	EPA 200.8	Barium - Total Recoverable	20%	0.9
2019090209	11/29/2019	EPA 200.8	Beryllium - Dissolved	20%	0.2
2019090300	11/29/2019	EPA 200.8	Beryllium - Dissolved	20%	0.2

2019090386	11/29/2019	EPA 200.8	Beryllium - Dissolved	20%	0.2
2019090413	11/29/2019	EPA 200.8	Beryllium - Dissolved	20%	0.2
2019090443	11/29/2019	EPA 200.8	Beryllium - Dissolved	20%	0.2
2019090458	11/29/2019	EPA 200.8	Beryllium - Dissolved	20%	0.2
2019090473	11/29/2019	EPA 200.8	Beryllium - Dissolved	20%	0.2
2019092287	12/7/2019	EPA 200.8	Beryllium - Dissolved	20%	0.2
2019090208	11/29/2019	EPA 200.8	Beryllium - Total Recoverable	20%	1.8
2019090299	11/29/2019	EPA 200.8	Beryllium - Total Recoverable	20%	1.8
2019090385	11/29/2019	EPA 200.8	Beryllium - Total Recoverable	20%	1.8
2019090412	11/29/2019	EPA 200.8	Beryllium - Total Recoverable	20%	1.8
2019090442	11/29/2019	EPA 200.8	Beryllium - Total Recoverable	20%	0.7
2019090457	11/29/2019	EPA 200.8	Beryllium - Total Recoverable	20%	0.7
2019090472	11/29/2019	EPA 200.8	Beryllium - Total Recoverable	20%	0.7
2019092286	12/7/2019	EPA 200.8	Beryllium - Total Recoverable	20%	1.1
2019090208	11/29/2019	EPA 200.8	Cadmium - Total Recoverable	20%	0.9
2019090299	11/29/2019	EPA 200.8	Cadmium - Total Recoverable	20%	0.9
2019090385	11/29/2019	EPA 200.8	Cadmium - Total Recoverable	20%	0.9
2019090412	11/29/2019	EPA 200.8	Cadmium - Total Recoverable	20%	0.9
2019090442	11/29/2019	EPA 200.8	Cadmium - Total Recoverable	20%	1.1
2019090457	11/29/2019	EPA 200.8	Cadmium - Total Recoverable	20%	1.1
2019090472	11/29/2019	EPA 200.8	Cadmium - Total Recoverable	20%	1.1
2019092286	12/7/2019	EPA 200.8	Cadmium - Total Recoverable	20%	4.1
2019090209	11/29/2019	SM20 2340 B	Calcium Hardness	N/A	N/A
2019090300	11/29/2019	SM20 2340 B	Calcium Hardness	N/A	N/A
2019090386	11/29/2019	SM20 2340 B	Calcium Hardness	N/A	N/A
2019090413	11/29/2019	SM20 2340 B	Calcium Hardness	N/A	N/A
2019090443	11/29/2019	SM20 2340 B	Calcium Hardness	N/A	N/A
2019090458	11/29/2019	SM20 2340 B	Calcium Hardness	N/A	N/A
2019090473	11/29/2019	SM20 2340 B	Calcium Hardness	N/A	N/A
2019092287	12/7/2019	SM20 2340 B	Calcium Hardness	N/A	N/A
2019090209	11/29/2019	EPA 200.7	Calcium Total	20%	0.9
2019090300	11/29/2019	EPA 200.7	Calcium Total	20%	0.9
2019090386	11/29/2019	EPA 200.7	Calcium Total	20%	0.9
2019090413	11/29/2019	EPA 200.7	Calcium Total	20%	2.1
2019090443	11/29/2019	EPA 200.7	Calcium Total	20%	2.1
2019090458	11/29/2019	EPA 200.7	Calcium Total	20%	2.1
2019090473	11/29/2019	EPA 200.7	Calcium Total	20%	2.1
2019092287	12/7/2019	EPA 200.7	Calcium Total	20%	2.1
2019090209	11/29/2019	EPA 200.8	Chromium - Dissolved	20%	0.8
2019090300	11/29/2019	EPA 200.8	Chromium - Dissolved	20%	0.8
2019090386	11/29/2019	EPA 200.8	Chromium - Dissolved	20%	0.8
2019090413	11/29/2019	EPA 200.8	Chromium - Dissolved	20%	0.8
2019090443	11/29/2019	EPA 200.8	Chromium - Dissolved	20%	0.8
2019090458	11/29/2019	EPA 200.8	Chromium - Dissolved	20%	0.8
2019090473	11/29/2019	EPA 200.8	Chromium - Dissolved	20%	0.8
2019092287	12/7/2019	EPA 200.8	Chromium - Dissolved	20%	0.8
2019090208	11/29/2019	EPA 200.8	Chromium - Total Recoverable	20%	0.6
2019090299	11/29/2019	EPA 200.8	Chromium - Total Recoverable	20%	0.6
2019090385	11/29/2019	EPA 200.8	Chromium - Total Recoverable	20%	0.6
2019090412	11/29/2019	EPA 200.8	Chromium - Total Recoverable	20%	0.6
2019090442	11/29/2019	EPA 200.8	Chromium - Total Recoverable	20%	0.6
2019090457	11/29/2019	EPA 200.8	Chromium - Total Recoverable	20%	0.6
2019090472	11/29/2019	EPA 200.8	Chromium - Total Recoverable	20%	0.6
2019092286	12/7/2019	EPA 200.8	Chromium - Total Recoverable	20%	0.0

2019090209	11/29/2019	EPA 200.8	Copper - Dissolved	20%	1.3
2019090300	11/29/2019	EPA 200.8	Copper - Dissolved	20%	1.3
2019090386	11/29/2019	EPA 200.8	Copper - Dissolved	20%	1.3
2019090413	11/29/2019	EPA 200.8	Copper - Dissolved	20%	1.3
2019090443	11/29/2019	EPA 200.8	Copper - Dissolved	20%	1.3
2019090458	11/29/2019	EPA 200.8	Copper - Dissolved	20%	1.3
2019090473	11/29/2019	EPA 200.8	Copper - Dissolved	20%	1.3
2019092287	12/7/2019	EPA 200.8	Copper - Dissolved	20%	1.3
2019090208	11/29/2019	EPA 200.8	Copper - Total Recoverable	20%	1.6
2019090299	11/29/2019	EPA 200.8	Copper - Total Recoverable	20%	1.6
2019090385	11/29/2019	EPA 200.8	Copper - Total Recoverable	20%	1.6
2019090412	11/29/2019	EPA 200.8	Copper - Total Recoverable	20%	1.6
2019090442	11/29/2019	EPA 200.8	Copper - Total Recoverable	20%	0.8
2019090457	11/29/2019	EPA 200.8	Copper - Total Recoverable	20%	0.8
2019090472	11/29/2019	EPA 200.8	Copper - Total Recoverable	20%	0.8
2019092286	12/7/2019	EPA 200.8	Copper - Total Recoverable	20%	1.7
2019090209	11/29/2019	SM20 2340 B	Hardness - Total	N/A	N/A
2019090300	11/29/2019	SM20 2340 B	Hardness - Total	N/A	N/A
2019090386	11/29/2019	SM20 2340 B	Hardness - Total	N/A	N/A
2019090413	11/29/2019	SM20 2340 B	Hardness - Total	N/A	N/A
2019090443	11/29/2019	SM20 2340 B	Hardness - Total	N/A	N/A
2019090458	11/29/2019	SM20 2340 B	Hardness - Total	N/A	N/A
2019090473	11/29/2019	SM20 2340 B	Hardness - Total	N/A	N/A
2019092287	12/7/2019	SM20 2340 B	Hardness - Total	N/A	N/A
2019090209	11/29/2019	EPA 200.8	Lead - Dissolved	20%	0.2
2019090300	11/29/2019	EPA 200.8	Lead - Dissolved	20%	0.2
2019090386	11/29/2019	EPA 200.8	Lead - Dissolved	20%	0.2
2019090413	11/29/2019	EPA 200.8	Lead - Dissolved	20%	0.2
2019090443	11/29/2019	EPA 200.8	Lead - Dissolved	20%	0.2
2019090458	11/29/2019	EPA 200.8	Lead - Dissolved	20%	0.2
2019090473	11/29/2019	EPA 200.8	Lead - Dissolved	20%	0.2
2019092287	12/7/2019	EPA 200.8	Lead - Dissolved	20%	0.2
2019090208	11/29/2019	EPA 200.8	Lead - Total Recoverable	20%	0.6
2019090299	11/29/2019	EPA 200.8	Lead - Total Recoverable	20%	0.6
2019090385	11/29/2019	EPA 200.8	Lead - Total Recoverable	20%	0.6
2019090412	11/29/2019	EPA 200.8	Lead - Total Recoverable	20%	0.6
2019090442	11/29/2019	EPA 200.8	Lead - Total Recoverable	20%	1.3
2019090457	11/29/2019	EPA 200.8	Lead - Total Recoverable	20%	1.3
2019090472	11/29/2019	EPA 200.8	Lead - Total Recoverable	20%	1.3
2019092286	12/7/2019	EPA 200.8	Lead - Total Recoverable	20%	0.5
2019090209	11/29/2019	EPA 200.7	Magnesium - Total	20%	1.8
2019090300	11/29/2019	EPA 200.7	Magnesium - Total	20%	1.8
2019090386	11/29/2019	EPA 200.7	Magnesium - Total	20%	1.8
2019090413	11/29/2019	EPA 200.7	Magnesium - Total	20%	2.3
2019090443	11/29/2019	EPA 200.7	Magnesium - Total	20%	2.3
2019090458	11/29/2019	EPA 200.7	Magnesium - Total	20%	2.3
2019090473	11/29/2019	EPA 200.7	Magnesium - Total	20%	2.3
2019092287	12/7/2019	EPA 200.7	Magnesium - Total	20%	2.3
2019090209	11/29/2019	EPA 245.1	Mercury - Diss	20%	0.5
2019090300	11/29/2019	EPA 245.1	Mercury - Diss	20%	0.3
2019090386	11/29/2019	EPA 245.1	Mercury - Diss	20%	0.3
2019090413	11/29/2019	EPA 245.1	Mercury - Diss	20%	0.3
2019090443	11/29/2019	EPA 245.1	Mercury - Diss	20%	0.3

2019090458	11/29/2019	EPA 245.1	Mercury - Diss	20%	0.3
2019090473	11/29/2019	EPA 245.1	Mercury - Diss	20%	1.3
2019092287	12/7/2019	EPA 245.1	Mercury - Diss	20%	0.3
2019090208	11/29/2019	EPA 245.1	Mercury - Total	20%	0.5
2019090299	11/29/2019	EPA 245.1	Mercury - Total	20%	0.5
2019090385	11/29/2019	EPA 245.1	Mercury - Total	20%	0.3
2019090412	11/29/2019	EPA 245.1	Mercury - Total	20%	0.3
2019090442	11/29/2019	EPA 245.1	Mercury - Total	20%	0.3
2019090457	11/29/2019	EPA 245.1	Mercury - Total	20%	0.3
2019090472	11/29/2019	EPA 245.1	Mercury - Total	20%	0.3
2019092286	12/7/2019	EPA 245.1	Mercury - Total	20%	0.5
2019090209	11/29/2019	EPA 200.8	Nickel - Dissolved	20%	0.9
2019090300	11/29/2019	EPA 200.8	Nickel - Dissolved	20%	0.9
2019090386	11/29/2019	EPA 200.8	Nickel - Dissolved	20%	0.9
2019090413	11/29/2019	EPA 200.8	Nickel - Dissolved	20%	0.9
2019090443	11/29/2019	EPA 200.8	Nickel - Dissolved	20%	0.9
2019090458	11/29/2019	EPA 200.8	Nickel - Dissolved	20%	0.9
2019090473	11/29/2019	EPA 200.8	Nickel - Dissolved	20%	0.9
2019092287	12/7/2019	EPA 200.8	Nickel - Dissolved	20%	0.9
2019090208	11/29/2019	EPA 200.8	Nickel - Total Recoverable	20%	0.3
2019090299	11/29/2019	EPA 200.8	Nickel - Total Recoverable	20%	0.3
2019090385	11/29/2019	EPA 200.8	Nickel - Total Recoverable	20%	0.3
2019090412	11/29/2019	EPA 200.8	Nickel - Total Recoverable	20%	0.3
2019090442	11/29/2019	EPA 200.8	Nickel - Total Recoverable	20%	1.7
2019090457	11/29/2019	EPA 200.8	Nickel - Total Recoverable	20%	1.7
2019090472	11/29/2019	EPA 200.8	Nickel - Total Recoverable	20%	1.7
2019092286	12/7/2019	EPA 200.8	Nickel - Total Recoverable	20%	0.6
2019090212	11/29/2019	EPA 300.0	Nitrate-N	10%	0.4
2019090303	11/29/2019	EPA 300.0	Nitrate-N	10%	0.4
2019090389	11/29/2019	EPA 300.0	Nitrate-N	10%	0.4
2019090416	11/29/2019	EPA 300.0	Nitrate-N	10%	0.4
2019090446	11/29/2019	EPA 300.0	Nitrate-N	10%	0.4
2019090461	11/29/2019	EPA 300.0	Nitrate-N	10%	0.4
2019090476	11/29/2019	EPA 300.0	Nitrate-N	10%	0.4
2019092290	12/7/2019	EPA 300.0	Nitrate-N	10%	0.8
2019090212	11/29/2019	EPA 300.0	Nitrite-N	10%	0.2
2019090303	11/29/2019	EPA 300.0	Nitrite-N	10%	0.2
2019090389	11/29/2019	EPA 300.0	Nitrite-N	10%	0.2
2019090416	11/29/2019	EPA 300.0	Nitrite-N	10%	0.2
2019090446	11/29/2019	EPA 300.0	Nitrite-N	10%	0.2
2019090461	11/29/2019	EPA 300.0	Nitrite-N	10%	0.2
2019090476	11/29/2019	EPA 300.0	Nitrite-N	10%	0.2
2019092290	12/7/2019	EPA 300.0	Nitrite-N	10%	0.2
2019090212	11/29/2019	EPA 300.0	O-Phosphate-P	10%	1.1
2019090303	11/29/2019	EPA 300.0	O-Phosphate-P	10%	1.1
2019090389	11/29/2019	EPA 300.0	O-Phosphate-P	10%	1.1
2019090416	11/29/2019	EPA 300.0	O-Phosphate-P	10%	1.1
2019090446	11/29/2019	EPA 300.0	O-Phosphate-P	10%	1.1
2019090461	11/29/2019	EPA 300.0	O-Phosphate-P	10%	1.1
2019090476	11/29/2019	EPA 300.0	O-Phosphate-P	10%	1.1
2019092290	12/7/2019	EPA 300.0	O-Phosphate-P	10%	1.5
2019090209	11/29/2019	EPA 200.8	Selenium - Dissolved	20%	1.2
2019090300	11/29/2019	EPA 200.8	Selenium - Dissolved	20%	1.2

2019090386	11/29/2019	EPA 200.8	Selenium - Dissolved	20%	1.2
2019090413	11/29/2019	EPA 200.8	Selenium - Dissolved	20%	1.2
2019090443	11/29/2019	EPA 200.8	Selenium - Dissolved	20%	1.2
2019090458	11/29/2019	EPA 200.8	Selenium - Dissolved	20%	1.2
2019090473	11/29/2019	EPA 200.8	Selenium - Dissolved	20%	1.2
2019092287	12/7/2019	EPA 200.8	Selenium - Dissolved	20%	1.2
2019090208	11/29/2019	EPA 200.8	Selenium - Total Recoverable	20%	4.4
2019090299	11/29/2019	EPA 200.8	Selenium - Total Recoverable	20%	4.4
2019090385	11/29/2019	EPA 200.8	Selenium - Total Recoverable	20%	4.4
2019090412	11/29/2019	EPA 200.8	Selenium - Total Recoverable	20%	4.4
2019090442	11/29/2019	EPA 200.8	Selenium - Total Recoverable	20%	1.2
2019090457	11/29/2019	EPA 200.8	Selenium - Total Recoverable	20%	1.2
2019090472	11/29/2019	EPA 200.8	Selenium - Total Recoverable	20%	1.2
2019092286	12/7/2019	EPA 200.8	Selenium - Total Recoverable	20%	0.8
2019090209	11/29/2019	EPA 200.8	Silver - Dissolved	20%	0.5
2019090300	11/29/2019	EPA 200.8	Silver - Dissolved	20%	0.5
2019090386	11/29/2019	EPA 200.8	Silver - Dissolved	20%	0.5
2019090413	11/29/2019	EPA 200.8	Silver - Dissolved	20%	0.5
2019090443	11/29/2019	EPA 200.8	Silver - Dissolved	20%	2.9
2019090458	11/29/2019	EPA 200.8	Silver - Dissolved	20%	2.9
2019090473	11/29/2019	EPA 200.8	Silver - Dissolved	20%	2.9
2019092287	12/7/2019	EPA 200.8	Silver - Dissolved	20%	0.4
2019090208	11/29/2019	EPA 200.8	Silver - Total Recoverable	20%	0.5
2019090299	11/29/2019	EPA 200.8	Silver - Total Recoverable	20%	0.5
2019090385	11/29/2019	EPA 200.8	Silver - Total Recoverable	20%	0.5
2019090412	11/29/2019	EPA 200.8	Silver - Total Recoverable	20%	0.5
2019090442	11/29/2019	EPA 200.8	Silver - Total Recoverable	20%	2.9
2019090457	11/29/2019	EPA 200.8	Silver - Total Recoverable	20%	2.9
2019090472	11/29/2019	EPA 200.8	Silver - Total Recoverable	20%	2.9
2019092286	12/7/2019	EPA 200.8	Silver - Total Recoverable	20%	0.4
2019090209	11/29/2019	EPA 200.8	Thallium - Dissolved	20%	0.8
2019090300	11/29/2019	EPA 200.8	Thallium - Dissolved	20%	0.8
2019090386	11/29/2019	EPA 200.8	Thallium - Dissolved	20%	0.8
2019090413	11/29/2019	EPA 200.8	Thallium - Dissolved	20%	0.8
2019090443	11/29/2019	EPA 200.8	Thallium - Dissolved	20%	0.8
2019090458	11/29/2019	EPA 200.8	Thallium - Dissolved	20%	0.8
2019090473	11/29/2019	EPA 200.8	Thallium - Dissolved	20%	0.8
2019092287	12/7/2019	EPA 200.8	Thallium - Dissolved	20%	0.8
2019090208	11/29/2019	EPA 200.8	Thallium - Total Recoverable	20%	0.6
2019090299	11/29/2019	EPA 200.8	Thallium - Total Recoverable	20%	0.6
2019090385	11/29/2019	EPA 200.8	Thallium - Total Recoverable	20%	0.6
2019090412	11/29/2019	EPA 200.8	Thallium - Total Recoverable	20%	0.6
2019090442	11/29/2019	EPA 200.8	Thallium - Total Recoverable	20%	3.1
2019090457	11/29/2019	EPA 200.8	Thallium - Total Recoverable	20%	3.1
2019090472	11/29/2019	EPA 200.8	Thallium - Total Recoverable	20%	3.1
2019092286	12/7/2019	EPA 200.8	Thallium - Total Recoverable	20%	2.1
2019090209	11/29/2019	EPA 200.8	Zinc - Dissolved	20%	1.6
2019090300	11/29/2019	EPA 200.8	Zinc - Dissolved	20%	1.6
2019090386	11/29/2019	EPA 200.8	Zinc - Dissolved	20%	1.6
2019090413	11/29/2019	EPA 200.8	Zinc - Dissolved	20%	1.6
2019090443	11/29/2019	EPA 200.8	Zinc - Dissolved	20%	1.6
2019090458	11/29/2019	EPA 200.8	Zinc - Dissolved	20%	1.6
2019090473	11/29/2019	EPA 200.8	Zinc - Dissolved	20%	1.6
2019092287	12/7/2019	EPA 200.8	Zinc - Dissolved	20%	1.6

2019090208	11/29/2019	EPA 200.7	Zinc - Total Recoverable	20%	2.9
2019090299	11/29/2019	EPA 200.7	Zinc - Total Recoverable	20%	2.9
2019090385	11/29/2019	EPA 200.7	Zinc - Total Recoverable	20%	2.9
2019090412	11/29/2019	EPA 200.7	Zinc - Total Recoverable	20%	2.9
2019090442	11/29/2019	EPA 200.7	Zinc - Total Recoverable	20%	0.2
2019090457	11/29/2019	EPA 200.7	Zinc - Total Recoverable	20%	0.2
2019090472	11/29/2019	EPA 200.7	Zinc - Total Recoverable	20%	0.2
2019092286	12/7/2019	EPA 200.7	Zinc - Total Recoverable	20%	2.2

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LIMS Number	Sample Date	Sample ID	Analysis Date	Method	Analyte	Required LFMD precision %RPD	Actual LFMD precision %RPD
2019090210	11/29/2019	SR 049 SR49 - 67th Ave and the Salt River	12/3/2019	SM20 4500 NH3 D	Ammonia	≤ 20%	2%
2019090301	11/29/2019	SR003 SR03 - 35th Ave and the Salt River	12/3/2019	SM20 4500 NH3 D	Ammonia	≤ 20%	2%
2019090387	11/29/2019	SR030 SR30 - 27th Ave and the Salt River	12/3/2019	SM20 4500 NH3 D	Ammonia	≤ 20%	2%
2019090414	11/29/2019	SR045 SR45 - 40th St and the Salt River	12/3/2019	SM20 4500 NH3 D	Ammonia	≤ 20%	2%
2019092288	12/7/2019	IB008 IB08 - 40th St and Indian Bend Wash	12/13/2019	SM20 4500 NH3 D	Ammonia	≤ 20%	6%
2019090444	11/29/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	12/3/2019	SM20 4500 NH3 D	Ammonia	≤ 20%	2%
2019090459	11/29/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	12/3/2019	SM20 4500 NH3 D	Ammonia	≤ 20%	2%
2019090210	11/29/2019	SR 049 SR49 - 67th Ave and the Salt River	12/5/2019	ASTM D3590 A,B □	Total Kjeldahl Nitrogen	≤ 20%	1%
2019090301	11/29/2019	SR003 SR03 - 35th Ave and the Salt River	12/5/2019	ASTM D3590 A,B □	Total Kjeldahl Nitrogen	≤ 20%	1%
2019090387	11/29/2019	SR030 SR30 - 27th Ave and the Salt River	12/5/2019	ASTM D3590 A,B □	Total Kjeldahl Nitrogen	≤ 20%	1%
2019090414	11/29/2019	SR045 SR45 - 40th St and the Salt River	12/5/2019	ASTM D3590 A,B □	Total Kjeldahl Nitrogen	≤ 20%	1%
2019092288	12/7/2019	IB008 IB08 - 40th St and Indian Bend Wash	12/31/2020	ASTM D3590 A,B □	Total Kjeldahl Nitrogen	≤ 20%	3%
2019090444	11/29/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	12/5/2019	ASTM D3590 A,B □	Total Kjeldahl Nitrogen	≤ 20%	1%
2019090459	11/29/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	12/5/2019	ASTM D3590 A,B □	Total Kjeldahl Nitrogen	≤ 20%	1%
2019090217	11/29/2019	SR 049 SR49 - 67th Ave and the Salt River	12/4/2019	EPA 335.4	Cyanide	≤ 10%	10.2%
2019090308	11/29/2019	SR003 SR03 - 35th Ave and the Salt River	12/4/2019	EPA 335.4	Cyanide	≤ 10%	10.2%
2019090394	11/29/2019	SR030 SR30 - 27th Ave and the Salt River	12/4/2019	EPA 335.4	Cyanide	≤ 10%	10.2%
2019090421	11/29/2019	SR045 SR45 - 40th St and the Salt River	12/4/2019	EPA 335.4	Cyanide	≤ 10%	10.2%
2019092295	12/8/2019	IB008 IB08 - 40th St and Indian Bend Wash	12/12/2019	EPA 335.4	Cyanide	≤ 10%	1.0%
2019090451	11/29/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	12/4/2019	EPA 335.4	Cyanide	≤ 10%	10.2%
2019090466	11/29/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	12/4/2019	EPA 335.4	Cyanide	≤ 10%	10.2%
2019090211	11/29/2019	SR 049 SR49 - 67th Ave and the Salt River	11/30/2019	SM20 5210 B	BOD, 5 Day	NA	NA
2019090302	11/29/2019	SR003 SR03 - 35th Ave and the Salt River	11/30/2019	SM20 5210 B	BOD, 5 Day	NA	NA
2019090388	11/29/2019	SR030 SR30 - 27th Ave and the Salt River	11/30/2019	SM20 5210 B	BOD, 5 Day	NA	NA
2019090415	11/29/2019	SR045 SR45 - 40th St and the Salt River	11/30/2019	SM20 5210 B	BOD, 5 Day	NA	NA
2019092289	12/7/2019	IB008 IB08 - 40th St and Indian Bend Wash	12/8/2019	SM20 5210 B	BOD, 5 Day	NA	NA
2019090445	11/29/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	11/30/2019	SM20 5210 B	BOD, 5 Day	NA	NA
2019090460	11/29/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	11/30/2019	SM20 5210 B	BOD, 5 Day	NA	NA
2019090211	11/29/2019	SR 049 SR49 - 67th Ave and the Salt River	12/2/2019	HACH-8000	COD	≤ 20%	2%
2019090302	11/29/2019	SR003 SR03 - 35th Ave and the Salt River	12/2/2019	HACH-8000	COD	≤ 20%	2%
2019090388	11/29/2019	SR030 SR30 - 27th Ave and the Salt River	12/2/2019	HACH-8000	COD	≤ 20%	2%
2019090415	11/29/2019	SR045 SR45 - 40th St and the Salt River	12/2/2019	HACH-8000	COD	≤ 20%	2%
2019092289	12/7/2019	IB008 IB08 - 40th St and Indian Bend Wash	12/8/2019	HACH-8000	COD	≤ 20%	1%
2019090445	11/29/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	12/2/2019	HACH-8000	COD	≤ 20%	4%
2019090460	11/29/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	12/2/2019	HACH-8000	COD	≤ 20%	4%
2019090211	11/29/2019	SR 049 SR49 - 67th Ave and the Salt River	12/2/2019	SM20 2540 D	Suspended Solids	RPD ≤ 5% for residue ≥ 20 mg; RPD ≤ 20% for residue < 20 mg.	4%
2019090302	11/29/2019	SR003 SR03 - 35th Ave and the Salt River	12/2/2019	SM20 2540 D	Suspended Solids	RPD ≤ 5% for residue ≥ 20 mg; RPD ≤ 20% for residue < 20 mg.	3%
2019090388	11/29/2019	SR030 SR30 - 27th Ave and the Salt River	12/2/2019	SM20 2540 D	Suspended Solids	RPD ≤ 5% for residue ≥ 20 mg; RPD ≤ 20% for residue < 20 mg.	3%
2019090415	11/29/2019	SR045 SR45 - 40th St and the Salt River	12/2/2019	SM20 2540 D	Suspended Solids	RPD ≤ 5% for residue ≥ 20 mg; RPD ≤ 20% for residue < 20 mg.	3%
2019092289	12/7/2019	IB008 IB08 - 40th St and Indian Bend Wash	12/8/2019	SM20 2540 D	Suspended Solids	RPD ≤ 5% for residue ≥ 20 mg; RPD ≤ 20% for residue < 20 mg.	3%
2019090445	11/29/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	12/2/2019	SM20 2540 D	Suspended Solids	RPD ≤ 5% for residue ≥ 20 mg; RPD ≤ 20% for residue < 20 mg.	3%
2019090460	11/29/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	12/2/2019	SM20 2540 D	Suspended Solids	RPD ≤ 5% for residue ≥ 20 mg; RPD ≤ 20% for residue < 20 mg.	3%
2019090211	11/29/2019	SR 049 SR49 - 67th Ave and the Salt River	12/5/2019	SM20 2540 C	Total Dissolved Solids	<5%	1%
2019090302	11/29/2019	SR003 SR03 - 35th Ave and the Salt River	12/5/2019	SM20 2540 C	Total Dissolved Solids	<5%	1%
2019090388	11/29/2019	SR030 SR30 - 27th Ave and the Salt River	12/5/2019	SM20 2540 C	Total Dissolved Solids	<5%	1%
2019090415	11/29/2019	SR045 SR45 - 40th St and the Salt River	12/5/2019	SM20 2540 C	Total Dissolved Solids	<5%	1%
2019092289	12/7/2019	IB008 IB08 - 40th St and Indian Bend Wash	12/12/2019	SM20 2540 C	Total Dissolved Solids	<5%	42%
2019090445	11/29/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	12/5/2019	SM20 2540 C	Total Dissolved Solids	<5%	1%
2019090460	11/29/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	12/5/2019	SM20 2540 C	Total Dissolved Solids	<5%	1%
2019090216	11/29/2019	SR049 - 67th Ave and the Salt River	11/29/2019	SM20 9223	E. coli	RPD ≤ 38.48%	5.66%
2019090307	11/29/2019	SR003 - 35th Ave and the Salt River	11/29/2019	SM20 9223	E. coli	RPD ≤ 38.48%	5.66%
2019090393	11/29/2019	SR030 - 27th Ave and the Salt River	11/29/2019	SM20 9223	E. coli	RPD ≤ 38.48%	5.66%

2019090420	11/29/2019	SR045 - 40th St and the Salt River	11/29/2019	SM20 9223	E. coli	RPD ≤ 38.48%	5.66%
2019092294	12/8/2019	IB008 - 40th St and Indian Bend Wash	12/8/2019	SM20 9223	E. coli	RPD ≤ 31.07%	22.94%
2019090450	11/29/2019	AC033 - ACDC Tributary at 7th Ave and Dunlap Rd	11/29/2019	SM20 9223	E. coli	RPD ≤ 38.48%	5.66%
2019090465	11/29/2019	SC046 - Skunk Creek Trib at 27th Ave and Perdido Way	11/29/2019	SM20 9223	E. coli	RPD ≤ 38.48%	5.66%

New or Revised Public Outreach Documents

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City of Phoenix to Launch Inaugural Stormwater Awareness Week

JANUARY 13, 2020 9:00 AM

With an unusually wet winter underway, Phoenix Water Services is kicking off the new year with a focus on stormwater pollution prevention. The utility's first-ever Stormwater Awareness Week is set for January 20 – 26.

A number of Arizona cities and organizations will join Phoenix for this regional effort to educate the public about the importance of preserving stormwater quality for the environment and future generations.

"As the fifth largest city in the nation, we have the ability to reach a lot of people with this important campaign," says Phoenix Mayor Kate Gallego. "We hope Stormwater Awareness Week will not only educate, but also motivate folks to make smart choices when it comes to preserving the quality of stormwater in our desert city."

Stormwater picks up pollutants as it flows over rooftops, gutters, parking lots, driveways, and other paved surfaces. That polluted stormwater can work its way into storm drains, and eventually to surface water and retention areas.

"Stormwater is not treated like the wastewater from your kitchen sink or toilet – it goes directly into the environment," says Phoenix Water Services Director Kathryn Sorensen. "Our actions matter, so it is important that we take simple steps every day to prevent stormwater pollution."

Simple actions to reduce stormwater pollution include:

- Disposing trash, recyclables and chemicals properly like detergent, paint, medications, etc.
- Recycling motor oil and maintaining your vehicle to prevent leaks
- Cleaning up after your pet
- Using lawn-chemicals sparingly and always following manufacturer's directions
- Properly disposing leftover paint and household chemicals at a household hazardous waste event
- And please remember - only rain in the storm drain

"Everyone has a role in stormwater pollution prevention, and by taking these simple actions our efforts can go a long way in keeping our rivers clean and beautiful for generations to come," says Councilwoman Thelda Williams, chair of the Transportation, Infrastructure and Innovation Subcommittee.

To learn more about the City of Phoenix Water Services Department Stormwater Awareness Week and what you can do as an individual or business to prevent stormwater pollution, please visit phoenix.gov/stormwater.

Media Contact:
Stephanie Bracken
 Cell: 602-769-0717
 Office: 602-534-1200

[Water Services Home Page](#)

[Water Services News](#)

[Media Contact Directory](#)



Tweets by @PHXWater

Phoenix Water @PHXWater
 Mark your calendars! Join us as we celebrate our #AZWaterHeroes who ensures continued access to safe and clean water during this health emergency. #ThankAWaterHero on September 23rd for all they do. #ThankAWaterWorker #WaterIsEssential #HereForYou



14h

Phoenix Water @PHXWater
 ¡Es miércoles de agua! Barra su cochera en lugar de regarla - ahorre hasta 80 galones cada vez 🍃
 ¡Visite @WUIW para más consejos de conservación

Embed View on Twitter

EXPLORE #WATER DEPT SOCIAL

f t y i h

NEWSLETTER SIGNUP

Stay connected to PHX! Sign Up for monthly PHX AT Your Service Newsletter.

Email Address

Name

Sign Up

CHECK THIS OUT



COVID-19
 Face Coverings Required

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PHX WATER SMART

STORMWATER AWARENESS WEEK
JANUARY 20-26, 2020

EVERYDAY ACTIONS YOU CAN TAKE TO PREVENT STORMWATER POLLUTION:

1

Only rain in the storm drain!
Stormwater flows untreated to our rivers,
washes, and retention areas.

2

Put trash and recyclables in their place.

3

Clean up after your pet.

4

Apply lawn-chemicals sparingly and
follow manufacturer's directions.

5

Properly dispose of leftover paint and
household chemicals at a household
hazardous waste event.

1

Only rain in the storm drain! Stormwater flows untreated to our rivers, washes, and retention areas.

2

Put trash and recyclables in their place.

3

Clean up after your pet.

4

Apply lawn-chemicals sparingly and follow manufacturer's directions.

5

Properly dispose of leftover paint and household chemicals at a household hazardous waste event.

6

Keep your vehicle leak free and properly dispose of used motor oil.

7

Take your car to a commercial car wash that recycles water.

8

Use native plants that require less maintenance and fewer chemicals.

9

Use and store yard chemicals safely.

10

Buy environmentally friendly products.

11

Report illegal dumping.

12

Clean up litter in the community.

13

Plant trees.

14

Harvest rainwater.

15

Use green infrastructure techniques, like a rain garden, to help stormwater soak-in rather than run-off.

Best Practices for protecting your job site from the rain:

STABILIZED CONSTRUCTION ENTRANCE/EXIT



✓ Good

PERIMETER PROTECTION (Silt Fencing, Straw Wattles, Filter Socks, etc.)



✓ Good



✗ Bad



✗ Bad

DRYWELL PROTECTION



✓ Good

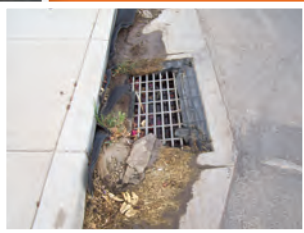


✗ Bad

STORM DRAIN PROTECTION



✓ Good



✗ Bad

DESIGNATED CONCRETE WASH-OUT STATION



✓ Good



✗ Bad



It is our sincere intent to protect the health, safety and welfare of our community, by ensuring that our streets, alleys, storm drainage system and other rights-of-way remain clean and safe. For more information on stormwater and stormwater resources visit:

www.phoenix.gov/stormwater.



CONSTRUCTION ACTIVITIES

STORMWATER POLLUTION PREVENTION



WHEN is my construction site required to obtain coverage under the Arizona Pollutant Discharge Elimination System (AZPDES) Construction General Permit (CGP)?

Sites that will disturb one or more acres, or less than an acre but are part of a larger common plan of development. For more info, go to azdeq.gov and search "CGP".

WHY is coverage under the AZPDES CGP necessary? Stormwater runoff associated with construction activities can be a major contributor of pollutants to the city storm drain system.

Pollutants like dirt, fuels, oils, trash, concrete washout, lime, joint compound, paint, etc. could end up in retention basins, parks and community lakes.

Note: Even if the CGP does not apply, Phoenix City Code Chapter 32C-104 requires any site with a potential to affect the quality or volume of stormwater to develop a Stormwater Management Plan.



Be the Solution to Stormwater Pollution. Follow these tips to prevent the discharge of pollutants into our storm drains:

1



Prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to construction activities. A SWPPP is a site-specific plan that describes how to manage stormwater and how to reduce or eliminate the discharge of pollutants.

■ What goes in a SWPPP? Search azdeq.gov 'SWPPP Checklist' for help.

2

Submit a completed Notice of Intent (NOI) to the Arizona Department of Environmental Quality (ADEQ) for permit coverage.

■ You can do this online...go to azdeq.gov and search "NOI"



3

Once your application is approved by ADEQ, you will receive an authorization number (or AZCON number) - Post the AZCON # or a copy of the approved authorization form near the site's main entrance.



4

Implement and maintain a combination of Best Management Practices (BMPs), or control measures, at your site, including erosion and sediment controls, perimeter controls, track-out control devices, storm drain and drywell protection, stabilization of disturbed areas, spill prevention and containment, concrete washout containment, and chemical storage.

5

Conduct routine site inspections per the frequency detailed in the CGP. Complete written inspection reports and maintain them in the SWPPP.



6

Promptly maintain or replace any damaged or ineffective BMPs observed during site inspection



7

Update the SWPPP and site map to show changes or modifications to BMPs. The site map should reflect current site conditions.



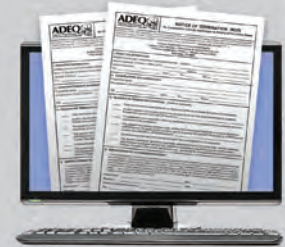
8

Complete stabilization of all disturbed areas



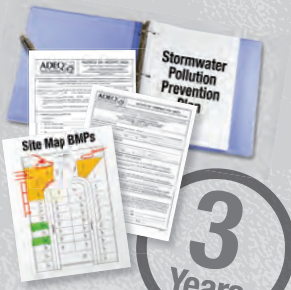
9

Submit a completed Notice of Termination (NOT) to ADEQ once final stabilization has been achieved.



10

Retain all pertinent documents (e.g., SWPPP, inspection reports, revised site map, etc.) associated with the site for at least three years from the date the NOT was submitted to ADEQ.





PHX WATER SMART

STORMWATER BEST MANAGEMENT PRACTICES



CLEAN SPILLS: Sweep or wipe up spills - never hose down spills into the street or storm drain.



DISPOSE OF GREASE & OIL SAFELY: Recycle used cooking oil and grease - never pour grease down the drain or into a storm drain.



USE MOP BUCKETS & SINKS: Pour mop and wash water into a mop sink - never pour mop water into gutters, alleys, parking lots, or storm drains.



CLEAN OUTDOOR AREAS: Sweep up food and trash from outdoor dining areas before rinsing or steam cleaning.



MAINTAIN GARBAGE DUMPSTERS: Keep dumpster and tallow bin lids closed and clean up spills promptly!



PROTECT WATER QUALITY:
Stormwater runoff does not go to a treatment plant!

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Roosevelt Water Festival

Volunteer with us!

Join us for the 4th Annual Roosevelt Water Festival, an educational field day event that instills a deeper understanding of water in the earth system and Arizona’s water resources to:

- Celebrate science and water stewardship
- Activate hands-on learning activities for students
- Contribute to your community

We need YOU!

We’ll train you on October 18, 2019 on how the Water Festival works. Then, at the Water Festival event on October 24 you will teach the lesson you were trained on. We will provide lunch and snacks throughout the day.

Interested? Sign up at

<https://arizonawet.arizona.edu/RooseveltVolunteer>

Questions? Contact Julie Hasty at juliehasty@email.arizona.edu



Estimated attendance

700+ Roosevelt Elementary School
District 4th grade student participants



PHX WATER SMART

Volunteer training date

October 18, 2019
9:00 AM—11:00 AM
U of A, Maricopa County
Cooperative Extension
 4341 E Broadway Rd
 Phoenix, AZ 85040

Festival date

October 24, 2019
7:00 AM—2:30 PM
El Reposo Park
 502 E Alta Vista Rd
 Phoenix, AZ 85042

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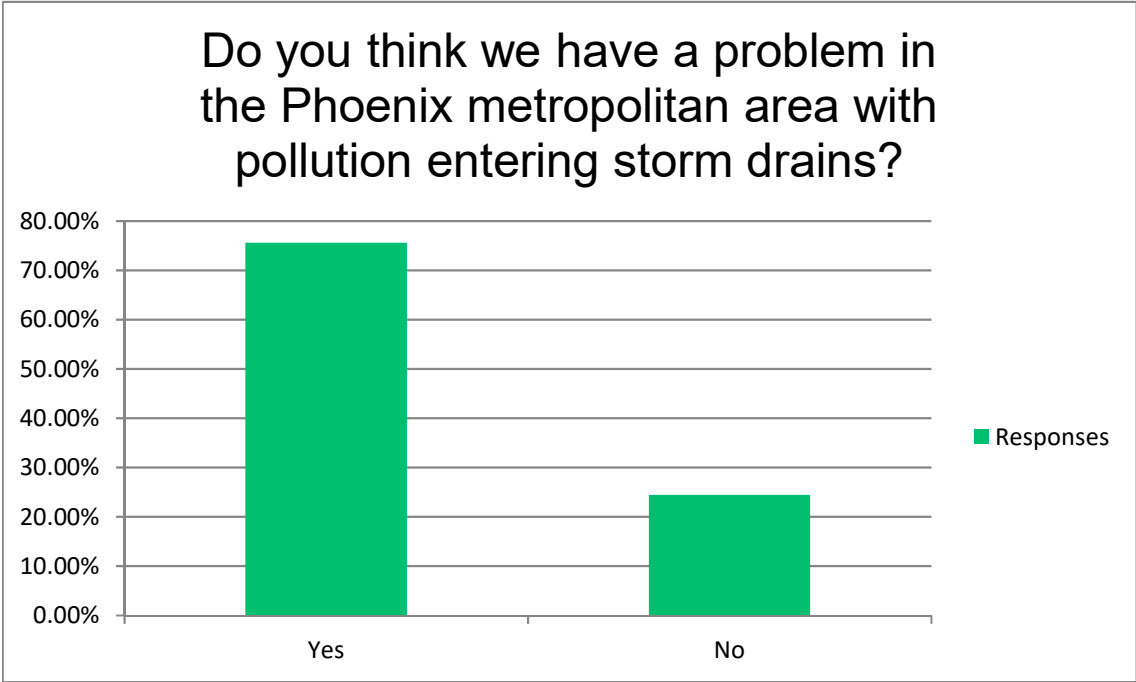
Public Awareness Survey

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Annual Stormwater Awareness Survey (2020)

QUESTION 1. Do you think we have a problem in the Phoenix metropolitan area with pollution entering storm drains?

Answer Choices	Responses	
Yes	75.57%	297
No	24.43%	96
Answered		393
Skipped		3

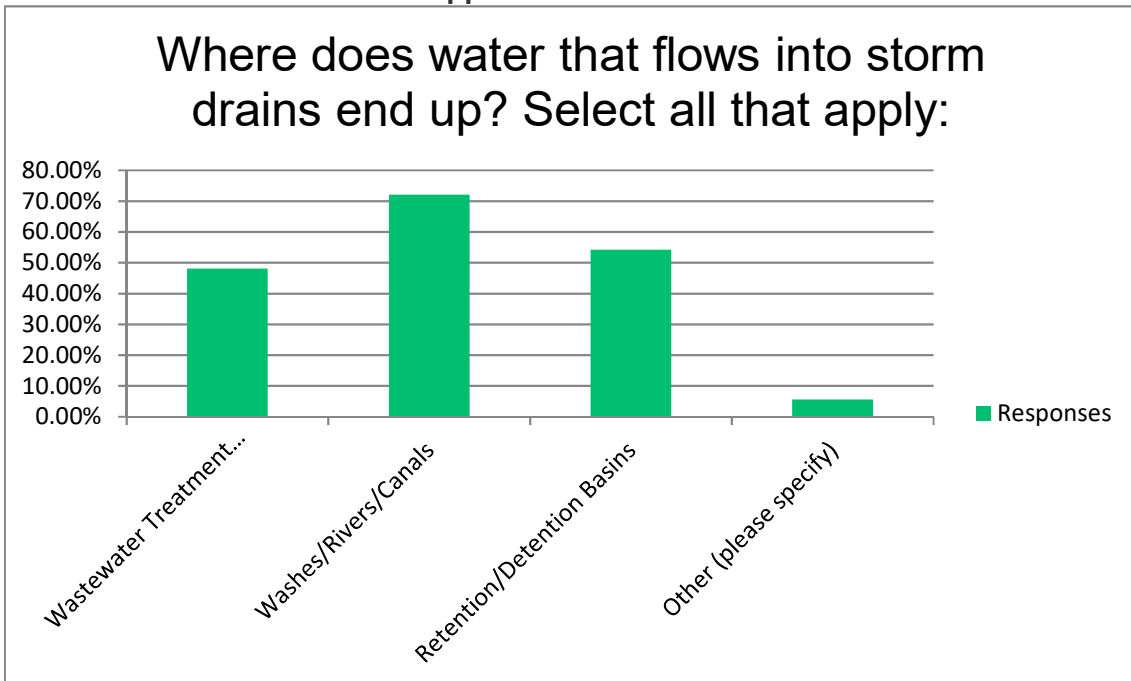


Annual Stormwater Awareness Survey (2020)

QUESTION 2. Where does water that flows into storm drains end up?

Select all that apply:

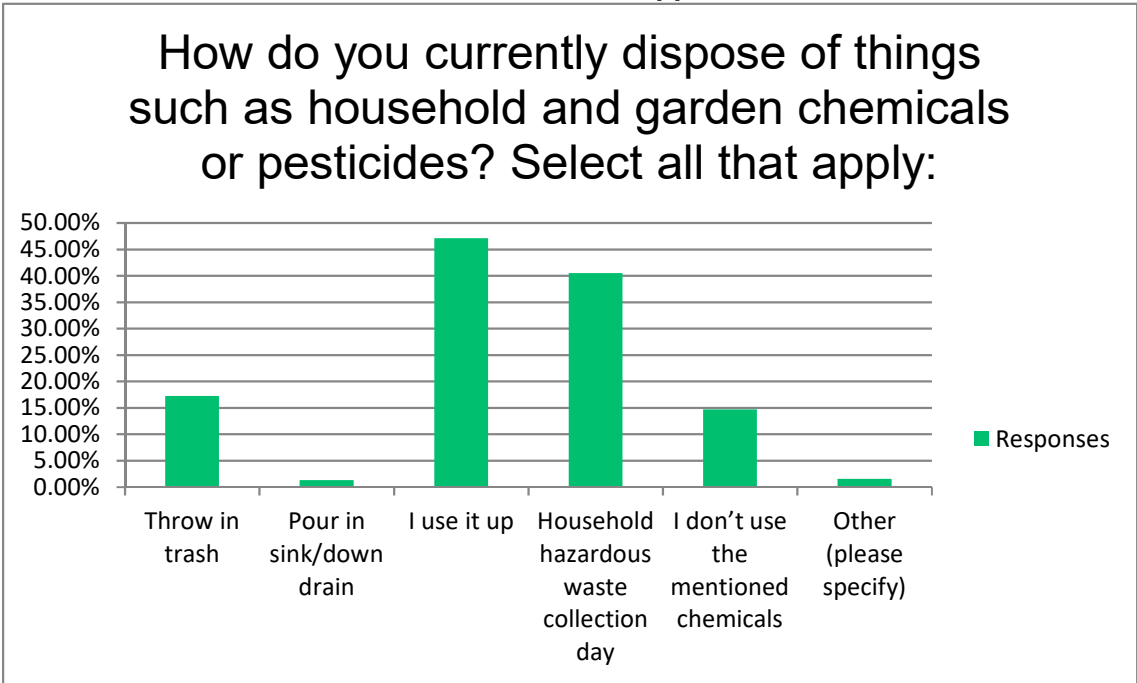
Answer Choices	Responses	
Wastewater Treatment Plant	48.09%	189
Washes/Rivers/Canals	72.01%	283
Retention/Detention Basins	54.20%	213
Other (please specify)	5.60%	22
	Answered	393
	Skipped	3



Annual Stormwater Awareness Survey (2020)

QUESTION 3. How do you currently dispose of things such as household and garden chemicals or pesticides? Select all that apply:

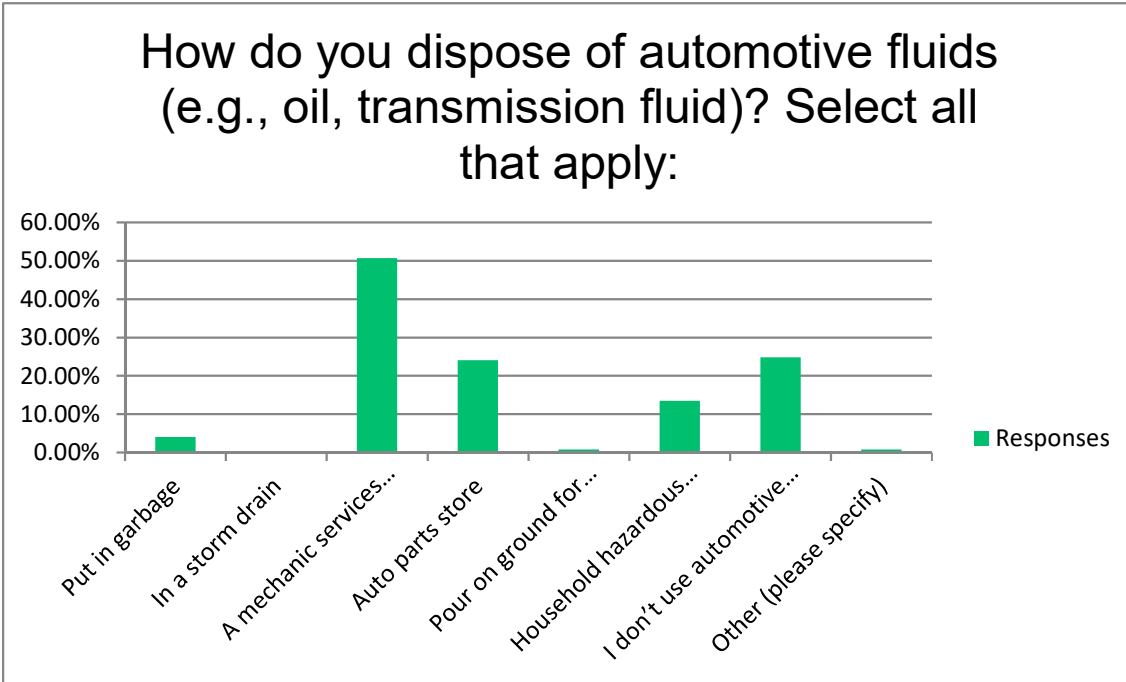
Answer Choices	Responses	
Throw in trash	17.22%	68
Pour in sink/down drain	1.27%	5
I use it up	47.09%	186
Household hazardous waste collection day	40.51%	160
I don't use the mentioned chemicals	14.68%	58
Other (please specify)	1.52%	6
	Answered	395
	Skipped	1



Annual Stormwater Awareness Survey (2020)

QUESTION 4. How do you dispose of automotive fluids (e.g., oil, transmission fluid)? Select all that apply:

Answer Choices	Responses	
Put in garbage	4.05%	16
In a storm drain	0.25%	1
A mechanic services my vehicle	50.63%	200
Auto parts store	24.05%	95
Pour on ground for weed control	0.76%	3
Household hazardous waste collection day	13.42%	53
I don't use automotive fluids	24.81%	98
Other (please specify)	0.76%	3
	Answered	395
	Skipped	1



Annual Stormwater Awareness Survey (2020)

QUESTION 5. How do you dispose of yard waste? Select all that apply:

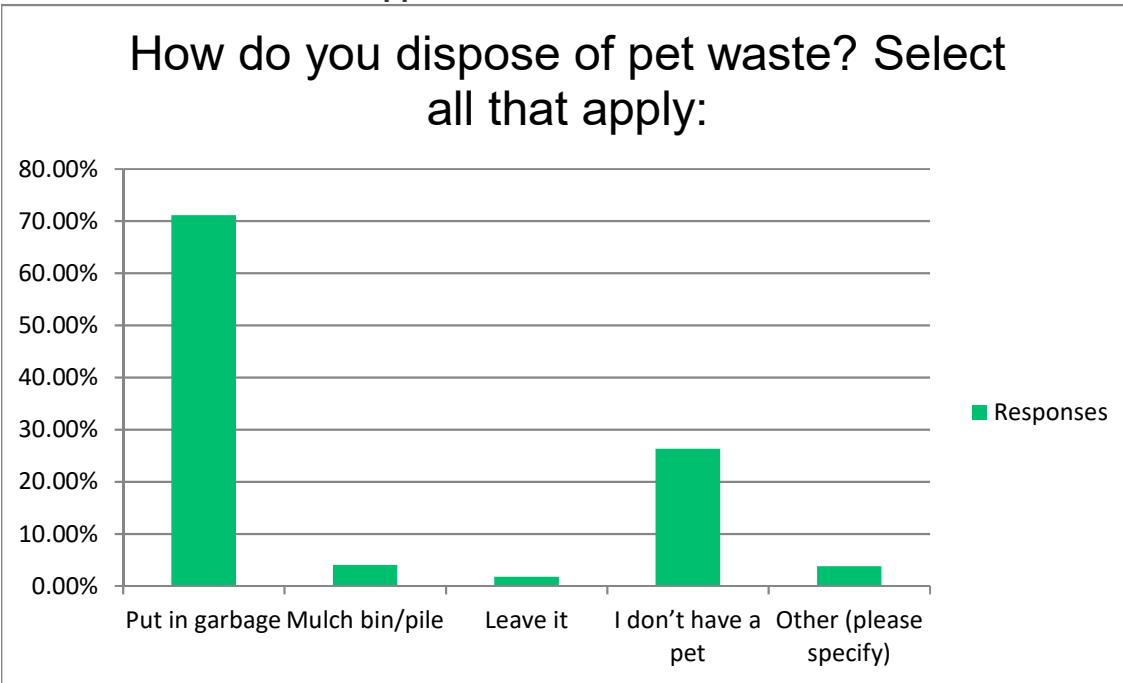
Answer Choices	Responses	
Put in garbage	54.43%	215
Mulch bin/pile	13.42%	53
Brown bin	6.33%	25
In a storm drain/street	0.00%	0
Bulk pick-up collection day	44.30%	175
Landscaping service hauls it away	32.15%	127
I don't have yard waste	6.33%	25
Other (please specify)	2.53%	10
Answered		395
Skipped		1



Annual Stormwater Awareness Survey (2020)

QUESTION 6. How do you dispose of pet waste? Select all that apply:

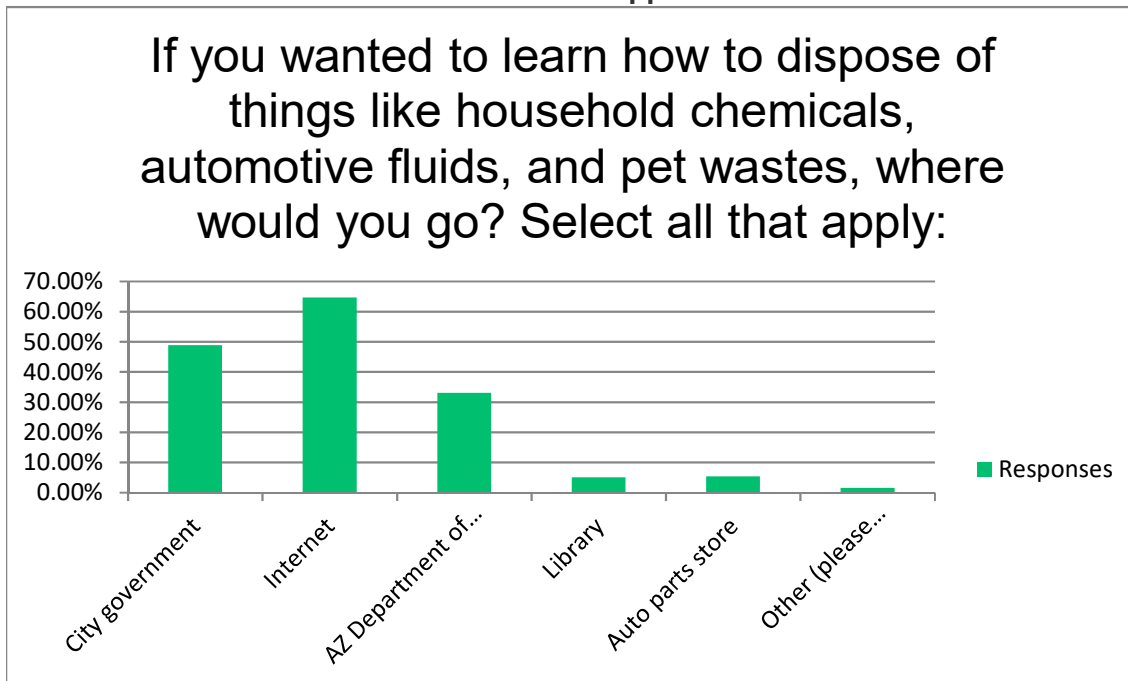
Answer Choices	Responses	
Put in garbage	71.14%	281
Mulch bin/pile	4.05%	16
Leave it	1.77%	7
I don't have a pet	26.33%	104
Other (please specify)	3.80%	15
Answered		395
Skipped		1



Annual Stormwater Awareness Survey (2020)

QUESTION 7. If you wanted to learn how to dispose of things like household chemicals, automotive fluids, and pet wastes, where would you go? Select all that apply:

Answer Choices	Responses	
City government	48.85%	192
Internet	64.63%	254
AZ Department of Environmental Quality	33.08%	130
Library	5.09%	20
Auto parts store	5.34%	21
Other (please specify)	1.53%	6
	Answered	393
	Skipped	3



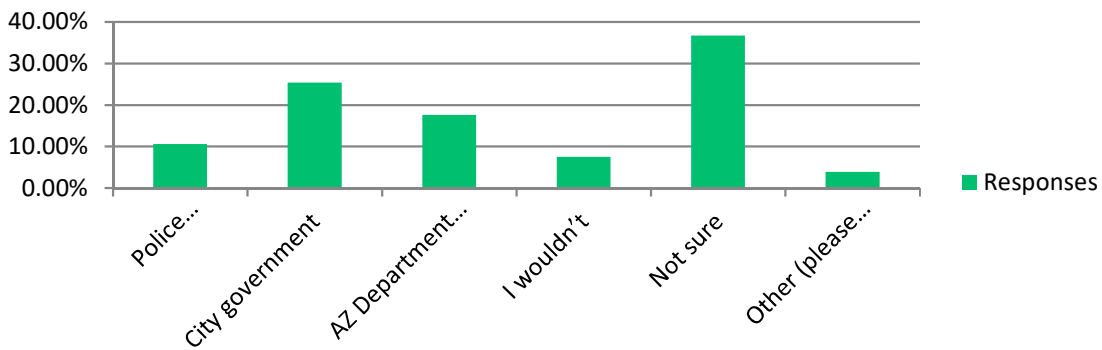
Annual Stormwater Awareness Survey (2020)

QUESTION 8. If you saw someone dumping trash, automotive fluids, lawn or garden chemicals, or pet wastes, where would you go FIRST for information?

Select only one answer:

Answer Choices	Responses	
Police department	10.59%	41
City government	25.32%	98
AZ Department of Environmental Quality	17.57%	68
I wouldn't	7.49%	29
Not sure	36.69%	142
Other (please specify)	3.88%	15
Answered		387
Skipped		1

If you saw someone dumping trash, automotive fluids, lawn or garden chemicals, or pet wastes, where would you go FIRST for information? Select only one answer:

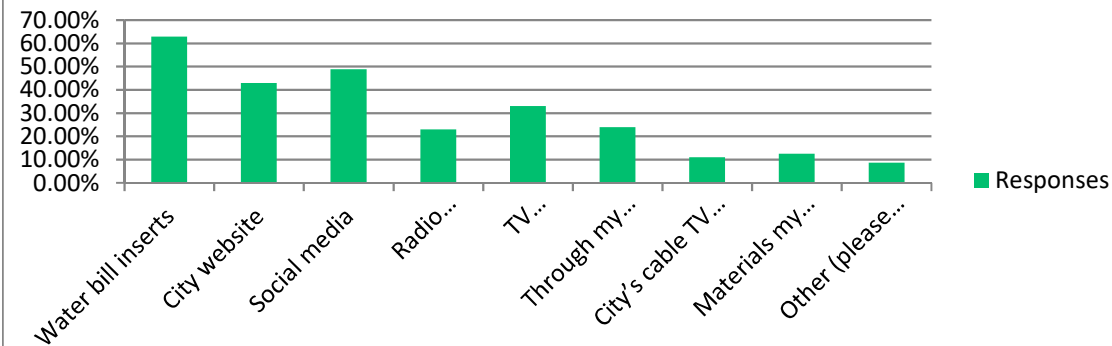


Annual Stormwater Awareness Survey (2020)

QUESTION 9. The City wants the community to learn more about stormwater and tips to prevent pollution. What is a good way to provide information to you? Select all that apply:

Answer Choices	Responses	
Water bill inserts	62.86%	242
City website	42.86%	165
Social media	48.83%	188
Radio announcements	22.86%	88
TV advertisements	32.99%	127
Through my homeowner's association	23.90%	92
City's cable TV channel	10.91%	42
Materials my children bring home from school	12.47%	48
Other (please specify)	8.57%	33
	Answered	385
	Skipped	3

The City wants the community to learn more about stormwater and tips to prevent pollution. What is a good way to provide information to you? Select all that apply:



Annual Stormwater Awareness Survey (2020)

QUESTION 10. Your gender:

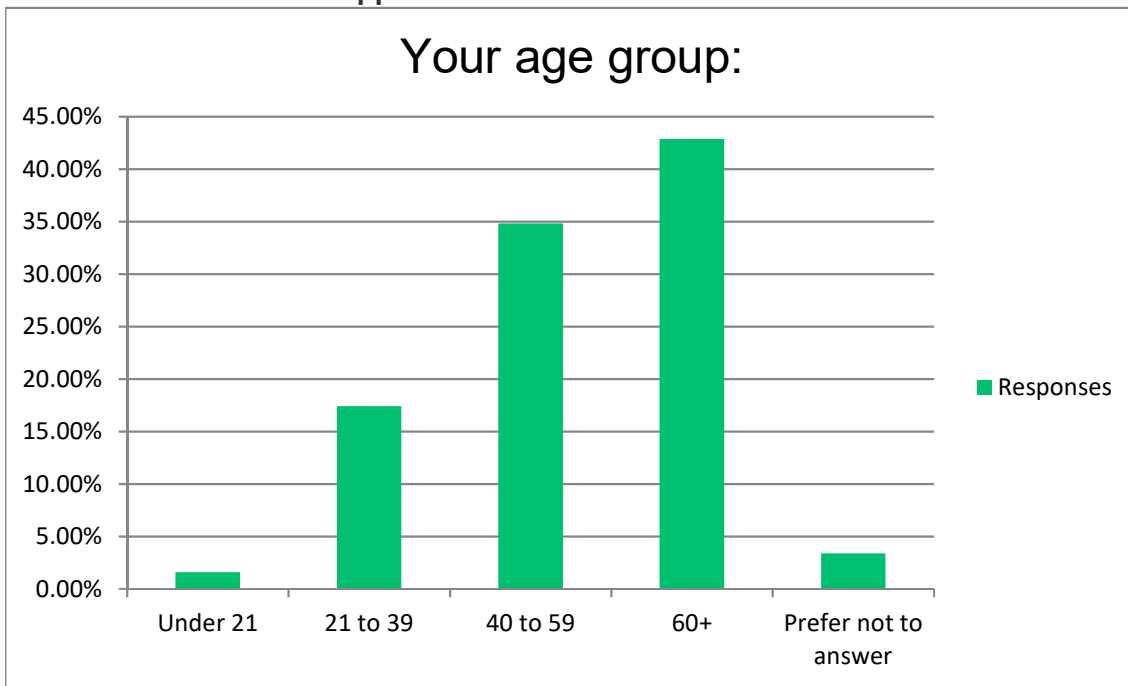
Answer Choices	Responses	
Female	61.97%	233
Male	35.37%	133
Other	0.27%	1
Prefer not to answer	2.39%	9
Answered	376	
Skipped	1	



Annual Stormwater Awareness Survey (2020)

QUESTION 11. Your age group:

Answer Choices	Responses	
Under 21	1.56%	6
21 to 39	17.40%	67
40 to 59	34.81%	134
60+	42.86%	165
Prefer not to answer	3.38%	13
Answered	385	
Skipped	2	



QUESTION 12. Annual Stormwater Awareness Survey (2020)

ZIP code

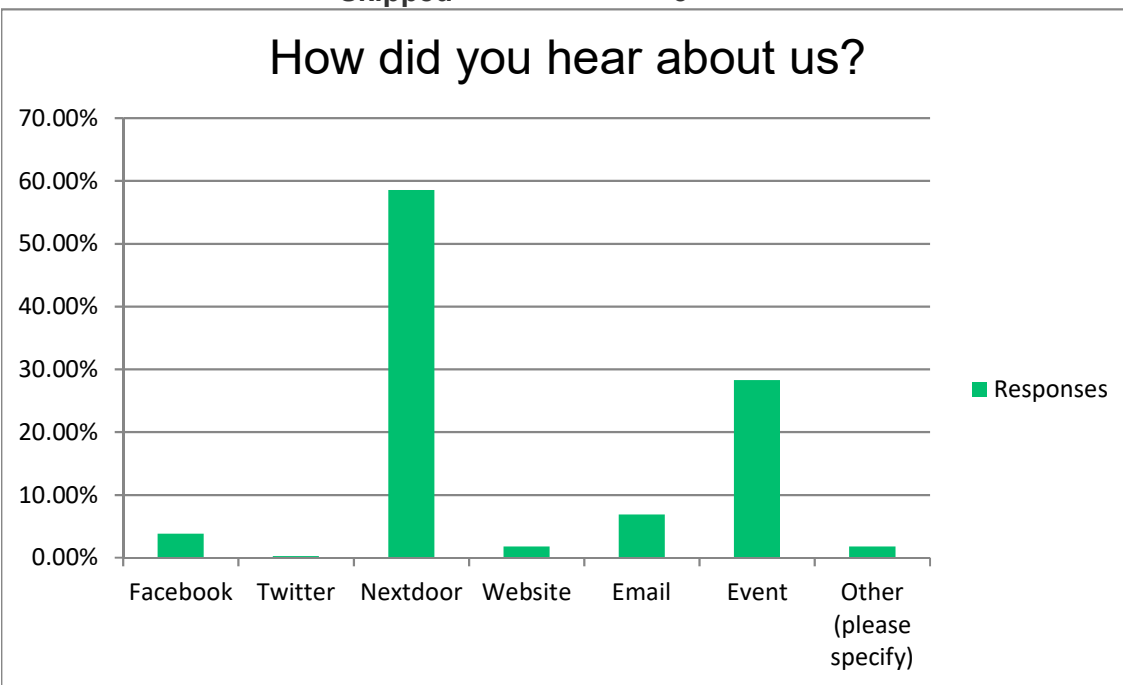
Answered 271

Skipped 14

Annual Stormwater Awareness Survey (2020)

QUESTION 13. How did you hear about us?

Answer Choices	Responses	
Facebook	3.82%	15
Twitter	0.25%	1
Nextdoor	58.52%	230
Website	1.78%	7
Email	6.87%	27
Event	28.24%	111
Other (please specify)	1.78%	7
Answered		393
Skipped		3



Annual Stormwater Awareness Survey (2020)

QUESTION 14. Thank you for taking our survey!For more information please visit phoenix.gov/stormwater is there anything else you would like to add?

Answered	114
Skipped	171

STORM Annual Report

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STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

SUMMARY

Arizona’s Stormwater Outreach for Regional Municipalities (STORM) provides a platform for collaborative effort by municipal partners to perform educational outreach to their residents with the message of pollution prevention to help keep our waters clean. In Fiscal Year 2020, STORM members completed outreach via web, print, traditional and social media, and public events. The unprecedented events of 2020 presented STORM members with some exceptional challenges, but nonetheless, the coordination among the 24 member cities, towns, and non-traditional municipal separate storm sewer system owners or affiliates, resulted in the following highlights:

- Social Media and ABC15 Media Campaign – Reached a total 3,317,647 ad (1,300,000) and social media post (2,017,647) views with 27,313 clicks (engagements) including 126 stormwater related social media posts. STORM was able to leverage increased media viewership during the COVID-19 pandemic to maximize our advertising budget impact for a total of just 6 cents per ad view. Additionally, with our media partner ABC15, we were able to focus on a more targeted approach to increase the number of ad views. One example of this targeted approach is that all our advertisements were also produced in Spanish and directed at Spanish speaking households.
- Website – Received a total of 6,987 webpage views by 3,321 users during 3,867 sessions. A session is defined as a period of time a user is engaged in the website and the average session was 1 minute and 31 seconds.

MEMBERSHIP

ADOT, Apache Junction, Avondale, Buckeye, Casa Grande, Chandler, El Mirage, Fountain Hills, Gilbert, Glendale, Goodyear, Guadalupe, Luke Air Force Base, Maricopa County (Environmental Services and Flood Control District), Mesa, Paradise Valley, Peoria, Phoenix, Pinal County, Queen Creek, Scottsdale, Surprise, Tempe.

BUDGET

Table 1: Fiscal Year (FY) 2019 Financial Information

Total Revenue		Total Expenditures	
Beginning Balance FY20	\$39,300	Website, Facebook, ABC15	\$18213.75
Membership Dues Received	\$73,500	Educational Videos	\$
Less Dues Received in FY19	\$22,500	Promotional Items and Marketing	\$20039.09
		Administration and Accounting	\$1698.88
		Construction Seminars	\$
		NMSA Membership	\$1000
Total	\$90,300	Total	\$40,951.72

STATISTICS

Members meet bi-monthly on the fourth Tuesday at 1:30PM. These working meetings are the primary method of sharing relevant information about regulatory issues, identifying potential outreach events, updating committee



STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

efforts, and reporting. Members track outreach events online for inclusion in this annual report, which supports a regional front, stretches municipal dollars, and coordinates consistent messages in the Middle Gila River Watershed. Members are also able to individually capitalize their membership benefits by using STORM produced materials (social media posts, educational videos and materials, and promotional items) to perform outreach in their own communities and in interactions with partners in their communities (citizens, businesses, builders, manufacturers, etc.).

As all our lives and livelihoods have been impacted by the global pandemic, STORM was not spared by COVID-19. As an organization that counts on interactions between our members and the general public, especially in face-to-face contact, we experienced some challenges this past fiscal year that impacted our ability to reach the general public with our message of stormwater awareness. In previous years, members have leveraged our springtime annual increase in well-attended events to spread our message. Due to the unforeseen consequences of COVID-19, STORM members were only able to attend (2) two events (Town of Gilbert Outdoors Expo and the Odyssey Aquarium Conservation Expo). Between the (2) two events there was attendance measured at approximately 12,000 people. Additionally, plans to produce educational videos and marketing materials were put on hold until next fiscal year.

With the challenges of the global pandemic in mind, as stated in the summary and in the sections below, STORM was able to leverage the unique media situation to reach over 2 million more people through our ABC15 and social media campaigns. We were also able to save the money allotted for events, marketing materials, and educational videos and will maximize the impact of those dollars in the next fiscal year.

SOCIAL MEDIA CAMPAIGN

Social Media, specifically when partnering with ABC15, campaigns were very successful. STORM contracted with ABC15, which ran regular banner ads, Facebook ads, Facebook posts, and large banner ads resulting in more than 1,457,800 ad views and almost 27,313 clicks (engagement). View the attachments for specifics.

STORM members contributed time to post and interact with the public on the STORM social media pages. STORM posted 126 times with a reach of 21,545. It is worthwhile to note that when Facebook posts were boosted by ABC15, approximately 475,900 people were reached. Table 2 includes the top five posts, when they posted, how many reached and liked, and the topic.

Table 3. Top 5 Posts (click photo to link to each Facebook post)

Reach	Impressions	Engagement	Post
208,700	237,000	14,000	  Monsoon is almost he... May 18, 2020,  ABC15 Arizona

STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

163,000	238,300	6,900	
665	670	9	
645	964	36	
617	750	12	

WEBSITE (AZSTORM.ORG)

STORM members continue to utilize the website azstorm.org as a centralized information hub for documents, calendars, social media posts, public information, and links to individual municipal member’s websites. The intuitively designed website is constructed with header links to stormwater 101 including basics on stormwater management; resources including our handouts, educational videos, and regulations; events calendars; an about us section describing our organization and links to member websites; as well as a sidebar that shows our social media posts.

In the last calendar year, the website had 6,987 page views from 3,321 visitors. The average time spent on the site was 1 minute and 31 seconds.

ATTACHMENTS

MARKETING, WEBSITE, FACEBOOK, AND ABC15 HIGHLIGHTS

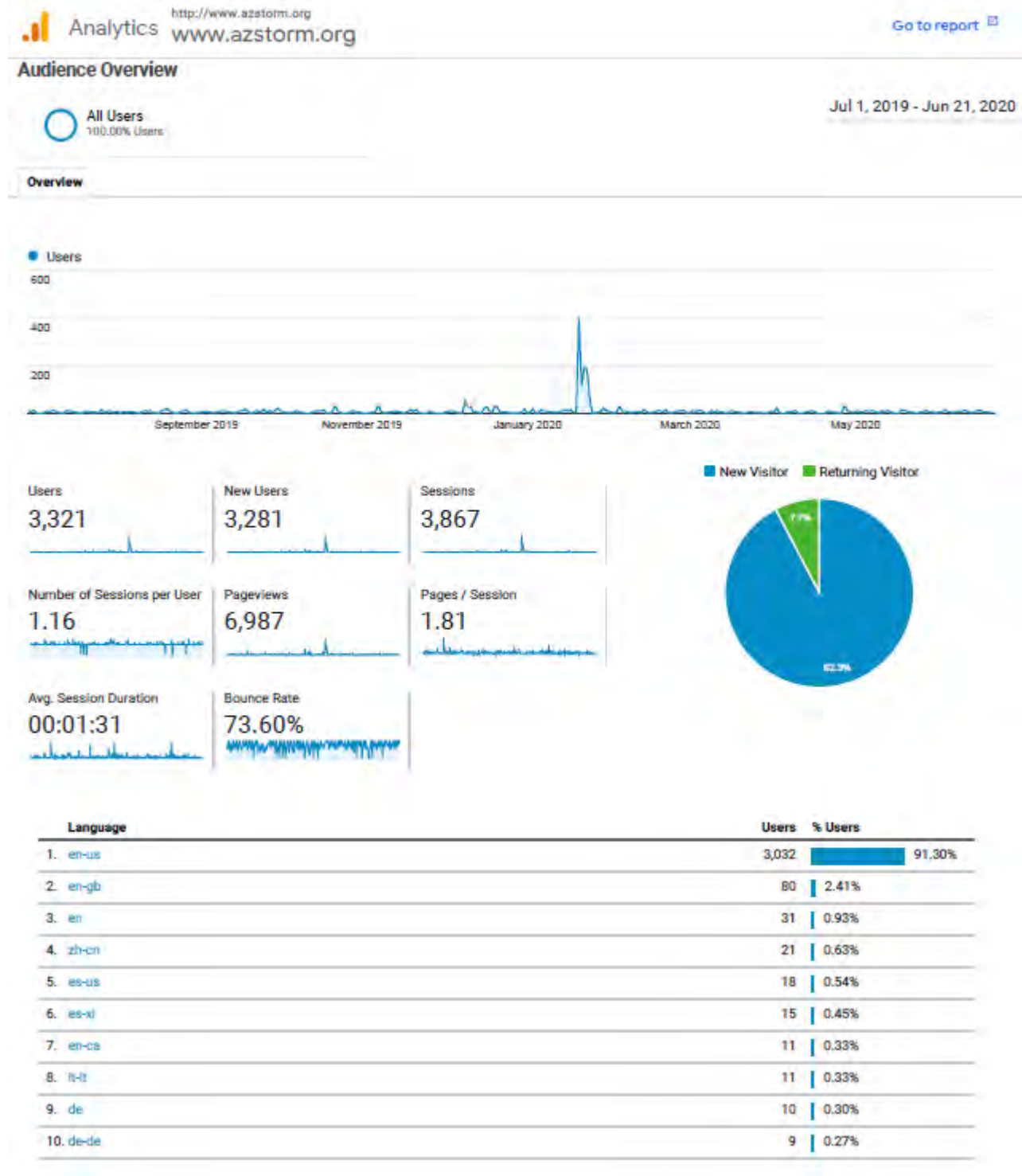
STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

Promotional Items (10,000 Each): Total Cost \$18,663

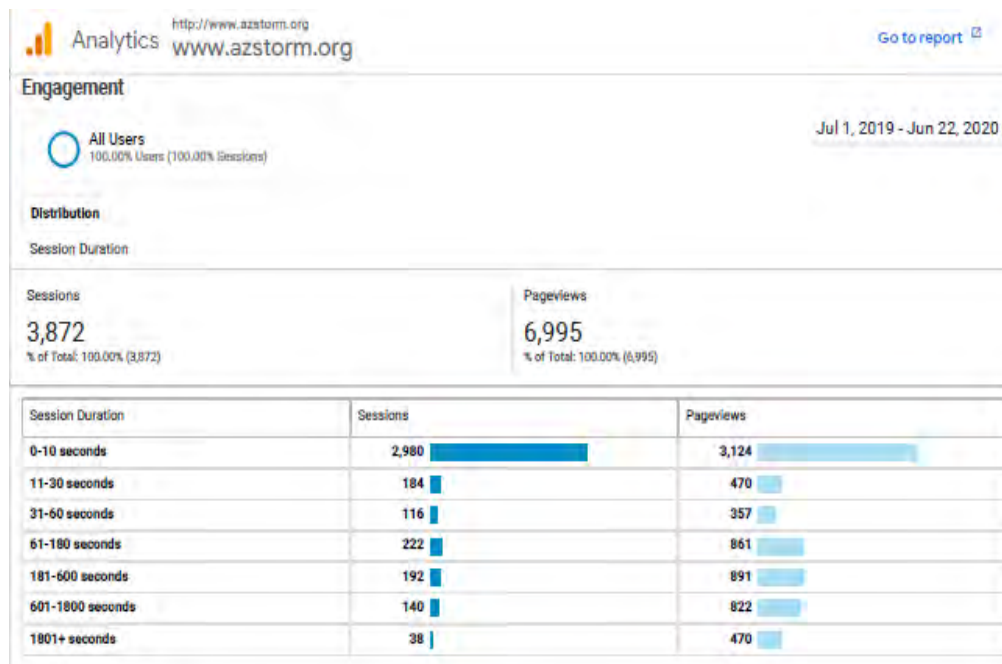
<i>Key Chain Ponchos</i>	<i>Reusable Straws</i>	<i>Stylus Pens</i>
		

STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

AZSTORM.ORG Website Analytics



STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)



STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

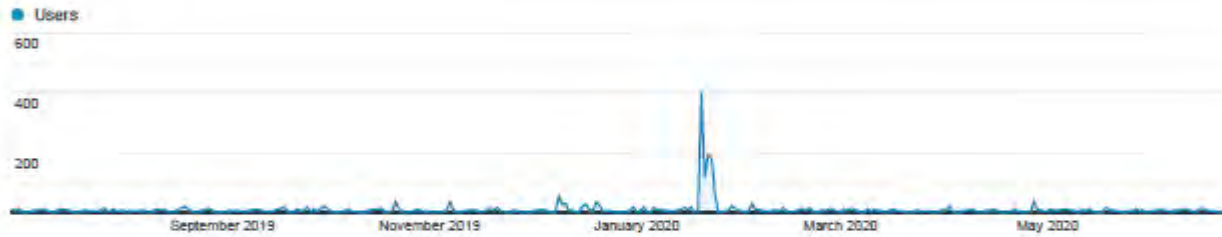
Overview

All Users
100.00% Users

Jul 1, 2019 - Jun 22, 2020

Explorer

Summary




Device Category	Acquisition			Behavior			Conversions		
	Users	New Users	Sessions	Bounce Rate	Pages / Session	Avg. Session Duration	Goal Conversion Rate	Goal Completions	Goal Value
	3,325 % of Total: 100.00% (3,325)	3,287 % of Total: 100.06% (3,285)	3,872 % of Total: 100.00% (3,872)	73.58% Avg for View: 73.58% (0.00%)	1.81 Avg for View: 1.81 (0.00%)	00:01:31 Avg for View: 00:01:31 (0.00%)	0.00% Avg for View: 0.00% (0.00%)	0 % of Total: 0.00% (0)	\$0.00 % of Total: 0.00% (\$0.00)
1. desktop	2,115 (63.61%)	2,081 (63.31%)	2,579 (66.61%)	69.25%	2.03	00:01:42	0.00%	0 (0.00%)	\$0.00 (0.00%)
2. mobile	1,124 (33.80%)	1,122 (34.13%)	1,199 (30.97%)	83.15%	1.34	00:01:03	0.00%	0 (0.00%)	\$0.00 (0.00%)
3. tablet	86 (2.59%)	84 (2.56%)	94 (2.43%)	70.21%	1.65	00:02:11	0.00%	0 (0.00%)	\$0.00 (0.00%)

STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

Example Facebook Posts

STORM **AZ Stormwater Outreach for Regional Municipalities**
Published by Christina Hoppes [?] · February 21 · 🌐

We ❤️ to see our neighbors being stormwater savvy!!
#BeStormwaterSmart too. When it it drips use a drip pan!



20,087 People Reached

264 Reactions, Comments & Shares 📈

224 Like	222 On Post	2 On Shares
8 Love	8 On Post	0 On Shares
6 Haha	6 On Post	0 On Shares
5 Wow	5 On Post	0 On Shares
5 Comments	5 On Post	0 On Shares
16 Shares	16 On Post	0 On Shares

91 Post Clicks

36 Photo Views	0 Link Clicks 📈	55 Other Clicks 📈
--------------------------	---------------------------	-----------------------------

NEGATIVE FEEDBACK

0 Hide Post **0** Hide All Posts

0 Report as Spam **0** Unlike Page

Insights activity is reported in the Pacific time zone. Ads activity is reported in the time zone of your ad account.

20,087
People Reached

355
Engagements

[Boost Again](#)

Boosted on Feb 21, 2020 Completed
By Christina Hoppes

People Reached	19.4K	Post Engagement	3.0K
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[View Results](#)

STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

STORM **AZ Stormwater Outreach for Regional Municipalities**
 Published by Scott Mendenhall [?] · June 16 at 4:57 PM · 🌐

With monsoon storms right around the corner, make sure no yard waste will be washed into the street or gutters.



Get More Likes, Comments and Shares
 When you boost this post, you'll show it to more people.

1,152 People Reached **49** Engagements [Boost Post](#)

👍👤 12 6 Shares

Performance for Your Post

1,152 People Reached

33 Reactions, Comments & Shares [?](#)

26 Like **12** On Post **14** On Shares

1 Love **0** On Post **1** On Shares

0 Comments **0** On Post **0** On Shares

6 Shares **6** On Post **0** On Shares

16 Post Clicks

5 Photo Views **0** Link Clicks [?](#) **11** Other Clicks [?](#)

NEGATIVE FEEDBACK

0 Hide Post **0** Hide All Posts

0 Report as Spam **0** Unlike Page

Reported stats may be delayed from what appears on posts

STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

STORM **AZ Stormwater Outreach for Regional Municipalities**
 Published by Scott Mendenhall [?] · March 3 · 🌐

It is estimated that one gallon of oil can pollute 1 million gallons of water. We all need to help keep oil out of the storm sewer systems.



👍 **Get More Likes, Comments and Shares**
 When you boost this post, you'll show it to more people.

762 People Reached **58** Engagements [Boost Post](#)

👍 9 7 Shares

👍 Like 💬 Comment ➦ Share ⋮

Performance for Your Post

762 People Reached

37 Reactions, Comments & Shares *📈*

19 Like	9 On Post	10 On Shares
----------------	------------------	---------------------

5 😲 Wow	0 On Post	5 On Shares
----------------	------------------	--------------------

2 😞 Sad	0 On Post	2 On Shares
----------------	------------------	--------------------

1 😡 Angry	0 On Post	1 On Shares
------------------	------------------	--------------------

3 Comments	0 On Post	3 On Shares
-------------------	------------------	--------------------

7 Shares	7 On Post	0 On Shares
-----------------	------------------	--------------------

21 Post Clicks

1 Photo Views	0 Link Clicks <i>📈</i>	20 Other Clicks <i>📈</i>
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NEGATIVE FEEDBACK

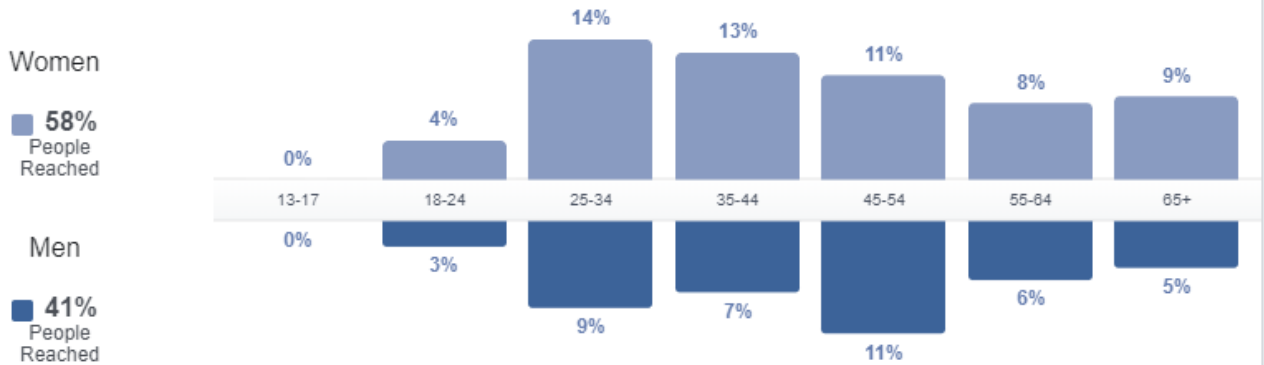
0 Hide Post	0 Hide All Posts
0 Report as Spam	0 Unlike Page

Reported stats may be delayed from what appears on posts

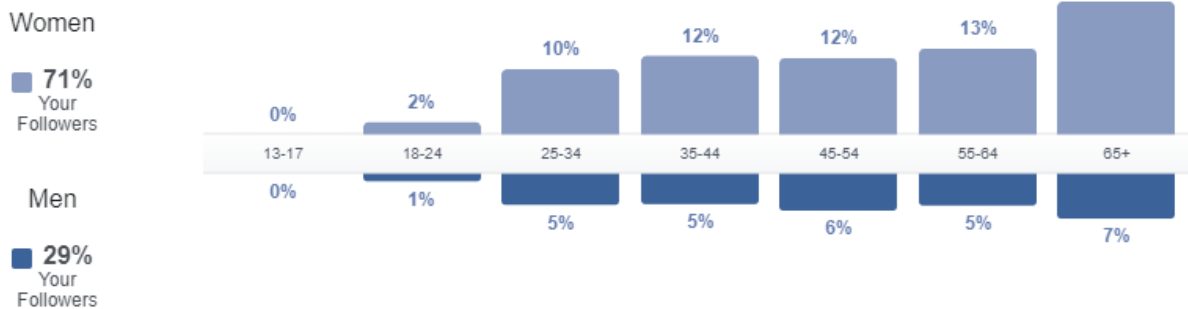
STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

Facebook Analytics

The number of people who had any content from your Page or about your Page enter their screen screen, grouped by age and gender. This number is an estimate.

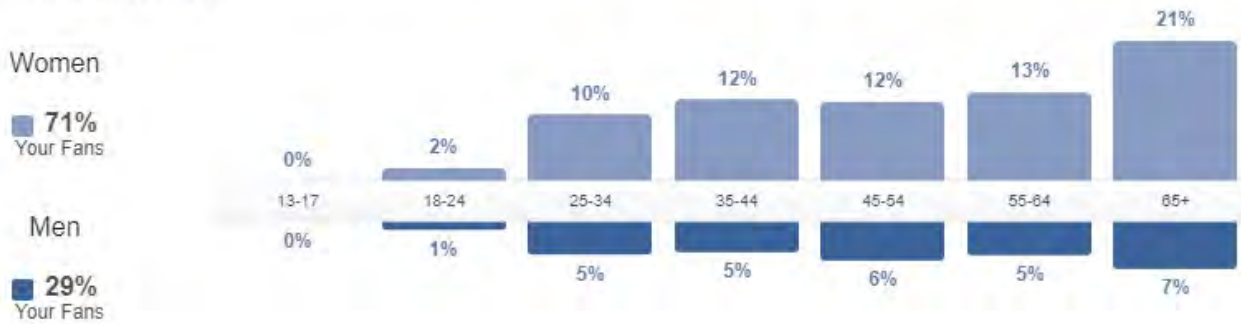


The people who follow your Page. This number is an estimate.

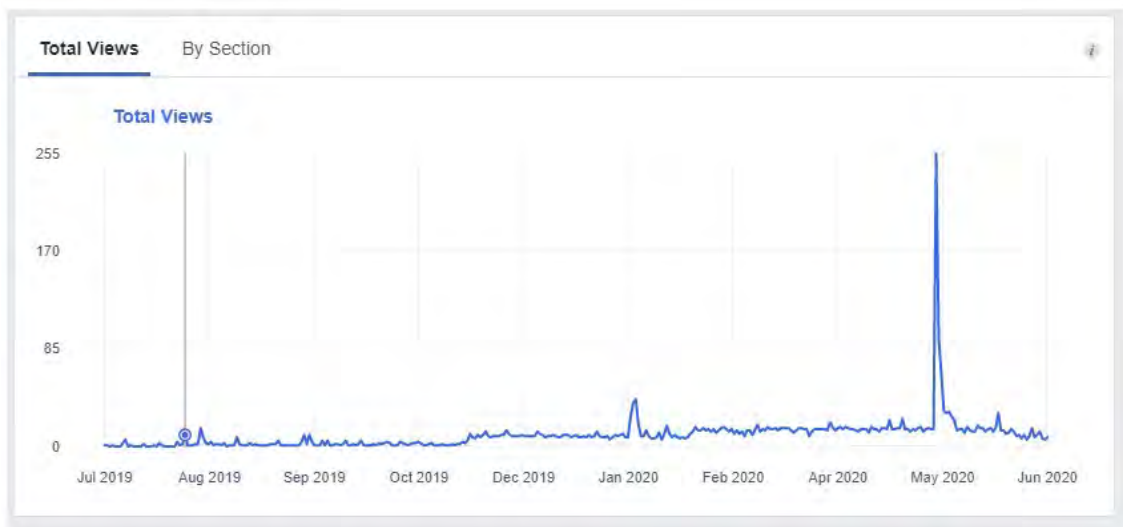


STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

The number of people who saw any of your posts at least once, grouped by age and gender. Aggregated demographic data is based on a number of factors, including age and gender information users provide in their Facebook profiles. This number is an estimate.



Country	Your Fans	City	Your Fans	Language	Your Fans
United States of America	1,717	Phoenix, AZ	509	English (US)	1,639
Mexico	5	Mesa, AZ	123	Spanish	63
Canada	4	Gilbert, AZ	42	English (UK)	25
Japan	2	Chandler, AZ	35	Spanish (Spain)	7
Philippines	2	Scottsdale, AZ	33	Portuguese (Brazil)	4
Nigeria	2	Casa Grande, AZ	32	French (France)	4
Puerto Rico	1	Bullhead City, AZ	31	German	2
Taiwan	1	Kingman, AZ	29	Arabic	1



STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

ABC15 Campaign

EMAIL

Delivered	123,236
Opens	17,343
Clicks	3,447



How much do you know about the Monsoon?

Take the Quiz and be entered to win a 2-night stay at The Arabella Sedona!

TAKE THE QUIZ

STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

People Reached: 208,651

The amount of people who saw the post appear in their Facebook feed.

Reactions, Comments, Shares: 4,910


A total of the Reactions (Like, Love, Haha, etc.), Comments on your post, and people who Shared your post.

Post Clicks: 9,065

The number of clicks anywhere on your post: This includes link clicks and clicks to view a photo.

Engagements: 13,975

The numbers of Reactions, Comments and Shares plus the number of Post Clicks.



ABC15 Arizona
Paid Partnership · 🌐

🌧️ Monsoon is almost here!

How much do you know about Arizona's storm season? Take this FUN quiz from AZ Stormwater Outreach for Regional Municipalities and you could win a 2-night stay at the The Arabella Sedona! FREE to play! #abc15sponsor — with AZ Stormwater Outreach for Regional Municipalities.



WOODOX.COM
AZ STORM: How much do you know about the monsoon?
REMEMBER: Only RAIN in the storm drain!

208,651 People Reached	13,975 Engagements	Boost Post
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STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

People Reached: 270,196

The amount of people who saw the post appear in their Facebook feed.

Reactions, Comments, Shares: 622

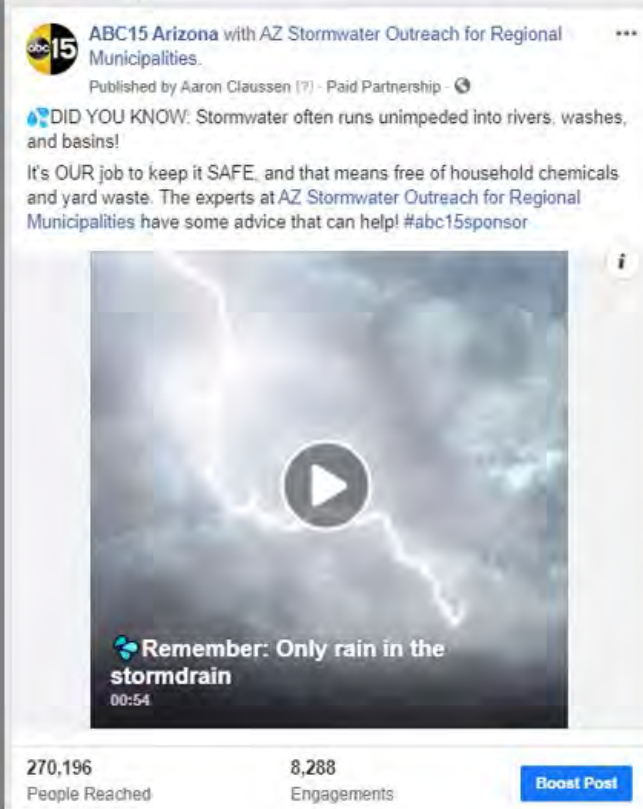
A total of the Reactions (Like, Love, Haha, etc.), Comments on your post, and people who Shared your post.

Post Clicks: 7,628

The number of clicks anywhere on your post: This includes link clicks and clicks to view a photo.

Engagements: 8,288

The numbers of Reactions, Comments and Shares plus the number of Post Clicks.



abc15 ABC15 Arizona with AZ Stormwater Outreach for Regional Municipalities. Published by Aaron Claussen (?) - Paid Partnership -

DID YOU KNOW: Stormwater often runs unimpeded into rivers, washes, and basins!

It's OUR job to keep it SAFE, and that means free of household chemicals and yard waste. The experts at AZ Stormwater Outreach for Regional Municipalities have some advice that can help! #abc15sponsor

Remember: Only rain in the stormdrain
00:54

270,196 People Reached 8,288 Engagements [Boost Post](#)

STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

High Impact Unit – 5/19

Impressions Total	295,062
Clicks	609
CTR	.20%



High Impact Unit – 5/28

Impressions Total	560,655
Clicks	964
CTR	.17%



STORM – Fiscal Year 2020 Annual Report (July 1, 2019 – June 30, 2020)

Quiz



Entries	3,703
What percentage of central Arizona's Rainfall happens during the monsoons months?	31% answered 50%
Stormwater is sent to a treatment plant before it discharges into the local waterways.	53% answered FALSE
Stormwater runoff from monsoon rain events flows untreated into:	84% answered Parks, canals, rivers/washes, and community lakes.
Litter and pollutants on roadways will be carried by monsoon storms into local waterways.	91% answered TRUE
What can I do at home to prevent monsoon storms from creating polluted stormwater runoff?	96% answered pick up after my pet, Store chemicals inside, and Keep my outdoor refuse/trash container closed
Monsoon storms are generally short lived and more intense than storms during other times of the year.	91% answered TRUE
Flooding in low lying areas and flash flooding in steep areas can occur during monsoon storms.	98% answered TRUE
Sometimes monsoon storms are just heavy winds and dust. What should you do with landscaping debris after a wind storm?	98% answered pick it up, to prevent added nutrients and causing clogs in the storm drain system.



City of Phoenix

PHX WATERSMART