Annual Report Format

National Pollutant Discharge Elimination System Stormwater Program

MS4 Annual Report Format

Check box if you are submitting an individual Annual Report with one or more cooperative program elements. ☒

Check box if you are submitting an individual Annual Report with individual program elements only. ☐

Check box if this is a new name, address, etc. ☐

1. MS4(s) Information

NMR04A014 City of Albuquerque
Name of MS4

Kathleen | Verhage | Senior Engineer
Name of Contact Person (First) (Last) (Title)

(505) 768-3654 | kverhage@cabq.gov
Telephone (including area code) E-mail

PO Box 1293, City of Albuquerque, Dept of Municipal Development, Attn: Kathy Verhage Rm 301
Mailing Address

Albuquerque | NM | 87103
City State ZIP code

What size population does your MS4(s) serve? 546,000 NPDES number

What is the reporting period for this report? (mm/dd/yyyy) From Jul 1, 2020 to Jun 30, 2021

2. Water Quality Priorities

A. Does your MS4(s) discharge to waters listed as impaired on a state 303(d) list? ☒ Yes ☐ No

B. If yes, identify each impaired water, the impairment, whether a TMDL has been approved by EPA for each, and whether the TMDL assigns a wasteload allocation to your MS4(s). Use a new line for each impairment, and attach additional pages as necessary.

Impaired Water	Impairment	Approved TMDL		TMDL assigns WLA to MS4	
Middle Rio Grande	E-coli	☒ Yes	☐ No	☒ Yes	☐ No
Middle Rio Grande	Temperature	☐ Yes	☒ No	☐ Yes	☐ No
Middle Rio Grande	Polychlorinated Biphenyls in Fi	☐ Yes	☒ No	☐ Yes	☐ No
Middle Rio Grande	Dissolved Oxygen	☐ Yes	☒ No	☐ Yes	☐ No

2. B. Continued

Impaired Water	Impairment	Approved TMDL	TMDL assigns WLA to MS4
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No

C. What specific sources contributing to the impairment(s) are you targeting in your stormwater program?

Pet waste, household hazardous waste, trash and debris (including natural vegetation), sediments, automotive fluids and detergents. A "floatables study" and microbial source testing have been performed. Birds are primary source of E-

D. Do you discharge to any high-quality waters (e.g., Tier 2, Tier 3, outstanding natural resource waters, or other state or federal designation)? ☐ Yes ☒ No

E. Are you implementing additional specific provisions to ensure their continued integrity? ☐ Yes ☒ No

3. Public Education and Public Participation

A. Is your public education program targeting specific pollutants and sources of those pollutants? ☒ Yes ☐ No

B. If yes, what are the specific sources and/or pollutants addressed by your public education program?

Our public education program targets pet waste, household hazardous waste, trash and debris (including natural vegetation), sediments, automotive fluids, detergents, fertilizers, pesticides

C. Note specific successful outcome(s) (e.g., quantified reduction in fertilizer use; NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

Survey showed that over 90% of individuals understood the importance of pollution prevention and valued improved stormwater quality. One household hazardous recycling event resulted in the participation of 194 residents. See

D. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your stormwater program? ☒ Yes ☐ No

4. Construction

A. Do you have an ordinance or other regulatory mechanism stipulating:

- Erosion and sediment control requirements? ☒ Yes ☐ No
- Other construction waste control requirements? ☒ Yes ☐ No
- Requirement to submit construction plans for review? ☒ Yes ☐ No
- MS4 enforcement authority? ☒ Yes ☐ No

B. Do you have written procedures for:

- Reviewing construction plans? ☒ Yes ☐ No
- Performing inspections? ☒ Yes ☐ No
- Responding to violations? ☒ Yes ☐ No

C. Identify the number of active construction sites ≥ 1 acre in operation in your jurisdiction at any time during the reporting period. 154

D. How many of the sites identified in 4.C did you inspect during this reporting period? 154

E. Describe, on average, the frequency with which your program conducts construction site inspections.

The primary inspector position for the private program was vacant for 7 months during the pandemic. During this time 10 inspections/month were performed. Once the inspector position was filled, 69 inspections/month were performed.

F. Do you prioritize certain construction sites for more frequent inspections? ☒ Yes ☐ No

If Yes, based on what criteria? Sites with violations are prioritized until compliance is achieved.

G. Identify which of the following types of enforcement actions you used during the reporting period for construction activities, indicate the number of actions, or note those for which you do not have authority:

☒ Yes	Notice of violation	49	No Authority	☐
☒ Yes	Administrative fines	19	No Authority	☐
☐ Yes	Stop Work Orders		No Authority	☒
☒ Yes	Civil penalties	0	No Authority	☐
☐ Yes	Criminal actions		No Authority	☒
☐ Yes	Administrative orders		No Authority	☒
☒ Yes	Other	Second notice of violation		

H. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results, and enforcement actions of active construction sites in your jurisdiction? ☒ Yes ☐ No

I. What are the 3 most common types of violations documented during this reporting period?

1. Sediment BMPs missing, require maintenance, or not installed (34) ; 2. Permit missing (23); 3. SWPPP not up to date and available on site (21)

J. How often do municipal employees receive training on the construction program? Annually

5. Illicit Discharge Elimination

A. Have you completed a map of all outfalls and receiving waters of your storm sewer system? ☒ Yes ☐ No

B. Have you completed a map of all storm drain pipes and other conveyances in the storm sewer system? ☒ Yes ☐ No

C. Identify the number of outfalls in your storm sewer system. 40 (see Item 10)

D. Do you have documented procedures, including frequency, for screening outfalls? ☒ Yes ☐ No

E. Of the outfalls identified in 5.C, how many were screened for dry weather discharges during this reporting period?

40

F. Of the outfalls identified in 5.C, how many have been screened for dry weather discharges at any time since you obtained MS4 permit coverage? see Item 10

G. What is your frequency for screening outfalls for illicit discharges? Describe any variation based on size/type.

Complaints regarding spills are investigated immediately (see item 10). The 40 Dry Weather Screening outfalls are screened annually during the Dry Season--typically sometime in November through March (see item 10 for more

H. Do you have an ordinance or other regulatory mechanism that effectively prohibits illicit discharges? ☒ Yes ☐ No

I. Do you have an ordinance or other regulatory mechanism that provides authority for you to take enforcement action and/or recover costs for addressing illicit discharges? ☒ Yes ☐ No

J. During this reporting period, how many illicit discharges/illegal connections have you discovered? see item 10

K. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? All Complai

L. How often do municipal employees receive training on the illicit discharge program? Annually (appropriate d

6. Stormwater Management for Municipal Operations

A. Have stormwater pollution prevention plans (or an equivalent plan) been developed for:

All public parks, ball fields, other recreational facilities and other open spaces	☐ Yes	☒ No
All municipal construction activities, including those disturbing less than 1 acre	☐ Yes	☒ No
All municipal turf grass/landscape management activities	☒ Yes	☐ No
All municipal vehicle fueling, operation and maintenance activities	☒ Yes	☐ No
All municipal maintenance yards	☒ Yes	☐ No
All municipal waste handling and disposal areas	☒ Yes	☐ No

Other: All COA golf courses have SWPPPs for their operations. General Parks and Open Spaces do not.

B. Are stormwater inspections conducted at these facilities? ☒ Yes ☐ No

C. If Yes, at what frequency are inspections conducted? It depends. See It

D. List activities for which operating procedures or management practices specific to stormwater management have been developed (e.g., road repairs, catch basin cleaning).

Construction activities, detention pond cleaning, storm inlet and drain cleaning, fueling operations, storage of hazardous and non-hazardous materials, general good housekeeping operations, landfill operations

E. Do you prioritize certain municipal activities and/or facilities for more frequent inspection? ☒ Yes ☐ No

F. If Yes, which activities and/or facilities receive most frequent inspections?

Most frequent inspections occur at facilities that require a Multi Sector General Permit (Solid Waste and Transit). Good Housekeeping inspections are performed at general maintenance facilities quarterly. Monthly if the facility has had

G. Do all municipal employees and contractors overseeing planning and implementation of stormwater-related activities receive comprehensive training on stormwater management? ☒ Yes ☐ No

H. If yes, do you also provide regular updates and refreshers? ☒ Yes ☐ No

I. If so, how frequently and/or under what circumstances?

Annual refreshers are provided. In addition, training materials have been provided to supervisors to be used when staff turns over and new employees are hired. On the spot training also occurs during inspections, as needed.

7. Long-term (Post-Construction) Stormwater Measures

A. Do you have an ordinance or other regulatory mechanism to require:

Site plan reviews for stormwater/water quality of all new and re-development projects?	☒ Yes	☐ No
Long-term operation and maintenance of stormwater management controls?	☐ Yes	☒ No
Retrofitting to incorporate long-term stormwater management controls?	☐ Yes	☒ No

B. If you have retrofit requirements, what are the circumstances/criteria?

None required at this time.

C What are your criteria for determining which new/re-development stormwater plans you will review (e.g., all projects, projects disturbing greater than one acre, etc.)?

Per COA ordinance the following projects are reviewed: 1. more than 500 cu yard earthwork or more than 1 ac disturbed; 2. Buildings 1000 sq ft or more; 3. Paving 10,000 sq ft or more; 4. any fill placed in a floodplain.

D. Do you require water quality or quantity design standards or performance standards, either directly or by reference to a state or other standard, be met for new development and re-development? ☒ Yes ☐ No

E. Do these performance or design standards require that pre-development hydrology be met for:

Flow volumes	☐ Yes	☒ No
Peak discharge rates	☐ Yes	☒ No
Discharge frequency	☐ Yes	☒ No
Flow duration	☐ Yes	☒ No

F. Please provide the URL/reference where all post-construction stormwater management standards can be found.

https://codelibrary.amlegal.com/codes/albuquerque/latest/overview

G. How many development and redevelopment project plans were reviewed during the reporting period to assess impacts to water quality and receiving stream protection? 801

H. How many of the plans identified in 7.G were approved? 699

I. How many privately owned permanent stormwater management practices/facilities were inspected during the reporting period? 140

J. How many of the practices/facilities identified in I were found to have inadequate maintenance? 1

K. How long do you give operators to remedy any operation and maintenance deficiencies identified during inspections? 30 days

L. Do you have authority to take enforcement action for failure to properly operate and maintain stormwater practices/facilities? ☒ Yes ☐ No

M. How many formal enforcement actions (i.e., more than a verbal or written warning) were taken for failure to adequately operate and/or maintain stormwater management practices? 0

N. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? ☒ Yes ☐ No

O. Do all municipal departments and/or staff (as relevant) have access to this tracking system? ☒ Yes ☐ No

P. How often do municipal employees receive training on the post-construction program? Planning - Month

8. Program Resources

A. What was the annual expenditure to implement MS4 permit requirements this reporting period? $8.1 Million

B. What is next year's budget for implementing the requirements of your MS4 NPDES permit? $6.5 Million

C. This year what is/are your source(s) of funding for the stormwater program, and annual revenue (amount or percentage) derived from each?

Source:	G.O. Bonds (NPDES, Water Quality Compliance)	Amount $	0.65 Mill	OR %
Source:	General Funds (Arroyo and Street Maintenance)	Amount $	3.3 Milli	OR %
Source:	Customer Billing (Household Hazardous Waste, G	Amount $	3.5 Milli	OR %

D. How many FTEs does your municipality devote to the stormwater program (specifically for implementing the stormwater program; not municipal employees with other primary responsibilities)? 20 see

E. Do you share program implementation responsibilities with any other entities? ☒ Yes ☐ No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
AMAFCA, SCAFC	Sampling and Monitoring Wet Weath	Memo of Understanding
AMAFCA, SCAFC	Education and Outreach	Memo of Understanding
AMAFCA, SCAFC	General Watershed Based Permit Impl	Memo of Understanding

9. Evaluating/Measuring Progress

A. What indicators do you use to evaluate the overall effectiveness of your stormwater management program, how long have you been tracking them, and at what frequency? These are not measurable goals for individual management practices or tasks, but large-scale or long-term metrics for the overall program, such as macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc.

Indicator	Began Tracking (year)	Frequency	Number of Locations
Example: E. coli	2003	Weekly April–September	20
311 Complaint System Responses to IDDE	2003	As reported; number varies pe	
Student and General Public Education a	2006	Reporting annually; events he	Varies
Dry Weather Screening	2003	Annually	40 locations
Good Housekeeping Inspections	2012	Quarterly to Monthly (if neede	37 locations
Post Construction Inspections by Storm	2019	Once every 5 years per Drainag	20 locations in

B. What environmental quality trends have you documented over the duration of your stormwater program? Reports or summaries can be attached electronically, or provide the URL to where they may be found on the Web.

https://www.cabq.gov/municipaldevelopment/our-department/engineering/storm-water-management/municipal-separate-storm-sewer-system-ms4-permit.

10. Additional Information

Please attach any additional information on the performance of your MS4 program, including information required in Parts I.C, I.D, and III.B. If providing clarification to any of the questions above, please provide the question number (e.g., 2C) in your response.

Certification Statement and Signature

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 the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

☒ Yes ☐ No

Federal regulations require this application to be signed as follows: **For a municipal, State, Federal, or other public facility**: by either a principal executive or ranking elected official.

Signature		Name of Certifying Official, Title	Date (mm/dd/yyyy)
	SARITA NAIR, CAO		10/19/21

CITY OF ALBUQUERQUE

Annual Report for Fiscal Year 2021 (FY21)

July 1, 2020 to June 30, 2021

NPDES PERMIT NMR04A000, Effective Date December 22, 2014

eNOI Application Date June 21, 2015

ITEM 10 Additional Information

I.C. Special Conditions

1. Compliance with Water Quality Standards

d. Dissolved Oxygen (DO): The Arroyo Metropolitan Flood Control Authority (AMAFCA) has installed aeration devices in areas prone to stagnation and monitors the DO in these areas. Results collected by the Compliance Monitoring Cooperative (CMC) in the Rio Grande during the permit term and in this period of administrative continuance indicate that stormwater runoff does not contribute to low DO conditions.

e. Polychlorinated Biphenyls (PCBs): The City of Albuquerque (COA) began a sediment assessment study in FY16 which was completed in FY17 with a final letter report submitted in FY18 on July 10, 2017. Under this study, soil samples were taken from the 5 outfall locations monitored under the former Phase 1 permit NMS000101 as well as from up and down stream locations along the Rio Grande. These samples were analyzed for PCBs using the Aroclor method. Detection of PCBs at any of these location resulted in further sampling and analysis of upstream areas. Twelve locations were ultimately screened for both PCBs and select metals in the Phase II Assessment based upon the results of the original study. The Synthetic Precipitation Leaching Procedure (SPLP) was used to analyze the following metals: aluminum, cadmium, chromium, lead, nickel, and zinc. No PCBs were found in any of the sediment samples at concentrations above the detection limits that ranged from 0.019 to 0.2 milligrams per kilogram (mg/kg) for the six aroclors analyzed. Both studies are available in the FY17 Annual Report under Attachment 1. The Phase II Assessment was also included in the FY18 Annual Report under Attachment 1. As discussed in the Progress Evaluation Report for the Sediment Pollutant Load Reduction Strategy, submitted last year in FY19 under Attachment 1, recent investigations did not identify any sources of PCBs in the Albuquerque metropolitan area that represent a continuing impact to the waters of the Rio Grande.

f. Temperature: AMAFCA continues to monitor temperature in the Rio Grande and at the North Diversion Channel through the deployment of sondes. Analysis of stormwater flows for temperature under the former Phase 1 permit indicates no contribution to temperature exceedances in the Middle Rio Grande and continues to indicate no contribution to any potential temperature exceedances. Results collected by the Compliance Monitoring Cooperative (CMC) during the permit term and in this period of

administrative continuance indicate that stormwater runoff does not contribute to low temperature conditions.

2. Discharges to Impaired Waters with and without approved TMDLs

b(i)(c)B: The Monitoring Cooperative successfully implemented the sampling plan approved in the summer of 2016 and over the course of the permit term, submitted the results of 7 storm events collected from 2 locations in the Rio Grande at the northern or upstream (Angostura Diversion Dam) and at the southern or downstream (Isleta Diversion Dam) boundaries of the watershed as required by the Watershed Based Permit (WBP). Samples from 4 events during the wet season and 3 events during the dry season were collected meeting the WBP sampling criteria of 7 samples with 3 events from the wet season and 2 events from the dry season. Results from the WBP required sampling events were provided in the FY17, FY18, and FY19 Annual reports as well as submitted electronically into EPA's NetDMR system.

The WBP expired on December 19, 2019 and has been administratively continued. A letter submitted to the EPA by the Middle Rio Grande Technical Advisory Group discusses its members' intent to continue operations under coverage of the administratively extended permit (see Attachment 1 of the FY20 Annual Report). Although no additional monitoring is required during the period of administrative continuance, agencies participating in the Monitoring Cooperative have continued to fund sampling efforts. However, because of a combination of drought conditions and timing of storm events such that a bacterial sample could not be collected and meet hold times, no samples were collected and analyzed during FY20. Two samples, one each during the wet season and the dry season were collected in FY21. The results are provided in 2 memos included as Attachment 1, Wet Weather Monitoring Results, in this report. Results indicate that E-coli was exceeded in both seasons in the southern most segment only.

The COA continues its work to reduce e-coli loads through the pet waste education and outreach program. Dog waste had been estimated to contribute about 22% of the fecal coliform bacteria to the Middle Rio Grande watershed in a microbial source tracking (MST) study completed in 2004. A new MST that uses quantitative polymerase chain reaction (qPCR) analysis and fecal indicator bacteria (FIB) by E. coli enumeration was scoped and commissioned by the COA in FY17 at an estimated cost of $250,000. The Quality Assurance Program Plan (QAPP) and sampling and analysis plan (SAP) were prepared in FY17 and sample collection and analysis were completed in FY19. The results of this study indicated the presence of moderate canine markers in channels, drains, and arroyos in the northeast and northwest parts of the watershed. Weak human markers were also indicated near some of the bridges as well as downstream of the sanitary reclamation facility. Continued examination of these sources are underway. A copy of the finalized report was provided as Attachment 2 Completion Report for Microbial Source Tracking Program in the FY20 Annual Report.

Finally, the Middle Rio Grande Storm Water Quality Team (MRGSWQT), of which the COA is a member, funded additional years of dry weather E.coli data collection by college students as part of the Bosque Ecosystem Monitoring Program (BEMP) to better understand the baseline concentration of E.coli prior to storm events. The MRGSWQT

also funded a master student's thesis that studied the variability of E.coli concentrations in a water column compared to the juxtaposed sediment. The results of this study, completed in FY19, indicate that E.coli are harbored in riverbed sediments, and that trends in sediment concentrations and corresponding loadings of E.coli in river water are irregular. The net direction of E.coli transfer (river water to sediment or sediment to water) is unknown.

b(i)(e)A,C,D,E: The COA continues to work with the Albuquerque Bernalillo County Water Utility Authority (WUA) to make improvements to its pump and lift stations. The WUA provides the COA and AMAFCA with copies of Discharge Monitoring Reports (DMRs) each month that report sanitary overflows, should any have occurred, and corresponding disinfection and clean-up efforts. No illegal cross connections were reported during FY21.

b(i)(e)C: The Environmental Health Department continues to work with restaurants to reduce waste sources of bacteria from grease traps.

b(i)(e)D. The Storm Drainage Section continues to work with BioPark staff and perform quarterly Good Housekeeping inspections in an effort to ensure that bacteria from animal waste are not discharged to the MS4.

b(i)(e)E. The COA contributes funding to and participates as a founding member of the Storm Water Quality Team. The Team continues education and outreach efforts to educate residents on the effects of bacteria associated with improper pet waste disposal. The COA also works with both the Team and the WUA to educate the public with regards to proper oil and grease disposal and the potential for sanitary overflows due to clogged plumbing.

b(iii)(c): The COA continues to work with Bernalillo County (BernCo) and the NM Department of Transportation (NMDOT) on a joint sampling program in the Tijeras Arroyo. A total maximum daily load for nutrients was approved by the Water Quality Control Commission on September 12, 2017. As a result the COA has begun to develop Best Management Practices (BMPs) to minimize impacts, if any, due to potential contributions from the urbanized area that makes up about 1% of the watershed.

In addition, during the late spring of FY18, the COA began work on a joint funding agreement (JFA) with the Ciudad Soil Water and Conservation District for the preparation of a Watershed Based Plan (WBP) for the Upper Tijeras Arroyo. The JFA was signed in September 2018 and a request for proposals to prepare the WBP was issued in early 2019. The winning proposal was selected in February 2019 and was provided in the FY19 Annual Report under Attachment 5. A draft WBP was submitted to the New Mexico Environment Department Surface Water Quality Bureau for comment in July 2021 and is expected to be finalized by December 2021.

The COA Open Space Department created a Tijeras Arroyo Bio-Zone Resource Management Plan for a 3.7 mile stretch of the arroyo along Tijeras Creek in 2014 with a goal of conserving native vegetation and wildlife habitat and restoring vegetation and wildlife where feasible. The COA is actively working on purchasing property in the arroyo for this purpose.

3. Endangered Species Act (ESA) Requirements

a(i) AMAFCA has filled in the low-lying area between the discharge point of the North Diversion Channel (NDC) and the Rio Grande. This area was prone to stagnation and had the potential to develop low DO which could be flushed into the Rio Grande during storm events. AMAFCA continues to monitor this area for DO. The COA continues to install water quality features, such as trash racks and water quality manholes in efforts to collect and reduce trash and debris that contribute to the DO problem.

a(ii) AMAFCA has submitted a revised strategy for reduction of pollutants contributed by the embayment. As stated above, the embayment has been filled in. Annual Incident Take Reports are submitted by AMAFCA to the EPA and Fish and Wildlife Service (FWS).

b(i) See also item 1.e. The COA performed two Sediment Assessment Studies that included an analysis of PCBs and SPLP metals in soils. The first, finalized in October 2016 assessed sediments from 5 major outfall locations. The second, completed in July 2017, further examined potential upstream sources, if any. No PCBs were reported. Metals in general, with the exceptions of Aluminum (Al) and Zinc (Zn) were present at concentrations below detection limits. Detected Al concentrations ranged from 1.9 to 11 mg/L. Detected Zn concentrations ranged from 0.022 to 0.048 mg/L. The Phase II assessment was provided in the FY18 Annual Report under Attachment 1. The Phase I Assessment was included in the FY17 Annual Report under Attachment 1.

b(iv) A Progress Evaluation Report for the Sediment Pollutant Load Reduction Strategy was submitted in the FY19 Annual Report under Attachment 1. This report was prepared using the results of several previous studies submitted by the COA including data from the Sediment Assessments as well as the USGS Summary of Urban Stormwater Quality in Albuquerque, 2003-2012. Additional data, provided by Bernalillo County, Southern Sandoval County Arroyo Flood Control Authority (SSAFCA) and AMAFCA, was used to provide baseline sediment loading and relative potential for contamination by these sediments from urban activities for areas draining to the Rio Grande. The results of this study pinpointed areas of highest sediment discharge into the Rio Grande during the permit period, which included the North Diversion Channel and Tijeras Arroyo. Although many BMPs, such as ponds, trash racks, and other water quality structures are already in place to reduce pollutants and sediment loads to these drainages, additional projects to improve water quality will continue to be implemented.

I.D. Stormwater Management Program (SWMP)

A copy of the updated SWMP adapted for compliance under NMR04A000 was included with the first full Annual Report on December 1, 2016. A subsequent update was prepared and submitted in FY19, year 4 of the permit cycle, per requirements (page 7 of Part III, Section B). A copy of the SWMP is available on the COA's DMD MS4 webpage: http://www.cabq.gov/municipaldevelopment/documents/swmp-11-24-2019-submitted.pdf. Copies are also available on compact disks that can be mailed to regulators, stakeholders, and others upon request.

5b. Post-Construction Stormwater Management in New Development and Redevelopment

(i) and 7.E (Annual Report Format) The COA's Planning Hydrology Department reviews plans for new development and redevelopment projects that address storm water

runoff when one acre or more are disturbed. The allowable discharge is determined on a site by site basis and is determined by the COA's and AMAFCA's Drainage Management Plans that freely discharge in some locations and 0.1 cubic foot per second per acre (cfs/ac) in others based upon downstream capacity, not on historic flows.

(ii)(a) Eighteen structural stormwater quality features have been installed since the WBP effective date of December 22, 2014. A listing, map, and description of all of the COA's water quality features were included in Attachment 3 of the FY20 report. Four new features were installed in FY21. Of particular note is a joint water quality project between the COA and AMAFCA in the Lower Bear Canyon Tributary that was completed in December 2020. A series of water quality structure was installed to collect trash and debris before discharging into the NDC and ultimately into the Rio Grande. In addition to water quality benefits, the efficiency of the storm drainage system in the Bear Arroyo watershed is expected to increase as a result of improvements made to the channel. Information regarding this project can also be found on AMAFCA's webpage: https://amafca.org/projects/lower-bear-tributary-arroyo-regional-water-quality-facility/. A location map, photographs, and description of this feature and three additional features installed by the COA are included in Attachment 2, Stormwater Quality Features, of this report. Information regarding the COA's ponds, dams, and cattle guards, which also serve to capture trash, debris, and sediment is available upon request.

(ii)(b) An ordinance increasing the volume of capture of the 80th and 90th percentile storm events and supplying provisions for inspection of post construction stormwater controls and enforcement to ensure compliance was introduced to City Council on January 3, 2018, passed on September 17, 2018, and sent to the Mayor for signature on September 25, 2018. Click on the following link for an electronic copy of the ordinance https://codelibrary.amlegal.com/codes/albuquerque/latest/albuquerque_nm/0-0-0-19774#JD_Chapter14Article5Part2.

(ii)(c) Prior to private development construction, Planning Hydrology staff review and approve BMPs designed to capture the 80th and 90th percentile storm events. Planning Hydrology building construction and stormwater quality inspection staff then oversee compliance with federal and local permits during the Construction Phase. Once constructed and permitted, information regarding these features is provided to the Storm Drainage Section for follow up during the Post-Construction phase. Subsequently, Storm Drainage Section staff investigate complaints related to these features and perform inspections of them every 5 years to ensure proper maintenance. This year 140 inspections of newly constructed "first flush" water quality features were performed by Planning Hydrology personnel and 20 inspections of features installed 5 years ago were conducted by Storm Drainage inspectors. The 5-year Post Construction inspections are required by the COA's Drainage Ordinance discussed above in (ii)(b).

(vi) Approximately 249 acres of impervious area (IA) was added to the Albuquerque Metropolitan area in FY21. See Attachment 3, Impervious Area Added for a listing. Of this area, roughly 95% drains to first flush ponds and regional features which collect dirt, debris, and trash. Therefore, the directly connected impervious area (DCIA) added in FY21 was 249 acres minus 237 acres for a total of 12 acres. The methodology for estimating impervious area is based on land use codes and was sent to EPA in the 2013 Annual Report under the former Phase 1 permit NMS000101.

(vii) The COA's Master Drainage Plan provides a ranking of MS4-owned properties for flood control projects including retrofits. In addition to those identified in the Master Drainage Plan, the COA installs retrofits during construction activities on an as-needed basis or as funding becomes available.

5c. Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations

(i)(a) Storm Drainage Inspection staff work with COA facility maintenance personnel to ensure training regarding permit compliance requirements, site-specific best management practices, and spill response procedures is provided. This training is conducted annually and provided to site supervisors who in turn train their staff. In addition, inspections of maintenance facilities is performed quarterly at a minimum. Inspection staff conducted 144 Good Housekeeping inspections at COA facilities in FY21.

5d. Industrial and High Risk Runoff

(vi) In FY21, COA in-house inspectors performed no industrial and high-risk inspections of private facilities requiring a Multi Sector General Permit (MSGP) due to COVID-19 restrictions. Forty inspections of COA facilities that are permitted under the MSGP were inspected during this time. Quarterly inspections were performed at 7 of the facilities while the Cerro Colorado Landfill was inspected monthly.

5e. Illicit Discharges and Improper Disposal

(i)e, ii The COA implemented a 311 complaint system to report illicit discharges in the mid-2000s. See Attachment 4 for a map showing the locations of discharges and a listing of the types of discharges via this system in FY21. Individual reports, including more detailed descriptions, photos, and resolution are available upon request.

(iv)A,C The Storm Drainage Section of the Department of Municipal Development (DMD) coordinated with the Solid Waste Department (SWD) to host one Household Hazardous Waste (HHW) recycling event in FY21. 194 residents participated in the event, held on October 24, 2020, during which approximately 18,300 pounds (lbs) of materials were collected or 94 lbs/customer.

In addition, 13,166 participants disposed of almost 419,000 lbs of HHW throughout FY21 at the HHW collection center run by a contractor on behalf of the COA SWD. Of this amount, 365,600 lbs were recycled and diverted from the landfill. The material re-use center was closed in FY21 due to COVID-19 restrictions.

(vii) In addition to using the 311 complaint system to pinpoint illicit discharges, the COA implemented an Illicit Discharge Detection and Elimination (IDDE) inspection program in FY16 to mitigate the influence of discharges with lower risk but higher likelihood of occurrence. At the onset of the program, a local environmental consulting firm was hired to supply staff to perform these inspections. These inspection results were summarized in a report submitted in the FY19 Annual Report as Attachment 9. The COA hired an inspector supervisor and 3 inspectors as permanent employees in FY17 to assist in IDDE inspection and data tracking efforts. In late FY18, COA inspectors took over the IDDE inspection program. Seventy-nine IDDE complaints were investigated by COA engineers and inspectors in FY21. The COA will resume inspection of businesses that do not require a MSGP but have a high potential for illicit discharges once COVID-19 restrictions ease.

5f. Control of Floatables Discharges

(iii). Street Sweeping crews picked up almost 6500 cubic yards (4830 tons) of dirt and debris from 48,310 miles of COA Right of Way in FY21. Dirt comprises about 65% of the material picked up by street sweepers with debris making up the remaining 35%. Of the debris, roughly 70% is vegetation. The remaining waste is comprised of plastics (bottles, bags, containers/lids) at 15%, paper and cardboard at 10%, and metal at 5%.

In addition, the COA's Arroyo Maintenance Section cleaned 7720 cubic yards of dirt, trash, debris, and vegetation from the storm drain system during FY21.

5f. Control of Floatables Discharges

III.A. Monitoring and Assessment

1. Wet Weather Reporting: Permit requirements called for the submission of 7 samples by the end of the permit term. To cooperatively meet this requirement, the CMC submitted a sampling and analysis plan to EPA Region 6 for approval in June 2016. The CMC collected compliance samples through the rest of the permit term and in FY19 collected the one remaining sample required by the permit. The permit expired on December 19, 2019 and no further sample collection efforts are required. However, as a good faith effort, the COA and other CMC members have continued to fund sampling efforts during this period of administrative continuance. Because of drought and timing of rain events that violated hold time criteria for E.coli analysis, no wet weather samples were collected in FY20. As discussed on page 2 under "Discharges to Impaired Waters", two samples, one each during the wet season and the dry season, were collected in FY21. The results are provided in 2 memos included as Attachment 1 in this report. Results indicate that E-coli was exceeded in both seasons in the southern most segment only.

2. Dry Weather Reporting: Dry weather screening is performed at 40 locations (24 direct discharge points to the Rio Grande and an additional 16 locations to assess subwatersheds). See Attachment 5 for results.

3. Floatables Reporting: See item 5f above. In addition, an estimated 60 cubic yards of floatables were removed from the Barelas Pump Station in FY21, the COA's selected floatables monitoring location. AMAFCA provides the information on floatables monitoring in the NDC.

4a. Industrial and High Risk Reporting: The COA's landfill is located outside of the MS4 and drains to the Rio Puerco rather than the Rio Grande. Nonetheless, the landfill is permitted under the federal MSGP.

4.b COA's transfer stations, solid waste station at Pino Yards, transit stations, warehouse and streets facilities, all located within the MS4, are classed as sector P. Because of sporadic localized events that often occur during evening, weekends and other non-work hours, it is often difficult to obtain results. Quarterly visual inspections are completed and samples are taken when possible. Copies of inspections are available upon request. Per changes in the 2021 MSGP, which went into effect on March 1, 2021, monitoring for appropriate constituents will take place at all permitted facilities in FY22 and reported in the netDMR system.

ADDITIONAL INFORMATION TO SUPPLEMENT REPORT FORM

Item 3. Public Participation and Education

C. The COA Storm Drainage staff participated in and the Storm Drainage Section contributed $12,000 in dues to the MRGSWQT in FY21. Outreach activities performed by the 9 agencies that comprise the MRGSWQT are provided in the Outcomes Report found on their webpage at https://keeptheriogrand.org/.

Because of the COVID-19 outbreak, the open space clean-up events along the trails and Rio Grande were limited again this year. Outreach has occurred along the trails by staff encouraging visitors to keep the areas clean and free from trash. The COA's Open Space Division with Parks and Recreation recorded 1162 volunteers with 10,560 hours worked on such activities as trail watch, trail maintenance and tree and pole plantings (about 2000 willow whips and other shrubs) in the bosque.

Item 5. Illicit Discharges

C. There are 24 direct discharge points to the Rio Grande. Assessment of industrial and commercial development within subwatersheds of the Albuquerque Metropolitan area has led to the selection of 16 additional dry weather screening locations in channels and arroyos. In total, 40 locations are monitored per MS4 permit requirements for the COA's dry weather screening program. See Attachment 4, Dry Weather Screening for the results.

J. During the reporting period from July 1, 2020 through June 30, 2021, 79 improper discharge related complaints were reported to the 311 system and investigated by a City storm drainage engineer or inspector. See Attachment 5 for a map indicating location and type of discharge. No cross connections were detected during FY21.

Item 8. Program Resources

D. 20 full time employees that perform work related to the COA's MS4 include: 10 Arroyo/Storm Drainage Maintenance personnel, 8 Storm Drainage Design/NPDES personnel (consisting of a Section Manager, 3 engineers, 1 supervisor inspector, and 3 inspectors), and 1 Stormwater Quality Engineer and 1 Construction Inspector in the Planning Hydrology Department.

In addition to FTE's employed by the COA, the Storm Drainage Section budgets and spends approximately $200,000 per year on consultants hired solely to perform NPDES permit compliance tasks. This is the equivalent of 2 FTE's. The Clean City Solid Waste program also employs 70 FTEs and uses 80 contractor positions to collect and dispose of trash that would otherwise make its way into the COA's MS4. Additionally, 20 employees in Street Maintenance perform street sweeping in support of dirt and debris removal efforts.

Finally, Parks and Open Space personnel conduct restoration projects, host citizen clean up days, and perform education and outreach related to stormwater quality. Also, Parks design project managers continue to work on the installation of green stormwater infrastructure in our City parks, such as native plantings, permeable paving, and bioswales.

Attachment 1

Wet Weather Monitoring Results

Waste Load Allocation Results

Bohannan Huston

Engineering
Spatial Data
Advanced Technologies

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335
www.bhinc.com
voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

M E M O R A N D U M

DATE: August 20, 2021

TO: Jerry Lovato, PE, AMAFCA
Patrick Chavez, PE, AMAFCA

FROM: Sarah Ganley, PE, ENV SP

SUBJECT: **CMC Dry Season, Wet Weather Stormwater Monitoring Data Verification, Analysis Results Database, and Reporting Memo FY 2021 Dry Season (November 1, 2020 to June 30, 2021)**

Notification of In-Stream Water Quality Exceedances

For downstream notification purposes, the following parameters for in-stream samples taken in the Rio Grande at the Isleta Diversion Dam for the FY 2021 dry season had results that exceeded applicable water quality standards for E. coli and Polychlorinated Biphenyls (PCBs). Table 1 summarizes the samples with exceedances and the applicable water quality standard (WQS) that was exceeded. Additional details on the sampling results are provided in this memo.

Table 1: Parameters Detected Above Applicable Water Quality Standards CMC FY 2021 Dry Season Monitoring

Sampling Date Location	Parameters, Applicable Water Quality Standard (WQS), and Results Exceeding Applicable WQS	
	E. coli	**PCBs**
	WQS: 88 CFU/100 ml Pueblo of Isleta Primary Contact Ceremonial & Recreational	**WQS: 0.00017 ug/L** Pueblo of Isleta Human Health Criteria (based on fish consumption only)
4/29/2021 Rio Grande South Isleta Diversion Dam	1,573 CFU/100ml	0.000919 ug/L

Overview of Stormwater Monitoring Activity

Bohannan Huston, Inc. (BHI) has been tasked to perform water quality services for the Compliance Monitoring Cooperative (CMC) Stormwater Data Verification, Database, and Reporting for the Wet Weather Stormwater Quality Monitoring Program for Fiscal Year (FY) 2021 (July 1, 2020 to June 30, 2021). The scope of work for this task includes data verification of the stormwater laboratory analysis results, compiling the analysis results into a database, and calculating the E. coli loading to compare with the Waste Load Allocation (WLA) for the qualifying storm events. The stormwater compliance monitoring is being conducted separately by Daniel B. Stephens & Associates, Inc. (DBS&A) and is not a part of this task. This task is being conducted

to assist the CMC members with their comprehensive monitoring and assessment program for compliance under the 2014 Middle Rio Grande (MRG) Watershed Based Municipal Separate Storm Sewer System (MS4) Permit, NPDES Permit No. NMR04A000 ("WSB MS4 Permit").

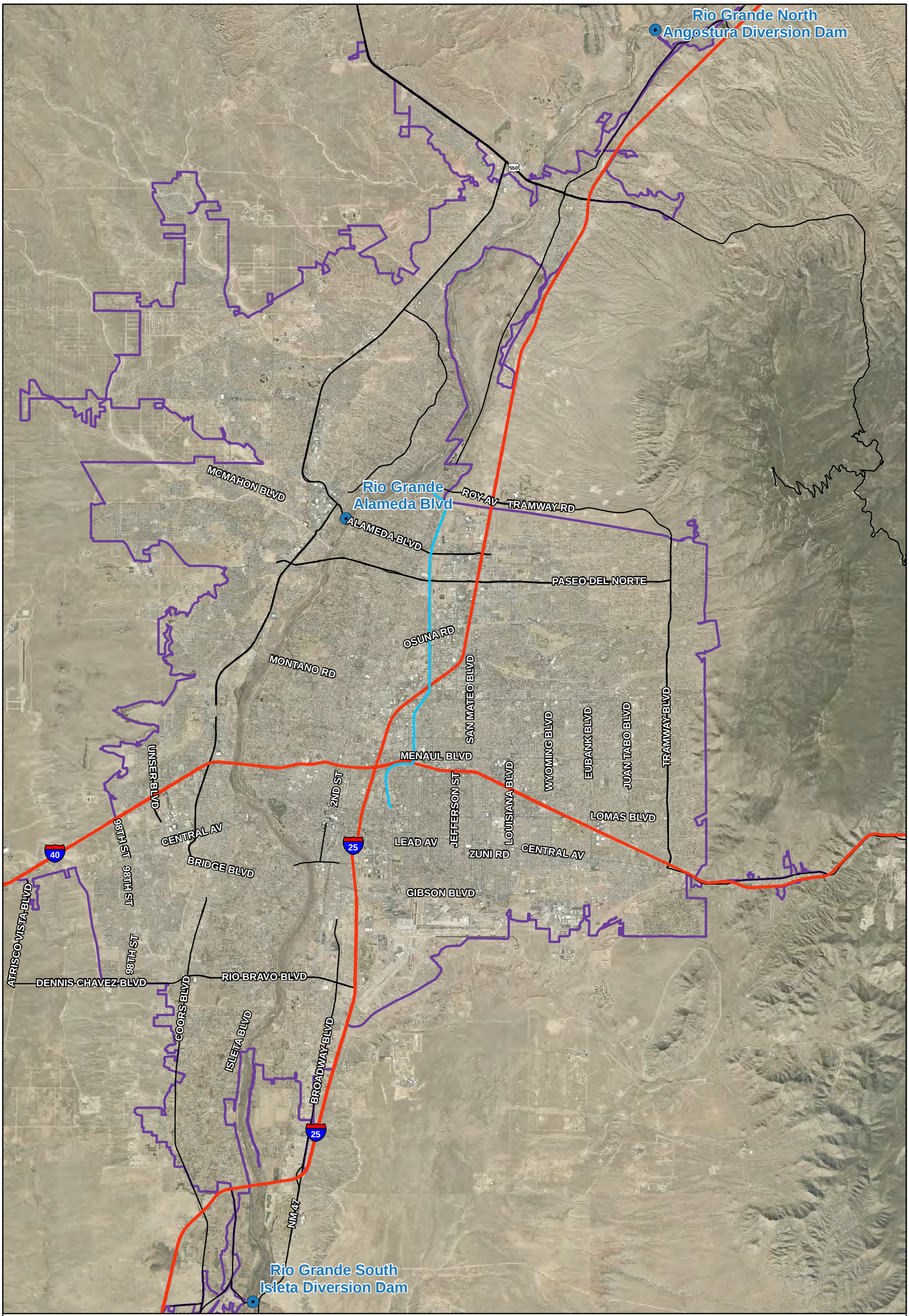
The WSB MS4 Permit entered Administrative Continuance in December 2019 when U.S. Environmental Protection Agency (EPA) Region 6 did not issue a new MS4 Permit before the current MS4 Permit's expiration date. The MRG Technical Advisory Group (TAG) sent EPA a letter dated October 15, 2019, acknowledging Administrative Continuance after the expiration date of the 5-year Permit term. Until a new MS4 Permit is issued, there are no compliance monitoring requirements for the CMC in the Rio Grande. As identified in the CMC Monitoring Plan, the WSB MS4 Permit required a minimum of seven (7) storm events be sampled at both the Rio Grande North and Rio Grande South locations (refer to Figure 1, page 3). All Permit required samples have been obtained by the CMC, as well as the two (2) samples obtained in FY 2021 during Administrative Continuance; all CMC samples are summarized in Table 2 below.

Table 2: CMC Sample Summary
Compared to WSB MS4 Permit Requirements

No. of Storm Events Required to Sample	CMC-WSB MS4 Permit Required Samples per Season	FY (Date) Samples Obtained for CMC
1	#1 Wet Season	FY 2017 (8/10/2016)
2	#2 Wet Season	FY 2017 (9/12/2016)
3	#3 Wet Season	FY 2017 (9/21/2016)
4	#1 Dry Season	FY 2017 (11/21/2016)
5	#2 Dry Season	FY 2019 (3/13/2019)
6	Any Season	FY 2018 (Wet Season - 7/27/2017)
7	Any Season	FY 2018 (Wet Season - 9/27/2017)
Not Required	Wet Season	FY 2021 (10/28/2020)
Not Required	Dry Season	FY 2021 (4/28/2021)

During WSB MS4 Permit Administrative Continuance, the CMC members chose to continue sampling within the Rio Grande to support their MS4 program needs and gather additional data in support of the future MS4 Permit compliance. This memo reports on the wet weather stormwater monitoring activity for the FY 2021 dry season (November 1, 2020 to June 30, 2021).

The CMC Excel database was updated with the FY 2021 dry season, wet weather monitoring data as results were received. The database contains sample location, sample date, analyses conducted, methods used, applicable surface water quality standards (WQS), WSB MS4 Permit required Minimum Qualification Levels (MQL) and results. Any unusable data will be identified.



AMAFCA

Bohannan Huston
www.bhinc.com 800.877.5332

Legend

- CMC Monitoring Locations
- North Diversion Channel
- Interstate Highway
- U.S. Highway
- State Highway
- Albuquerque Urbanized Area

N W E S

0 0.5 1 2

Miles

CMC Monitoring

Figure 1
Monitoring Locations

P:\20180302\WR\Reports\Preliminary & Draft\Figures\MXDs\Figure1-CMCMonitoringLocations.mxd
Author: eburn

Summary of the CMC Sampling Plan

Sampling Parameters:

Samples from both the Rio Grande North and Rio Grande South monitoring locations were analyzed for the parameters defined in the EPA approved WSB MS4 CMC Monitoring Plan, May 5, 2016. The parameter list for both locations, which is intended to characterize stormwater discharges into the river, is as follows:

Total Suspended Solids (TSS)
Total Dissolved Solids (TDS)
Chemical Oxygen Demand (COD)
Biological Oxygen Demand – 5-day (BOD_5)
Dissolved Oxygen (DO)
Oil & grease (N-Hexane Extractable Material)
E. coli
pH
Total Kjeldahl Nitrogen (TKN)
Nitrate plus Nitrite
Dissolved Phosphorus
Ammonia plus Organic Nitrogen (Nitrogen, Ammonia and Nitrogen, Total)
Phosphorous (Total Phosphorous)
Polychlorinated Biphenyls (PCBs - Method 1668A)
Gross Alpha, adjusted
Tetrahydrofuran
Benzo(a)pyrene
Benzo(b)fluoranthene (3, 4-Benzofluoranthene)
Benzo(k)fluoranthene
Chrysene
lndeno (1 ,2,3-cd) Pyrene
Dieldrin
Pentachlorophenol
Benzidine
Benzo(a)anthracene
Dibenzofuran
Dibenzo(a, h)anthracene
Chromium VI (Hexavalent)
Copper – Dissolved
Lead – Dissolved
Bis(2-ethylhexyl) phthalate
Conductivity
Temperature

Hardness (as CaCO3) is also tested to allow dissolved metal results to be compared to the applicable WQSs. DO, pH, conductivity, and temperature are required by the WSB MS4 Permit to be analyzed in the field during sample collection, which was conducted by DBS&A, within 15 minutes of sample collection. All E. coli samples were submitted to the laboratory within eight (8) hours of collection in order to meet the specified hold time.

Sampling Locations:

The sampling locations are shown in Figure 1, page 3.

Rio Grande North – In-stream sampling within the Rio Grande was performed upstream of the Angostura Diversion Dam at the north end of the watershed. The location is upstream of all inputs from the Urban Area (UA) to the river and provides the background water conditions.

Rio Grande South – In-stream sampling within the Rio Grande was performed at the Isleta Bridge at the south end of the watershed. The location is downstream of all inputs from the UA to the river and provides the downstream water conditions. These locations have been accepted by EPA and New Mexico Environment Department (NMED) to meet the WSB MS4 Permit requirements in Part III.A.

During this FY 2021 dry season, an E. coli only sampling point was added within the Rio Grande at Alameda Blvd. This is the location of the NMED defined stream segment divide. This sample point was added after discussion with NMED in February 2017 regarding potential refinements to E. coli loading calculations.

Sample Collection:

As mentioned previously, sample collection for the CMC is being conducted by DBS&A (through a separate on-call contract) as well as by CMC members. Since BHI was not involved, this task and memo do not address the details of the methodologies regarding sampling, determining if an event was a qualifying storm event, or determining the timing of the hydrograph at the Rio Grande Alameda and Rio Grande South locations.

DBS&A provided BHI with their field notes and field sample data (temperature, DO, specific conductivity, and pH) for the FY 2021 dry season sampling. AMAFCA provided BHI the completed laboratory analysis reports from Hall Environmental Analysis Laboratory (HEAL) for this monitoring season.

Quality Assurance Project Plan (QAPP):

AMAFCA provided BHI with the Draft Quality Assurance Project Plan (QAPP) for the CMC dated June 14, 2016. DBS&A followed this QAPP during sample collection. BHI used this QAPP and the included standard operating procedures (SOPs) for the data verification and validation.

Monitoring Activity & Lab Analysis Summary

The list below provides a summary of the CMC comprehensive monitoring program activities completed for the FY 2021 dry season from November 2020 through June 2021. One (1) qualifying storm event was sampled and analyzed during the FY 2021 dry season.

- **April 28, 2021 – Qualifying Storm Event – Full Analysis of Samples.** A sample was collected at the Rio Grande North location beginning at 11:40 a.m. on April 28 and sent to the laboratory for an E. coli test. The CMC determined that the storm event beginning April 28 was a qualifying storm event. A sample in the Rio Grande at Alameda Blvd. was obtained at 1:40 p.m. on April 28 and at 6:45 a.m. on April 29, and each sample was sent to the laboratory for an E. coli test. A Rio Grande South sample was collected beginning at 7:45 a.m. on April 29; the samples from the North (from April 28) and South locations were taken to HEAL for full parameter testing.

Stormwater Quality Database for CMC

As stated previously, there was one (1) qualifying storm event during the FY 2021 dry season, wet weather monitoring sampled by the CMC, which occurred April 28, 2021. DBS&A's field notes containing DO, pH, conductivity, and temperature measurements, as well as sampling comments have been received, and field results have been added to the database. Additionally, the HEAL reports for the corresponding time period have been received, added to the database, and are provided with this memo (Attachment 1). The laboratory reports attached to this memo have BHI added comments, including the field parameter measurements and other relevant notes related to the laboratory report.

Database Data Entry:

The CMC Excel database was updated with the FY 2021 dry season, wet weather monitoring data. The database contains sample locations, sample date, analyses conducted, methods used, applicable surface water quality standards (WQS), WSB MS4 Permit required Minimum Quantification Levels (MQL), and analysis results. The database was updated under this Task to include the Rio Grande at Alameda sample location. Applicable surface WQS found in New Mexico Administrative Code (NMAC) 20.6.4, as well as the Pueblo of Isleta WQS, are entered in the Excel database for comparison purposes with testing results. There is an indicator in the database to show if the monitoring results exceed the applicable surface WQS. An exceedance is not a violation of the WSB MS4 Permit, as the Permit does not have numeric discharge limitations. These ">WQ Standard" flags simply and quickly show the CMC members where the results of the lab data exceed the applicable WQS.

Water quality data was entered into the database upon receipt of the lab reports. All data entered into the database is initially denoted with a "P" to indicate that it is provisional and has not been through the verification and validation process yet. Full parameter analyses of qualifying storm events for both Rio Grande North and Rio Grande South locations were entered respectively into the database. In addition, the E. coli only samples from the Rio Grande Alameda location were also entered into the database.

Data Verification and Validation:

The HEAL analysis reports were provided to BHI by AMAFCA. The lab reports also contain the Chain of Custody for the submitted samples. Field data was requested by and provided to BHI by DBS&A. Data verification and validation (V&V) was conducted by BHI on all field notes, lab reports, and Chain of Custody documents in accordance with the CMC Water Quality Standard Operating Procedure (SOP) #2, which is part of the existing CMC QAPP, Draft June 14, 2016. These procedures are based on *EPA Guidance for Environmental Data Verification and Validation* (EPA, 2008).

As stated in the QAPP, the V&V process was completed by someone other than the one who entered the data into the database. The V&V process included use of the *Data Verification and Validation Worksheet* (provided in the QAPP). For this task, field data was verified first, confirming all field notes were complete. BHI handled field parameter questions directly with DBS&A. Chemical data verification began as soon as the lab reports were received, checking that all parameters were tested and looking for any obvious exceedances of WQS. Other steps listed on the *Data Verification and Validation Worksheet* were completed after all data from the laboratory was received and entered into the database. Sample blank results were reviewed to identify potential contamination during field processing or transport. Replica/duplicate samples were evaluated based on relative percent difference (as described in more detail in the QAPP) to determine the variability of the samples.

All CMC FY 2021 dry season data met the appropriate QA/QC requirements. If there were any data that did not meet the appropriate QA/QC requirements, it would have been assigned an appropriate laboratory qualifier or validation codes. A summary of validation codes is provided in the QAPP.

Once the V&V process was completed, the worksheets were signed. Copies of the V&V worksheets are provided with this memo (Attachment 2). In the database, data that was checked during the V&V process was then changed from being denoted with a “P” for provisional to a “V” for verified, and laboratory qualifiers were added, as needed.

CMC FY 2021 Dry Season Assessment and Evaluation of Monitoring Results

The EPA approved WSB MS4 CMC Monitoring Plan, May 5, 2016, has 33 parameters to monitor at the Rio Grande North and Rio Grande South monitoring locations. Of these 33 parameters, 15 parameters were not detected in the FY 2021 dry season samples at either the Rio Grande North or South locations. Refer to Table 3 for a list of the parameters that were not detected.

Table 3: Parameters Not Detected
CMC FY 2021 Dry Season Monitoring

Parameters Not Detected	
Oil and Grease (N-Hexane Extractable Material)	Pentachlorophenol
Ammonia	Benzidine
Tetrahydrofuran	Benzo(a)anthracene
Benzo(a)pyrene	Dibenzofuran
Benzo(b)fluoranthene (3, 4-Benzofluoranthene)	Dibenzo(a,h)anthracene
Benzo(k)fluoranthene	Chromium VI (Hexavalent)
Chrysene	Dissolved Lead
Indeno (1,2,3-cd) Pyrene	Bis(2-ethyhexyl) phthalate (other names: Di(2-ethylhexyl) phthalate, DEHP)
Dieldrin	

For the remaining 18 parameters on the CMC monitoring parameter list, only two (2) parameters (E. coli and PCBs) had exceedances of the applicable surface WQS found in New Mexico Administrative Code (NMAC) 20.6.4 and the Pueblo of Isleta WQS during the FY 2021 dry season. These exceedances are summarized on Table 1, page 1, and discussed below in further detail.

E. coli:

The E. coli results collected during the FY 2021 dry season are summarized in Table 4.

Table 4: E. coli Results
CMC FY 2021 Dry Season Monitoring

Date – Rio Grande Location	E. coli Results (CFU/100 ml)
April 28, 2021 – North	8.5
April 28, 2021 – Alameda	72.8
April 29, 2021 – Alameda	31
April 29, 2021 – South	1,573

At the Rio Grande North location (upstream of the Albuquerque UA, at the Angostura Diversion Dam), one (1) sample was collected and tested for E. coli and the lab result was well below the primary contact-single sample Pueblo of Isleta and Pueblo of Sandia WQS (88 CFU/100 mL) and the primary contact-single sample NMAC WQS (410 CFU/100 ml). At the Rio Grande South location (downstream of the MS4 UA), one (1) sample was collected and tested for E. coli and this sample had a result that exceeded the Pueblo of Isleta and Pueblo of Sandia WQS (88 CFU/100 mL) and also exceeded the primary contact-single sample NMAC WQS (410 CFU/100 ml).

In addition, the CMC added an E. coli sample point in the Rio Grande at Alameda. This added analysis point was based on discussions with NMED in February 2017 on collecting actual data at the stream segment divide verses using an area percentage (as defined in the TMDL) for E. coli loading calculations. For the FY 2021 dry season storm event, two (2) samples were collected at the Alameda location and both lab results were below the primary contact-single sample Pueblo of Isleta and Pueblo of Sandia WQS (88 CFU/100 mL).

Monthly geometric mean values were not calculated and compared to applicable WQS because the CMC had only one (1) to two (2) samples per location. As a reminder, in January 2017 the CMC members clarified with NMED that the units MPN/100 mL and CFU/100 mL are considered to be interchangeable for the purposes of this stormwater quality monitoring reporting. The New Mexico and Pueblo WQS for E. coli are currently in units of CFU/100 mL while the lab reports are typically in units of MPN/100mL. The graph presented in this section uses units of CFU/100 mL to be consistent with the WQS units. Refer to Figure 2 for a graphical representation of E. coli results from April 2021.

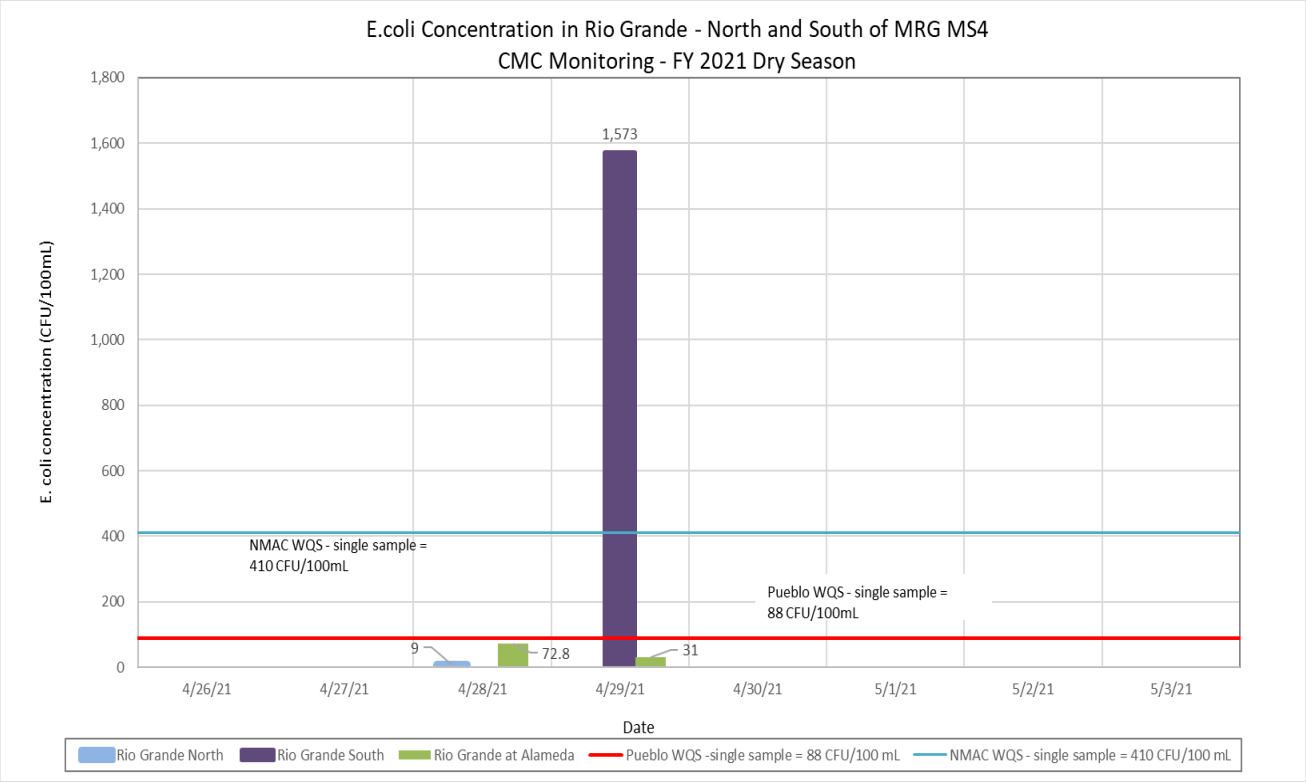


Figure 2: E. coli Results in Rio Grande
CMC Monitoring – FY 2021 Dry Season

PCBs:

There are multiple surface WQS values listed for PCBs in both the Pueblo of Isleta and the State of New Mexico standards for the various designated uses. The PCBs measured in samples collected from the Rio Grande during the FY 2021 dry season stormwater event were all below the minimum quantification level (MQL) established in EPA standards for the MS4 NPDES Permit (Appendix F, 0.2 ug/L for PCBs). The PCB results were also well below the New Mexico Surface WQS and Pueblo of Isleta Surface WQS for designated uses including drinking water (0.5 ug/L) and wildlife habitat, acute aquatic life, and chronic aquatic life (0.014 ug/L). However, the CMC sample from the Rio Grande South location was above the Pueblo of Isleta human health criteria (based on fish consumption only) WQS for surface waters. The human health-organism only criterion is based upon human consumption of fish and other aquatic life that bioaccumulate contaminants over time. The PCB results from 2016 through 2021 are shown in Figure 3 relative to several of the WQSs for PCBs.

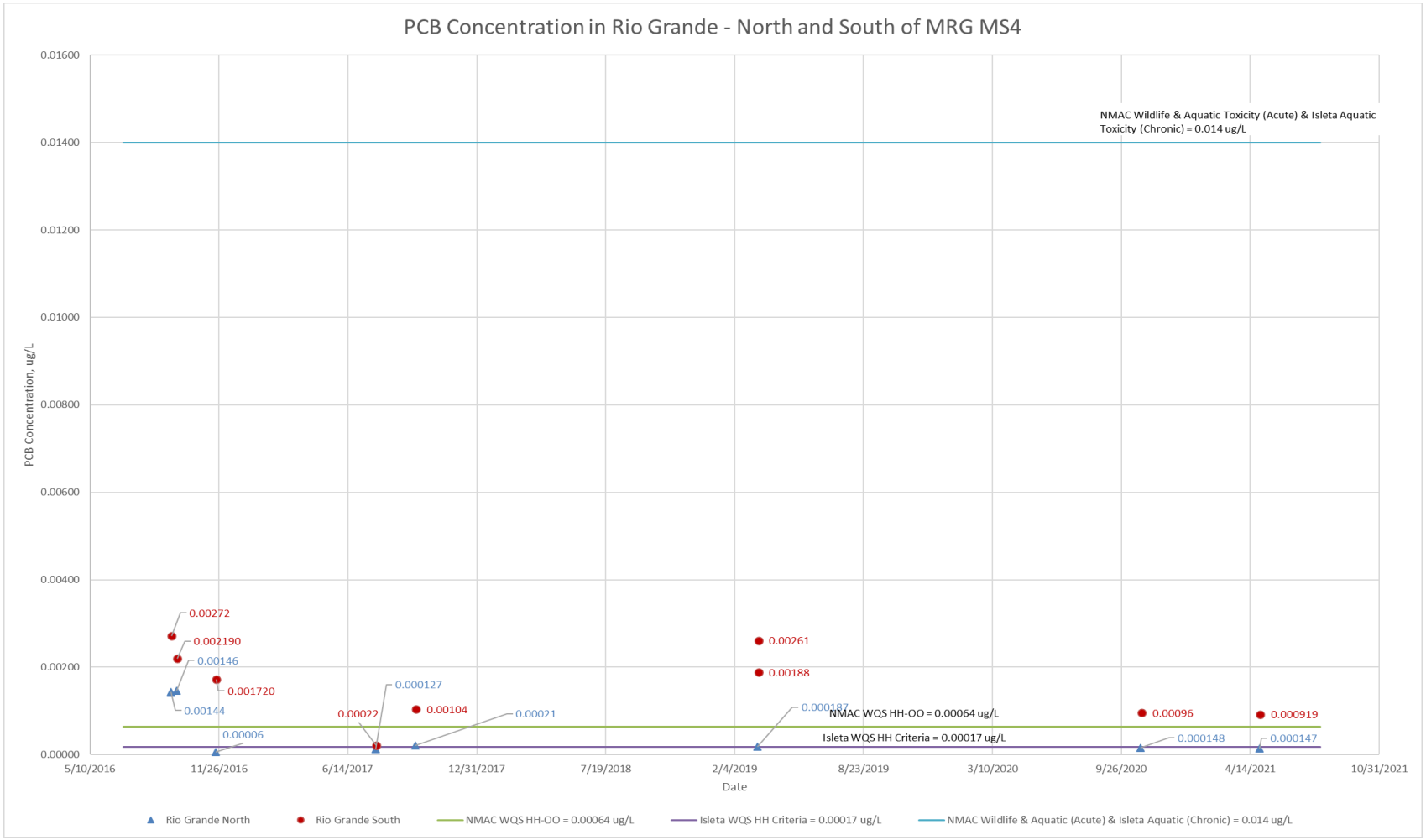


Figure 3: PCB Monitoring Results in Rio Grande
CMC Monitoring – 2016 - 2021

Dissolved Oxygen and Temperature:

Two (2) of the water quality parameters are specifically worth mentioning in this memo because they are listed in the WSB MS4 Permit, Part I.C.1 – Special Conditions: dissolved oxygen and temperature. These parameters did not have any surface water quality exceedances during the FY 2021 dry season sampling.

Dissolved oxygen is a water quality concern in the Rio Grande if it is below 5 mg/L. None of the samples taken from the Rio Grande during the FY 2021 dry season monitoring had dissolved oxygen values below 5 mg/L. This provides the MS4s with specific monitoring data showing that stormwater did not cause or contribute to exceedances of applicable dissolved oxygen water quality standards in the Rio Grande from any of the CMC samples from 2016 to 2021. Refer to Figure 4 for CMC dissolved oxygen results and comparison to applicable WQS.

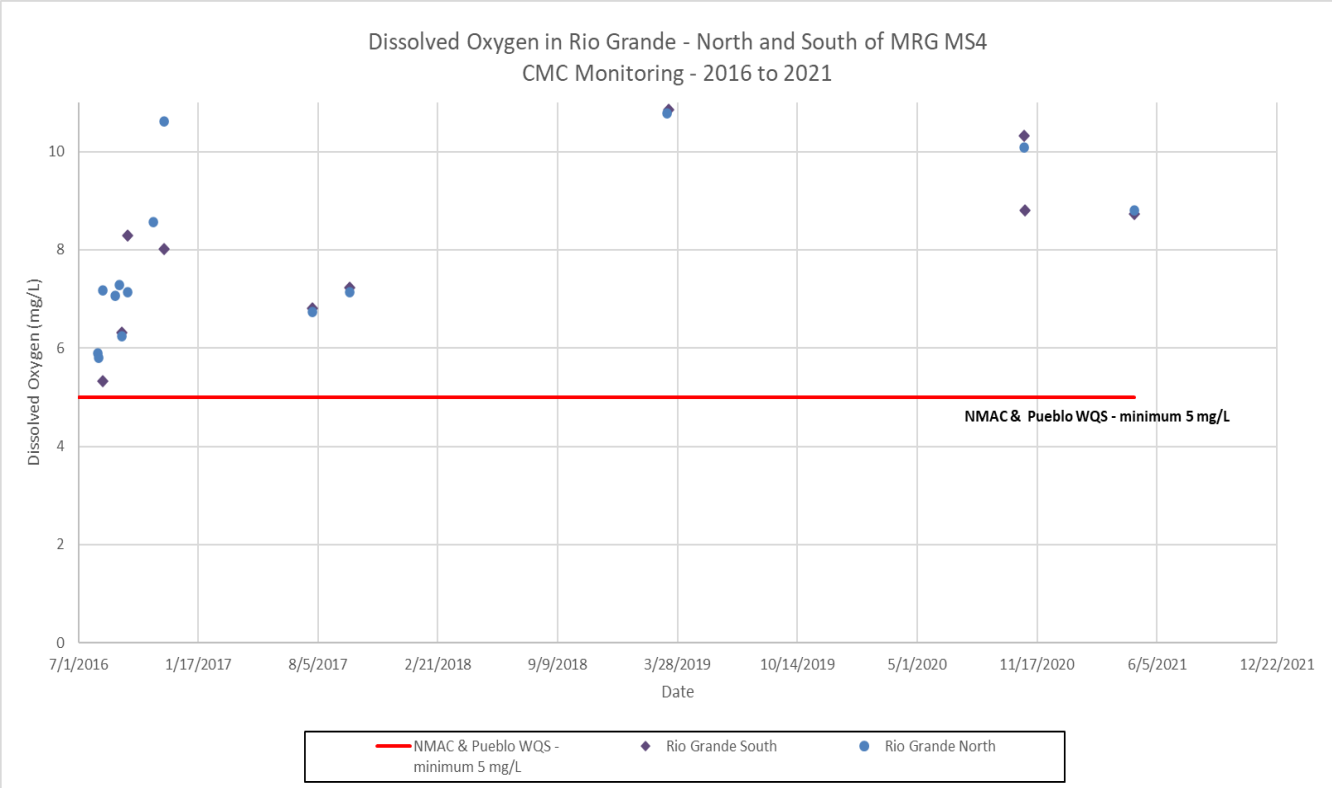


Figure 4: Dissolved Oxygen Results in Rio Grande
CMC Monitoring – 2016 - 2021

Temperature is listed in the WSB MS4 Permit as a special condition (currently only applicable to the City of Albuquerque and AMAFCA). Past data submitted to EPA and NMED by the MS4 permittees have proven that stormwater discharges into the Rio Grande are not raising the Rio Grande temperature above the WQS. The data collected during this FY 2021 dry season monitoring also supports this conclusion. All the temperature field readings taken in the Rio Grande during the CMC FY 2021 dry season were below 32.2°C (90°F) - the WQS for the State of

New Mexico and for the Isleta and Sandia Pueblos. Refer to Figure 5 for temperature results and comparison to applicable WQS for all CMC samples taken upstream and downstream of the MRG MS4 area from 2016 to 2021.

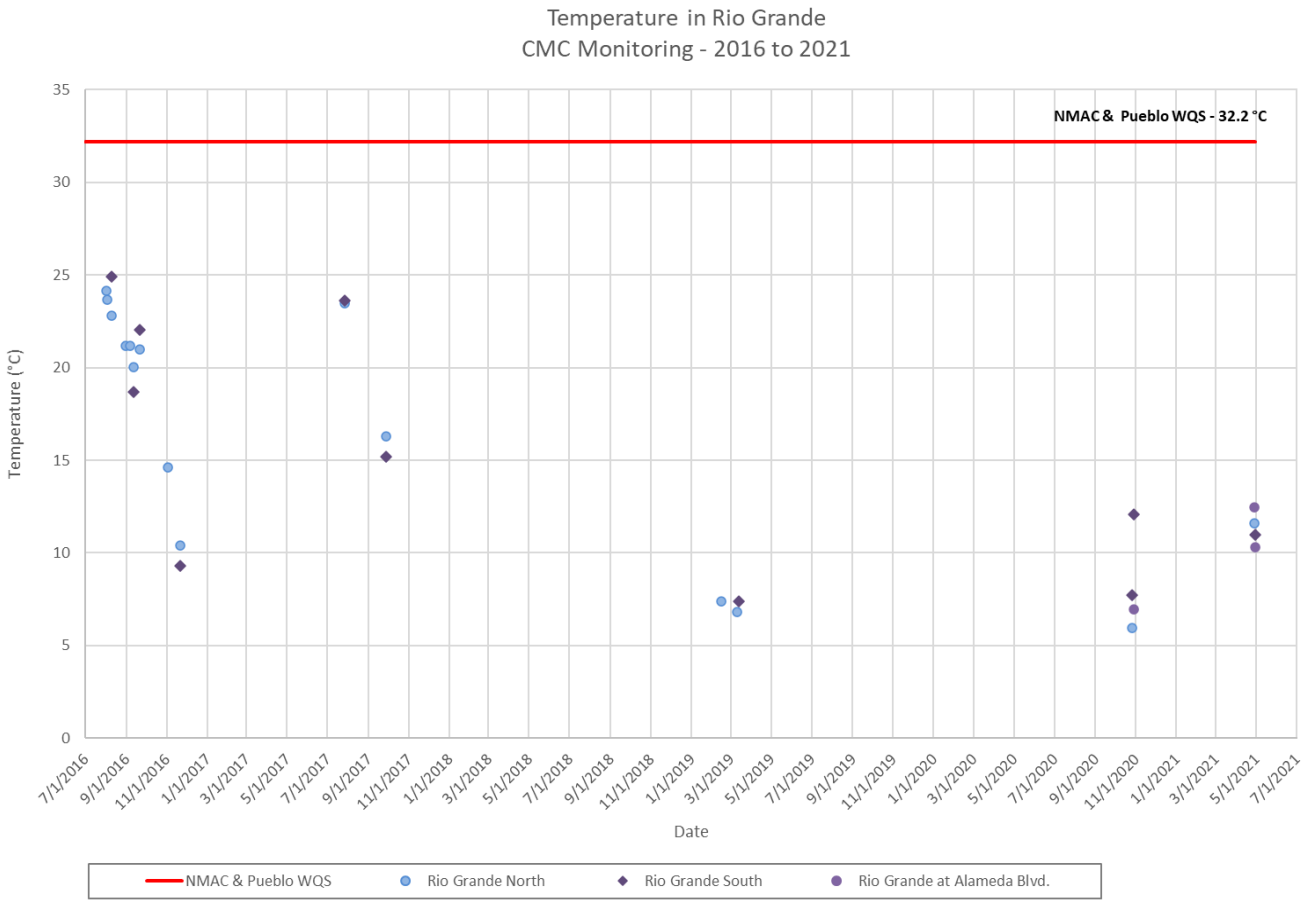


Figure 5: Temperature Monitoring Results in Rio Grande CMC Monitoring – 2016 - 2021

CMC FY 2021 Dry Season E. coli Loading Calculations and Waste Load Allocation (WLA)

Related to assessing the stormwater results, BHI has calculated the E. coli loading and compared it to the aggregate Total Maximum Daily Load (TMDL) Waste Load Allocation (WLA) for the CMC group. A TMDL is the maximum amount of a pollutant (E. coli in this case) that a water body (Rio Grande) can assimilate on a daily basis without violating applicable surface WQS. The total TMDL for a stream segment consists of the multiple WLA for point sources, non-point sources, and natural sources, plus a margin of safety. The CMC MS4 allotted WLA was determined in the EPA Approved, Total Maximum Daily Load for the Middle Rio Grande Watershed, June 30, 2010, and subsequent communications with NMED. The WLA varies by flow condition in the Rio Grande and by stream segment.

E. coli loading calculations and comparison to the WLA follows the WSB MS4 Permit requirements in *Discharges to Water Quality Impaired Water Bodies with an Approved TMDL,* Part I.C.2.b.(i).(c).B, Appendix B-Total Maximum Daily Loads (TMDLs) Tables of the WSB MS4 Permit, and the NMED guidance provided to the CMC. Attached to this memo is the WLA Calculation spreadsheet which steps through the E. coli loading calculations and assumptions comparing the calculated E. coli loading to the CMC aggregate WLA defined by NMED.

There are two (2) stream segments defined in the WSB MS4 Permit (Appendix B): Isleta Pueblo Boundary to Alameda Street Bridge (Stream Segment 2105_50) and Non-Pueblo Alameda Bridge to Angostura Diversion (Stream Segment 2105.1_00). These stream segments differ from NMED's current stream segments defined in the *2020-2022 State of New Mexico Clean Water Act Section 303(d)/Section 305(b) Integrated Report*, December 8, 2020. NMED currently has four (4) stream segments instead of the two (2) WSB MS4 stream segments. These various stream segment designations are shown in Figure 6, page 15.

The NMED 303(d)/305(b) 2020-2022 Integrated Report tables show the most recent assessment results, and currently all segments of the Rio Grande (Isleta to Angostura Diversion) are impaired for E. coli and have a TMDL for E. coli.

The E. coli daily loading associated with the CMC group and comparison to the NMED WLA was completed for the one (1) qualifying dry season storm event – April 28-29, 2021. For this event, the CMC obtained an E. coli sample in the Rio Grande at Alameda and used this to calculate the E. coli loading for the two (2) river segments. Refer to Table 5 for a summary of the WLA comparison results. A spreadsheet that provides the detailed WLA calculations is attached to this memo.

Table 5: Summary of CMC E. Coli Loading Compared to WLA for the CMC

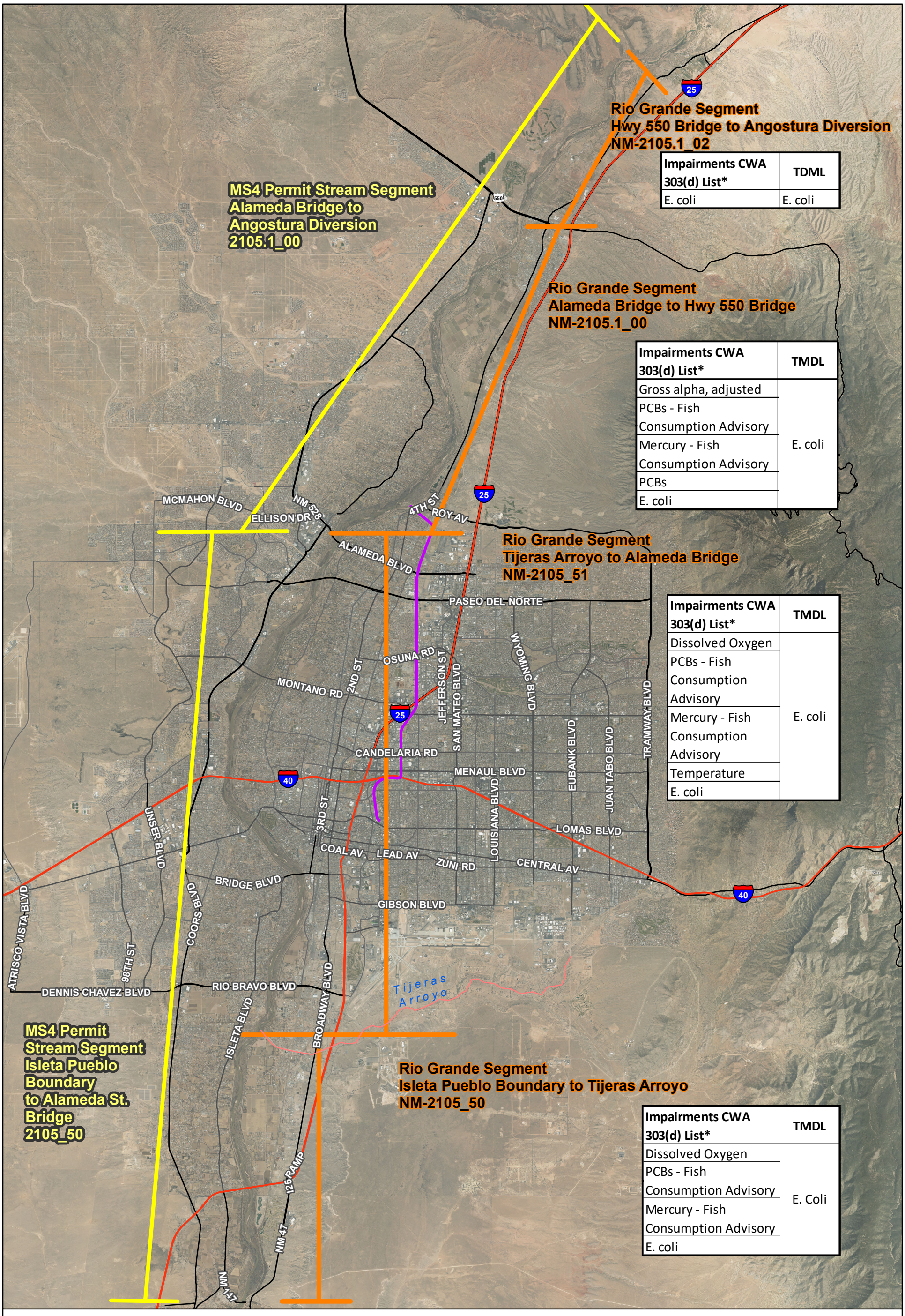
Date / Stream Segment	**Daily Mean Flow (cfs)**	**Flow Conditions (cfs)** *range defined by NMED*	**CMC Daily E. coli Loading (CFU/day)**	**NMED WLA for CMC for Stream Segment and Flow Conditions (CFU/day)**	**Loading Compared to WLA Potential Exceedance or Acceptable**
April 28-29, 2021 – Rio Grande North E. coli Concentration = 8.5 CFU/100 mL Rio Grande at Alameda E. coli Concentration = 72.8 CFU/100 mL and 31 CFU/100 mL Rio Grande South E. coli Concentration = 1,573 CFU/100 mL					
Alameda to Angostura	872	Mid	--	No Value	WLA Acceptable
Isleta to Alameda	931	Moist	2.02E+12	6.29E+10	WLA Potential Exceedance

- As Table 5 illustrates, the calculated E. coli loading for the April 28, 2021 storm event for the northern segment (Alameda to Angostura) is reported as an acceptable WLA. NMED has not set a TMDL or associated WLA values for the Alameda to Angostura stream segment of the Middle Rio Grande for mid-flow conditions (647 to 992 cfs) because there

were not observed E. coli exceedances during this flow regime in the data used to develop the TMDL. Therefore, when a qualifying storm event is monitored during mid-flow regime conditions, like the April 28-29, 2021 event, in the Alameda to Angostura stream segment, the CMC's WLA will never be in exceedance since there is not set TMDL. This analysis used the mid-point E. coli sample result obtained in the Rio Grande at Alameda. The E. coli loading for the southern segment for the April 28, 2021 event potentially exceeded the CMC allocated WLA.

The WSB MS4 Permit implies that the WLA is a measurable goal for the MS4s related to E. coli. Based on extensive review of the EPA Approved, Total Maximum Daily Load (TMDL) for the Middle Rio Grande Watershed, June 30, 2010, this seems to be an unattainable goal for MS4s. On page 40, the 2010 TMDL Report states, "It is important to remember that the TMDL is a planning tool to be used to achieve water quality standard. Meeting the calculated TMDL may be a difficult objective." The TMDL/WLA was calculated by NMED to meet the Pueblo (Sandia and Isleta) geometric mean maximum of 47 CFU/100 mL, which was done to be "protective of downstream waters" and "to provide an implicit margin of safety (MOS)." A single grab sample E. coli result meeting this very low geometric means WQS will be very difficult for the MS4s to obtain.

The CMC members discussed the difficulty of using the WLA as a measurable goal with NMED on February 1, 2017. NMED explained that exceeding the WLA does not trigger enforcement. However, NMED strongly encouraged the MS4s to document what they are doing once they realize the WLA is potentially exceeded. The meeting on February 1, 2017, and the CMC discussion with NMED on February 16, 2017, demonstrate CMC members are working toward understanding the WLA. In addition, the CMC members began implementing a refinement to the sampling plan discussed with NMED by obtaining an E. coli sample in the Rio Grande at Alameda effective the FY 2018 dry season, as feasible. This demonstrates that the CMC is continuing to investigate the potential exceedances and make improvements to monitor E. coli in the Rio Grande.



Legend

- MS4 Permit Stream Segments
- NMED Stream Segments
- North Diversion Channel
- Rio Grande
- Interstate Highway
- U.S. Highway
- State Highway

* Final 2020-2022 State of NM Clean Water Act Section 303(d)/Section 305(b) Integrated Report

AMAFCA

Bohannan Huston
www.bhinc.com 800.877.5332

N W E S

0 1 2 4 Miles

CMC Monitoring

Figure 6
Rio Grande Impairments & TMDL Information

P:\20210236\WR\Reports\Preliminary & Draft\Figures\MXDs\Figure6-MS4_TMDLStreamSegments_2021_0416.mxd
Author: SThompson

August 2021

Data Entry for Discharge Monitoring Reports

The WSB MS4 Permit entered Administrative Continuance in December 2019 when EPA Region 6 did not issue a new MS4 Permit before the current MS4 Permit's expiration date. Until a new MS4 Permit is issued, there are no compliance monitoring requirements for the CMC in the Rio Grande. As identified in the CMC Monitoring Plan, the WSB MS4 Permit required a minimum of seven (7) storm events be sampled at both the Rio Grande North and Rio Grande South locations. All MS4 Permit required samples have been obtained by the CMC and verified stormwater quality data from these required events have been submitted to the EPA using electronic Discharge Monitoring Report (NetDMR) forms prior to this fiscal year. Data from the NetDMRs are uploaded to a comprehensive nation-wide database that contains discharge data for facilities and other point sources that discharge directly to receiving streams.

For this Task, BHI has not completed any data entry related to the EPA NetDMRs for FY 2021. For AMAFCA and the CMC members that have delegated NetDMR entry to AMAFCA through signed Memorandums of Agreement, there are currently no open DMRs for this MS4 Permit in the EPA NetDMR system. This memo contains all of the lab data that would be entered into the NetDMR, if there were open and required forms – refer to Attachment 1.

Conclusions and Planning

During the FY 2021 dry season (November 1, 2020 to June 30, 2021), one (1) qualifying stormwater sample was obtained by the CMC. Lab results were received, and this data has been entered into the CMC Excel database. A summary of this data is provided in Attachment 1. The lab data entered is marked in the spreadsheet as "V" (verified), and data V&V (verification and validation) has been completed (refer to Attachment 2).

To summarize, monitoring results and E. coli loading calculations for the FY 2021 dry season show that:

- The WSB MS4 Permit entered Administrative Continuance in December 2019 when U.S. Environmental Protection Agency (EPA) Region 6 did not issue a new MS4 Permit before the current MS4 Permit's expiration date. Until a new MS4 Permit is issued, there are no compliance monitoring requirements for the CMC in the Rio Grande. All MS4 Permit required samples have been obtained by the CMC, as well as the two (2) samples obtained in FY 2021 (one for the wet season and one for the dry season), as reported in this memo, during Administrative Continuance.
- For the FY 2021 dry season, 15 of the 33 parameters tested were not detected in any of the Rio Grande North or South samples.
- Several key parameters all met the applicable WQS, as they have for all the CMC samples to date:
    - All dissolved oxygen results were greater than 5 mg/L (minimum WQS).
    - All temperature results were less than 32.2°C (maximum WQS).
- The PCB results were below the New Mexico Surface WQS and Pueblo of Isleta Surface WQS for designated uses including drinking water, wildlife habitat, acute aquatic life, and chronic aquatic life. However, the Rio Grande South CMC sample from April 29, 2021 was above the Pueblo of Isleta human health criteria (based on fish consumption only) WQS for surface waters.

- The calculated E. coli loading for the April 28, 2021 storm event for the northern segment (Alameda to Angostura) is reported as an acceptable WLA. NMED has not set a TMDL or associated WLA values for the Alameda to Angostura stream segment of the Middle Rio Grande for mid-flow conditions (647 to 992 cfs) because there were no observed E. coli exceedances during this flow regime in the data used to develop the TMDL. Therefore, when a qualifying storm event is monitored during mid-flow regime conditions, like the April 28-29, 2021 event in the Alameda to Angostura stream segment, the CMC's WLA will never be in exceedance since there is not a set TMDL. This analysis used the mid-point E. coli sample result obtained in the Rio Grande at Alameda. The E. coli loading for the southern segment for the April 28, 2021 event potentially exceeded the CMC allocated WLA.
    - Sources for the E. coli loading measured in the river are not solely attributable to the CMC MS4 members; the E. coli loading calculations serve to provide a reasonable estimate of the CMC contribution to the measured E. coli loading.
    - This sampling and calculation approach is only an estimate of the CMC contribution to the E. coli loading which is why the term "potential exceedance" is used.
    - The in-stream data does not provide the concentration of E. coli contributed by only the CMC MS4s or any of the other potential sources. By using this percentage calculation approach, if other contributors are in exceedance of the WLA, then the CMC will likely also be in exceedance since this approach relies on a percentage of a total.

This memo completes the FY 2021 CMC reporting requirements. This memo, along with the CMC Wet Season, Wet Weather Stormwater Monitoring Data Verification, Analysis Results Database, and Reporting Memo dated April 22, 2021, Excel CMC Spreadsheet, and E. coli Loading and Comparison to Waste Load Allocation (WLA) Excel Spreadsheet provide the CMC members with monitoring data to support each member's reporting requirements to EPA. For this Task, BHI has not completed any data entry related to the EPA NetDMRs for FY 2021. For AMAFCA and the CMC members that have delegated NetDMR entry to AMAFCA through signed Memorandums of Agreement, there are currently no open DMRs for this MS4 Permit in the EPA NetDMR system. This memo contains all of the lab data that would be entered into the NetDMR, if there were open and required forms – refer to Attachment 1.

SG/ab

Attachments:

Attachment 1 – FY 2021 Lab Data Summary, Hall Environmental Analysis Laboratory Reports with BHI Notes for FY 2021 Dry Season, and DBS&A Field Data for FY 2021 Dry Season

Attachment 2 – FY 2021 Dry Season Completed Data Verification and Validation (V&V) Forms

Spreadsheets Included Separately:

- E. coli Loading and Comparison to Waste Load Allocation (WLA) Excel Spreadsheet
- Excel CMC Spreadsheet with FY 2021 Dry Season Stormwater Quality Monitoring Results

ATTACHMENT 1

FY 2021 LAB DATA SUMMARY, HALL ENVIRONMENTAL ANALYSIS LABORATORY REPORTS WITH BHI NOTES FOR FY 2021 DRY SEASON, AND DBS&A FIELD DATA FOR FY 2021 DRY SEASON

Date: August 18, 2021
Summary of Lab Results - FY 2021 Wet & Dry Season

		Rio Grande - North - At Angostura Dam								Rio Grande - South - At Isleta Dam							
Parameter	**Permit Required Units**	**Provisional or Verified**	**2021 CMC SAMPLE - EXTRA NORTH Collection Date 10/26/2020** Wet Season Sample	**Qualifier**	**Check compared to Water Quality Criterion**	**Provisional or Verified**	**2021 CMC SAMPLE - EXTRA NORTH Collection Date 4/28/2021** Dry Season Sample	**Qualifier**	**Check compared to Water Quality Criterion**	**Provisional or Verified**	**2021 CMC SAMPLE - EXTRA SOUTH Collection Date 10/28/2020** Wet Season Sample	**Qualifier**	**Check compared to Water Quality Criterion**	**Provisional or Verified**	**2021 CMC SAMPLE - EXTRA SOUTH Collection Date 4/29/2021** Dry Season Sample	**Qualifier**	**Check compared to Water Quality Criterion**
Total Suspended Solids (TSS)	mg/L	V	18	H	--	V	4		--	V	32		--	V	160		--
Total Dissolved Solids (TDS)	mg/L	V	234		OK	V	207		OK	V	348		OK	V	234	D	OK
Chemical Oxygen Demand (COD)	mg/L	V	ND		--	V	ND		--	V	ND		--	V	48.2		--
Biochemical Oxygen Demand (BOD_5)	mg/L	V	ND		--	V	<2.0		--	V	2.3	H	--	V	2.8		--
Dissolved Oxygen (DO)	mg/L	V	10.08		OK	V	8.81		OK	V	8.81		OK	V	8.73		OK
Oil and Grease (N-Hexane Extractable Material)	mg/L	V	ND		OK	V	ND		OK	V	ND		OK	V	ND		OK
E. coli	MPN (CFU/100 mL)	V	141		>WQ Standard	V	8.5		OK	V	2,420		>WQ Standard	V	1,573		>WQ Standard
pH	S.U.	V	8.49		OK	V	7.61		OK	V	8.11		OK	V	7.69		OK
Total Kjedahl Nitrogen (TKN)	mg/L	V	ND		--	V	0.42	J	--	V	0.7	J	--	V	0.56	J	--
Nitrate plus Nitrite	mg/L	V	0.34	J	OK	V	ND		OK	V	1.3		OK	V	0.59		OK
Dissolved Phosphorous	mg/L	V	0.013		--	V	0.011		--	V	0.48		--	V	0.26		--
Ammonia (mg/L as N)	mg/L	V	ND		OK	V	ND		OK	V	ND		OK	V	ND		OK
Total Nitrogen	mg/L	V	0.34	J	OK	V	0.42	J	OK	V	2.00	J	OK	V	1.15	J	OK
Total Phosphorous	mg/L	V	ND		--	V	0.026		--	V	0.63	D	--	V	0.46	D	--
PCBS (Method 1668A - sum of all congeners)	µg/L	V	0.000148	J	OK	V	0.000147	J	OK	V	0.000956	J	>WQ Standard	V	0.000919	J	>WQ Standard
Gross Alpha, Adjusted	pCi/L	V	0 ± NA		OK	V	2.96	Note - Gross Alpha was reported, not adjusted gross alpha	OK	V	3.03 ± NA		OK	V	4.32	Note - Gross Alpha was reported, not adjusted gross alpha	OK
Tetrahydrofuran	µg/L	V	ND		--	V	ND		--	V	ND		--	V	ND		--
Benzo(a)pyrene	µg/L	V	ND		OK	V	ND		OK	V	ND		OK	V	ND		OK
Benzo[b]fluoranthene (other name: 3,4-Benzofluoranthene)	µg/L	V	ND		OK	V	ND		OK	V	ND		OK	V	ND		OK
Benzo(k)fluoranthene	µg/L	V	ND		OK	V	ND		OK	V	ND		OK	V	ND		OK
Chrysene	µg/L	V	ND		OK	V	ND		OK	V	ND		OK	V	ND		OK
Indeno(1,2,3-cd)Pyrene	µg/L	V	ND		OK	V	ND		OK	V	ND		OK	V	ND		OK
Dieldrin	µg/L	V	ND	H	OK	V	ND		OK	V	ND		OK	V	ND		OK
Pentachlorophenol	µg/L	V	ND		OK	P	ND		OK	V	ND		OK	V	ND		OK
Benzidine	µg/L	V	ND		OK	V	ND		OK	V	ND		OK	V	ND		OK
Benzo(a)anthracene	µg/L	V	ND		OK	V	ND		OK	V	ND		OK	V	ND		OK
Dibenzofuran	µg/L	V	ND		--	V	ND		--	V	ND		--	V	ND		--
Dibenz(a,h)anthracene	µg/L	V	ND		OK	V	ND		OK	V	ND		OK	V	ND		OK
Chromium VI (Hexavalent)	µg/L	V	ND		OK	V	ND		OK	V	ND		OK	V	ND		OK
Dissolved Copper	µg/L	V	0.62	J	OK	V	0.57	J	OK	V	0.85	J	OK	V	0.87	J	OK
Dissolved Lead	µg/L	V	ND		OK	V	ND		OK	V	0.051	J	OK	V	ND		OK
Bis (2-ethyhexyl) Phthalate (other names: Di(2-ethylhexly)phthalate, DEHP)	µg/L	V	ND		OK	V	ND		OK	V	ND		OK	V	ND		OK
Conductivity	umhos/cm	V	385		--	V	476		--	V	589		--	V	396		--
Temperature	°C	V	5.94		OK	V	11.59		OK	V	12.06		OK	V	10.96		OK
Hardness (as $CaCO_3$)	mg/L	V	150		--	V	130		--	V	160		--	V	160		--

Data Verification/Validation and Qualifier Notes:
(R) The sample results are unusable because certain criteria were not met. The analyte may or may not be present in the sample.
(H) Sample holding time exceeded.
(J) The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
(D) Sample was diluted by Lab due to matrix
(U) Analyte was analyzed for, but not detected above the specified detection limit.

Notes:
1. Wet Season monitoring period - July 1 to October 31 and Dry Season monitoring period - November 1 to June 30 according to the Watershed Based MS4 Permit NMR04A000.
20.6.4.105; For a mean monthly flow of 100 cfs, monthly average
concentration for TDS 1,500 mg/l or less, sulfate 500 mg/L or less, and
3. Aquatic life criteria for metals are expressed as a function of total
4. According to NMAC 20.6.4, E. coli bacteria for Primary Contact - monthly
5. Water quality criterion for metals is based on dissolved metals, NMAC
20.6.4.900.I and individual sample results compared to acute toxicity values.
6. HEAL lab method: SM 9223B Fecal Indicator. Note - lab method for units
of MPN/100 ml, lab report uses units CFU/100 ml, for this analysis assuming

ND - analyte not detected above the laboratory method detection limit
NA - not analyzed
Hatching also indicates that parameter was not analyzed

National recommended WQ criteria Human Health
https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

May 03, 2021

April 28, 2021 - Rio Grande North and Alameda E. coli Lab Results

Patrick Chavez
AMAFCA
2600 Prospect Ave NE
Albuquerque, NM 87107
TEL: (505) 884-2215
FAX:

RE: CMC

OrderNo.: 2104C04

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 2 sample(s) on 4/28/2021 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Parameters
Rio Grande North-
Temp = 11.59°C
pH = 7.61
Conductivity (uS/cm=umho/cm) = 476
Dissolved Oxygen (mg/L) = 8.81
Rio Grande Alameda-
Temp = 10.33 °C
pH = 7.31
Conductivity (uS/cm=umho/cm) = 342
Dissolved Oxygen (mg/L) = 8.76

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order: **2104C04**
Date Reported: **5/3/2021**

CLIENT: AMAFCA
Project: CMC
Lab Order: 2104C04

Lab ID: 2104C04-001
Collection Date: 4/28/2021 12:30:00 PM
Client Sample ID: RG North-20210428
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **KMN**	
E. Coli	8.5	1.000		MPN/100	1	4/29/2021 5:10:00 PM	59692

Lab ID: 2104C04-002
Collection Date: 4/28/2021 1:40:00 PM
Client Sample ID: RG Alameda-20210428
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **KMN**	
E. Coli	72.8	1.000		MPN/100	1	4/29/2021 5:10:00 PM	59692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: AMAFCA Work Order Number: 2104C04 RcptNo: 1

Received By: Scott Anderson 4/28/2021 3:50:00 PM SPL

Completed By: Sean Livingston 4/28/2021 3:55:22 PM S Livingston

Reviewed By: SPA 4.28.21 @ 16:25

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
   Samples were collected the same day and chilled.
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: CEL 4/28/21

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	10.1	Good				

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

Phone #:

email or Fax#: pchavez@amafca.org

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☒ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: CMC

Project #:

Project Manager: Patrick Chavez

Sampler: CJohannesen - DBSA

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 10.3 - 0.2 = 10.1 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2104604	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	~~See Attached Email~~	Ecoli - enumeration				
4-28-21	1230	AQ	RGNorth-20210428	1														X				
"	1340	AQ	RG Alameda-20210428	1														X				

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4-28-21	1550		SPA	CDO	4.28.21	15:50
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

June 01, 2021

Patrick Chavez
AMAFCA
2600 Prospect Ave NE
Albuquerque, NM 87107
TEL: (505) 884-2215
FAX

April 28, 2021 - Rio Grande North Full Lab Results and April 29, 2021 - Rio Grande South Full Lab Results

RE: CMC

OrderNo.: 2104C54

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 6 sample(s) on 4/29/2021 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Parameters
Rio Grande North-
Temp = 11.59°C
pH = 7.61
Conductivity (uS/cm=umho/cm) = 476
Dissolved Oxygen (mg/L) = 8.81
Rio Grande South-
Temp = 10.96°C
pH = 7.69
Conductivity (uS/cm=umho/cm) = 396
Dissolved Oxygen (mg/L) = 8.73

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2104C54**
Date Reported: **6/1/2021**

CLIENT: AMAFCA
Client Sample ID: RG-North-20210428
Project: CMC
Collection Date: 4/28/2021 12:30:00 PM
Lab ID: 2104C54-001
Matrix: AQUEOUS
Received Date: 4/29/2021 9:48:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8081: PESTICIDES							Analyst: **LSB**	
Dieldrin	ND	0.040	0.10		µg/L	1	5/11/2021 12:58:38 PM	59722
Surr: Decachlorobiphenyl	102	0	41.7-129		%Rec	1	5/11/2021 12:58:38 PM	59722
Surr: Tetrachloro-m-xylene	70.1	0	31.8-88.5		%Rec	1	5/11/2021 12:58:38 PM	59722
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Nitrogen, Nitrite (As N)	ND	0.070	0.50		mg/L	5	4/29/2021 7:26:48 PM	R77061
Nitrogen, Nitrate (As N)	ND	0.10	0.50		mg/L	5	4/29/2021 7:26:48 PM	R77061
EPA METHOD 200.7: METALS							Analyst: **ELS**	
Calcium	40	0.11	1.0		mg/L	1	5/4/2021 11:14:26 AM	59770
Chromium	ND	0.0021	0.0060		mg/L	1	5/4/2021 11:14:26 AM	59770
Magnesium	7.6	0.067	1.0		mg/L	1	5/4/2021 11:14:26 AM	59770
EPA 200.8: DISSOLVED METALS							Analyst: **bcv**	
Copper	0.00057	0.00013	0.0010	J	mg/L	1	4/30/2021 7:10:50 PM	B77076
Lead	ND	0.000034	0.00050		mg/L	1	4/30/2021 7:10:50 PM	B77076
SM2340B: HARDNESS							Analyst: **ELS**	
Hardness (As CaCO3)	130	2.5	6.6		mg/L	1	5/4/2021 8:04:00 AM	R77121
EPA METHOD 1664B							Analyst: **KMN**	
N-Hexane Extractable Material	ND	3.90	9.65		mg/L	1	5/5/2021 4:34:00 PM	59819
SM5210B: BOD							Analyst: **AG**	
Biochemical Oxygen Demand	DO Depletion <2.0	2.0	2.0		mg/L	1	5/5/2021 2:34:00 PM	59737
SM 4500 NH3: AMMONIA							Analyst: **CJS**	
Nitrogen, Ammonia	ND	0.36	1.0		mg/L	1	5/12/2021 3:43:00 PM	R77333
SM4500-H+B / 9040C: PH							Analyst: **MH**	
pH	8.21			H	pH units	1	5/5/2021 1:58:12 PM	R77185
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **CJS**	
Phosphorus, Total (As P)	0.026	0.010	0.010		mg/L	1	5/7/2021 2:19:00 PM	59857
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	207	20.0	20.0		mg/L	1	5/6/2021 3:23:00 PM	59817
SM 4500 NORG C: TKN							Analyst: **CJS**	
Nitrogen, Kjeldahl, Total	0.42	0.23	1.0	J	mg/L	1	5/13/2021 10:30:00 AM	59967
SM 2540D: TSS							Analyst: **KS**	
Suspended Solids	4.0	4.0	4.0		mg/L	1	5/5/2021 11:31:00 AM	59803

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: RG-North-20210428 Dissolved
Project: CMC
Collection Date: 4/28/2021 12:30:00 PM
Lab ID: 2104C54-002
Matrix: AQUEOUS
Received Date: 4/29/2021 9:48:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **CJS**	
Phosphorus, Total (As P)	0.011	0.010	0.010		mg/L	1	5/7/2021 2:21:00 PM	59857

dissolved phosphorous

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: RG-Isleta-20210429
Project: CMC
Collection Date: 4/29/2021 8:30:00 AM
Lab ID: 2104C54-003
Matrix: AQUEOUS
Received Date: 4/29/2021 9:48:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8081: PESTICIDES							Analyst: **LSB**	
Dieldrin	ND	0.20	0.50		µg/L	1	5/11/2021 1:25:03 PM	59722
Surr: Decachlorobiphenyl	90.9	0	41.7-129		%Rec	1	5/11/2021 1:25:03 PM	59722
Surr: Tetrachloro-m-xylene	55.9	0	31.8-88.5		%Rec	1	5/11/2021 1:25:03 PM	59722
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Nitrogen, Nitrite (As N)	ND	0.070	0.50		mg/L	5	4/29/2021 8:18:59 PM	R77061
Nitrogen, Nitrate (As N)	0.59	0.10	0.50		mg/L	5	4/29/2021 8:18:59 PM	R77061
EPA METHOD 200.7: METALS							Analyst: **ELS**	
Calcium	50	0.11	1.0		mg/L	1	5/4/2021 11:19:10 AM	59770
Chromium	ND	0.0021	0.0060		mg/L	1	5/4/2021 11:19:10 AM	59770
Magnesium	9.3	0.067	1.0		mg/L	1	5/4/2021 11:19:10 AM	59770
EPA 200.8: DISSOLVED METALS							Analyst: **bcv**	
Copper	0.00087	0.00013	0.0010	J	mg/L	1	4/30/2021 7:13:29 PM	B77076
Lead	ND	0.000034	0.00050		mg/L	1	4/30/2021 7:13:29 PM	B77076
SM2340B: HARDNESS							Analyst: **ELS**	
Hardness (As CaCO3)	160	2.5	6.6		mg/L	1	5/4/2021 8:04:00 AM	R77121
EPA METHOD 1664B							Analyst: **KMN**	
N-Hexane Extractable Material	ND	3.88	9.60		mg/L	1	5/5/2021 4:34:00 PM	59819
SM5210B: BOD							Analyst: **AG**	
Biochemical Oxygen Demand	2.8	2.0	2.0		mg/L	1	5/5/2021 2:34:00 PM	59737
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **KMN**	
E. Coli	1573	10.00	10.00		MPN/100	10	4/30/2021 5:13:00 PM	59720
SM 4500 NH3: AMMONIA							Analyst: **CJS**	
Nitrogen, Ammonia	ND	0.36	1.0		mg/L	1	5/12/2021 3:43:00 PM	R77333
SM4500-H+B / 9040C: PH							Analyst: **MH**	
pH	8.10			H	pH units	1	5/5/2021 2:02:26 PM	R77185
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **CJS**	
Phosphorus, Total (As P)	0.46	0.050	0.050	D	mg/L	1	5/7/2021 2:27:00 PM	59857
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	234	40.0	40.0	D	mg/L	1	5/6/2021 3:23:00 PM	59817
SM 4500 NORG C: TKN							Analyst: **CJS**	
Nitrogen, Kjeldahl, Total	0.56	0.23	1.0	J	mg/L	1	5/13/2021 10:30:00 AM	59967
SM 2540D: TSS							Analyst: **KS**	
Suspended Solids	160	4.0	4.0		mg/L	1	5/5/2021 11:31:00 AM	59803

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: RG-Isleta-20210429
Project: CMC
Collection Date: 4/29/2021 8:30:00 AM
Lab ID: 2104C54-003
Matrix: AQUEOUS
Received Date: 4/29/2021 9:48:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: RG-Isleta-20210429 Dissolved
Project: CMC
Collection Date: 4/29/2021 8:30:00 AM
Lab ID: 2104C54-004
Matrix: AQUEOUS
Received Date: 4/29/2021 9:48:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **CJS**	
Phosphorus, Total (As P)	0.26	0.010	0.010		mg/L	1	5/7/2021 2:28:00 PM	59857

dissolved phosphorous

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: RG-Alameda-20210429
Project: CMC
Collection Date: 4/29/2021 6:45:00 AM
Lab ID: 2104C54-005
Matrix: AQUEOUS
Received Date: 4/29/2021 9:48:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **KMN**	
E. Coli	31	10.00	10.00		MPN/100	10	4/30/2021 5:13:00 PM	59720

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Client:	Hall Environmental Analysis Lab	Work Order:	MBD0802
Address:	4901 Hawkins NE Suite D	Project:	2104C54
	Albuquerque, NM 87109	Reported:	5/18/2021 09:43
Attn:	Andy Freeman		

Analytical Results Report

Sample Location:	2104C54-001A (RG-North-20210428)		
Lab/Sample Number:	MBD0802-01	Collect Date:	04/28/21 12:30
Date Received:	04/30/21 11:37	Collected By:	
Matrix:	Water		

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Volatiles							
Tetrahydrofuran	ND	ug/L	2.50	5/4/21 15:55	TEC	EPA 8260C	
Surrogate: 1,2-Dichlorobenzene-d4	*102%*		*70-130*	*5/4/21 15:55*	*TEC*	*EPA 8260C*	
Surrogate: 4-Bromofluorobenzene	*92.8%*		*70-130*	*5/4/21 15:55*	*TEC*	*EPA 8260C*	
Surrogate: Toluene-d8	*99.6%*		*70-130*	*5/4/21 15:55*	*TEC*	*EPA 8260C*	

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Analytical Results Report

(Continued)

Sample Location: 2104C54-001K (RG-North-20210428)
Lab/Sample Number: MBD0802-02 Collect Date: 04/28/21 12:30
Date Received: 04/30/21 11:37 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Semivolatiles							
Benzidine	ND	ug/L	0.500	5/7/21 22:48	MAH	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.500	5/7/21 22:48	MAH	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.500	5/7/21 22:48	MAH	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.500	5/7/21 22:48	MAH	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.500	5/7/21 22:48	MAH	EPA 8270D	
Chrysene	ND	ug/L	0.500	5/7/21 22:48	MAH	EPA 8270D	
Di (2-ethylhexyl) phthalate	ND	ug/L	0.500	5/7/21 22:48	MAH	EPA 8270D	
Dibenz(a,h)anthracene	ND	ug/L	0.500	5/7/21 22:48	MAH	EPA 8270D	
Dibenzofuran	ND	ug/L	0.500	5/7/21 22:48	MAH	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.500	5/7/21 22:48	MAH	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.500	5/7/21 22:48	MAH	EPA 8270D	
Surrogate: 2,4,6-Tribromophenol	*80.1%*		*48-120*	*5/7/21 22:48*	*MAH*	*EPA 8270D*	
Surrogate: 2-Fluorobiphenyl	*82.0%*		*57-113*	*5/7/21 22:48*	*MAH*	*EPA 8270D*	
Surrogate: 2-Fluorophenol	*76.5%*		*37-110*	*5/7/21 22:48*	*MAH*	*EPA 8270D*	
Surrogate: Nitrobenzene-d5	*82.4%*		*65-110*	*5/7/21 22:48*	*MAH*	*EPA 8270D*	
Surrogate: Phenol-2,3,4,5,6-d5	*80.3%*		*51-112*	*5/7/21 22:48*	*MAH*	*EPA 8270D*	
Surrogate: Terphenyl-d14	*102%*		*57-133*	*5/7/21 22:48*	*MAH*	*EPA 8270D*	

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Analytical Results Report

(Continued)

Sample Location: 2104C54-003A (RG-Isleta-20210429)
Lab/Sample Number: MBD0802-03 Collect Date: 04/29/21 08:30
Date Received: 04/30/21 11:37 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Volatiles							
Tetrahydrofuran	ND	ug/L	2.50	5/4/21 16:27	TEC	EPA 8260C	
Surrogate: 1,2-Dichlorobenzene-d4	*104%*		*70-130*	*5/4/21 16:27*	*TEC*	*EPA 8260C*	
Surrogate: 4-Bromofluorobenzene	*93.0%*		*70-130*	*5/4/21 16:27*	*TEC*	*EPA 8260C*	
Surrogate: Toluene-d8	*99.7%*		*70-130*	*5/4/21 16:27*	*TEC*	*EPA 8260C*	

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Analytical Results Report

(Continued)

Sample Location: 2104C54-003M (RG-Isleta-20210429)
Lab/Sample Number: MBD0802-04 Collect Date: 04/29/21 08:30
Date Received: 04/30/21 11:37 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Semivolatiles							
Benzidine	ND	ug/L	0.500	5/7/21 23:15	MAH	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.500	5/7/21 23:15	MAH	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.500	5/7/21 23:15	MAH	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.500	5/7/21 23:15	MAH	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.500	5/7/21 23:15	MAH	EPA 8270D	
Chrysene	ND	ug/L	0.500	5/7/21 23:15	MAH	EPA 8270D	
Di (2-ethylhexyl) phthalate	ND	ug/L	0.500	5/7/21 23:15	MAH	EPA 8270D	
Dibenz(a,h)anthracene	ND	ug/L	0.500	5/7/21 23:15	MAH	EPA 8270D	
Dibenzofuran	ND	ug/L	0.500	5/7/21 23:15	MAH	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.500	5/7/21 23:15	MAH	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.500	5/7/21 23:15	MAH	EPA 8270D	
Surrogate: 2,4,6-Tribromophenol	*86.1%*		*48-120*	*5/7/21 23:15*	*MAH*	*EPA 8270D*	
Surrogate: 2-Fluorobiphenyl	*80.9%*		*57-113*	*5/7/21 23:15*	*MAH*	*EPA 8270D*	
Surrogate: 2-Fluorophenol	*81.0%*		*37-110*	*5/7/21 23:15*	*MAH*	*EPA 8270D*	
Surrogate: Nitrobenzene-d5	*84.0%*		*65-110*	*5/7/21 23:15*	*MAH*	*EPA 8270D*	
Surrogate: Phenol-2,3,4,5,6-d5	*82.2%*		*51-112*	*5/7/21 23:15*	*MAH*	*EPA 8270D*	
Surrogate: Terphenyl-d14	*83.8%*		*57-133*	*5/7/21 23:15*	*MAH*	*EPA 8270D*	

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Analytical Results Report

(Continued)

Sample Location:	2104C54-006A (Trip Blank)		
Lab/Sample Number:	MBD0802-05	Collect Date:	04/28/21 12:30
Date Received:	04/30/21 11:37	Collected By:	
Matrix:	Water		

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Volatiles							
Tetrahydrofuran	ND	ug/L	0.500	5/4/21 15:24	TEC	EPA 8260C	
Surrogate: 1,2-Dichlorobenzene-d4	*103%*		*70-130*	*5/4/21 15:24*	*TEC*	*EPA 8260C*	
Surrogate: 4-Bromofluorobenzene	*95.2%*		*70-130*	*5/4/21 15:24*	*TEC*	*EPA 8260C*	
Surrogate: Toluene-d8	*98.2%*		*70-130*	*5/4/21 15:24*	*TEC*	*EPA 8260C*	

Authorized Signature,



Justin Doty For Todd Taruscio, Laboratory Manager

PQL	Practical Quantitation Limit
ND	Not Detected
MCL	EPA's Maximum Contaminant Level
Dry	Sample results reported on a dry weight basis
*	Not a state-certified analyte

This report shall not be reproduced except in full, without the written approval of the laboratory
The results reported related only to the samples indicated.

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Quality Control Data

Semivolatiles

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BBE0341 - SVOC Water										
Blank (BBE0341-BLK1)					Prepared: 5/4/2021 Analyzed: 5/7/2021					
Benzo[b]fluoranthene	ND		0.500	ug/L						
Pentachlorophenol	ND		0.500	ug/L						
Indeno(1,2,3-cd)pyrene	ND		0.500	ug/L						
Dibenzofuran	ND		0.500	ug/L						
Dibenz(a,h)anthracene	ND		0.500	ug/L						
Chrysene	ND		0.500	ug/L						
Benzo[k]fluoranthene	ND		0.500	ug/L						
Benzo[a]pyrene	ND		0.500	ug/L						
Benzo[a]anthracene	ND		0.500	ug/L						
Benzidine	ND		0.500	ug/L						
Di (2-ethylhexyl) phthalate	ND		0.500	ug/L						
Surrogate: Phenol-2,3,4,5,6-d5			*42.0*	*ug/L*	*50.5*		*83.1*	*51-112*		
Surrogate: Nitrobenzene-d5			*22.5*	*ug/L*	*25.0*		*89.9*	*65-110*		
Surrogate: Terphenyl-d14			*26.6*	*ug/L*	*25.8*		*103*	*57-133*		
Surrogate: 2-Fluorophenol			*41.0*	*ug/L*	*50.0*		*82.0*	*37-110*		
Surrogate: 2-Fluorobiphenyl			*21.6*	*ug/L*	*25.5*		*84.6*	*57-113*		
Surrogate: 2,4,6-Tribromophenol			*37.0*	*ug/L*	*51.8*		*71.6*	*48-120*		
LCS (BBE0341-BS1)					Prepared: 5/4/2021 Analyzed: 5/7/2021					
Dibenz(a,h)anthracene	5.11		0.500	ug/L	5.00		102	62-120		
Benzo[k]fluoranthene	4.60		0.500	ug/L	5.00		92.0	71-121		
Pentachlorophenol	4.24		0.500	ug/L	5.00		84.8	51-118		
Indeno(1,2,3-cd)pyrene	5.08		0.500	ug/L	5.00		102	62-123		
Dibenzofuran	4.55		0.500	ug/L	5.00		91.0	75-120		
Chrysene	4.74		0.500	ug/L	5.00		94.8	74-124		
Di (2-ethylhexyl) phthalate	4.98		0.500	ug/L	5.00		99.6	60-144		
Benzo[a]anthracene	4.88		0.500	ug/L	5.00		97.6	80-120		
Benzo[a]pyrene	4.47		0.500	ug/L	5.00		89.4	66-116		
Benzo[b]fluoranthene	4.77		0.500	ug/L	5.00		95.4	72-116		

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Quality Control Data
(Continued)

Semivolatiles (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BBE0341 - SVOC Water (Continued)										
LCS Dup (BBE0341-BSD1)					Prepared: 5/4/2021 Analyzed: 5/7/2021					
Benzo[a]pyrene	4.57		0.500	ug/L	5.00		91.4	66-116	2.21	25
Indeno(1,2,3-cd)pyrene	4.92		0.500	ug/L	5.00		98.4	62-123	3.20	25
Dibenz(a,h)anthracene	4.89		0.500	ug/L	5.00		97.8	62-120	4.40	30
Chrysene	4.87		0.500	ug/L	5.00		97.4	74-124	2.71	25
Dibenzofuran	4.63		0.500	ug/L	5.00		92.6	75-120	1.74	25
Di (2-ethylhexyl) phthalate	5.18		0.500	ug/L	5.00		104	60-144	3.94	32
Benzo[b]fluoranthene	4.92		0.500	ug/L	5.00		98.4	72-116	3.10	25
Benzo[a]anthracene	4.98		0.500	ug/L	5.00		99.6	80-120	2.03	25
Pentachlorophenol	3.83		0.500	ug/L	5.00		76.6	51-118	10.2	25
Benzo[k]fluoranthene	4.74		0.500	ug/L	5.00		94.8	71-121	3.00	25

Quality Control Data
(Continued)

Volatiles

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BBE0089 - VOC										
Blank (BBE0089-BLK1)					Prepared & Analyzed: 5/4/2021					
Tetrahydrofuran	ND		0.500	ug/L						
Surrogate: Toluene-d8			*25.3*	*ug/L*	*25.0*		*101*	*70-130*		
Surrogate: 4-Bromofluorobenzene			*23.2*	*ug/L*	*25.0*		*92.6*	*70-130*		
Surrogate: 1,2-Dichlorobenzene-d4			*19.6*	*ug/L*	*19.0*		*103*	*70-130*		
LCS (BBE0089-BS1)					Prepared & Analyzed: 5/4/2021					
Tetrahydrofuran	21.4		0.500	ug/L	22.7		94.1	80-120		
Matrix Spike (BBE0089-MS1)		**Source: MBD0802-01**			Prepared & Analyzed: 5/4/2021					
Tetrahydrofuran	106		2.50	ug/L	114	ND	93.5	70-130		
Matrix Spike Dup (BBE0089-MSD1)		**Source: MBD0802-01**			Prepared & Analyzed: 5/4/2021					
Tetrahydrofuran	97.6		2.50	ug/L	114	ND	85.9	70-130	8.48	25

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

MBD0802

Due: 05/14/21

SUB CONTRATOR:	Anatek ID	COMPANY: Anatek Labs, Inc.	PHONE: (208) 883-2839	FAX: (208) 882-9246	
ADDRESS:	1282 Alturas Dr		ACCOUNT #:	EMAIL:	
CITY, STATE, ZIP:	Moscow, ID 83843				

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2104C54-001A	RG-North-20210428	VOAHCL	Aqueous	4/28/2021 12:30:00 PM	3	8260: Tetrahydrofuran
2	2104C54-001K	RG-North-20210428	1LAMGU	Aqueous	4/28/2021 12:30:00 PM	2	8270 See attached list
3	2104C54-003A	RG-Isleta-20210429	VOAHCL	Aqueous	4/29/2021 8:30:00 AM	3	8260: Tetrahydrofuran
4	2104C54-003M	RG-Isleta-20210429	1LAMGU	Aqueous	4/29/2021 8:30:00 AM	2	8270 See attached list
5	2104C54-006A	Trip Blank	VOAHCL	Trip Blank		2	8260: Tetrahydrofuran Trip Blank

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 4/29/2021	Time: 2:38 PM	Received By:	Date: 04/30/21	Time: 1137
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAT: Standard X RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:

☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY

Temp of samples ____ °C Attempt to Cool ? ____

Comments: ____

MBD0802

Due: 05/14/21

Collaborative Monitoring Cooperative - Analys

Attach to Chain of Custody

Please refer to attached NPDES Permit No. NMR04A00 Appendix F. Methods and mi
(MQL's) will be those approved under 40 CFR 136 and specified in th

Analyte (Bold Indicates WQS)	CAS #	Fraction	Method #	MDL (µg/L)
[redacted]	NA	Total	200.7	2.4
[redacted]	7439-92-1	Dissolved	200.8	0.09
[redacted]	7440-50-8	Dissolved	200.8	1.00
[redacted]	7664-41-7	Total	350.1	31.82
[redacted]	17778-88-0	Total	351.2	58.78
[redacted]	14797-55-8	Total	353.2	10.17
[redacted]	1336-36-3	Total	1668	0.014
Tetrahydrofuran (THF)	109-99-9	Total	8260C	7.9
bis(2-Ethylhexyl)phthalate	117-81-7	Total	8270D	0.2
Dibenzofuran	132-64-9	Total	8270D	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	Total	8270D	0.2
Benzo(b)fluoranthene	205-99-2	Total	8270D	0.1
Benzo(k)fluoranthene	207-08-9	Total	8270D	0.1
Chrysene	218-01-9	Total	8270D	0.2
Benzo(a)pyrene	50-32-8	Total	8270D	0.3
Dibenzo(a,h)anthracene	53-70-3	Total	8270D	0.3
Benzo(a)anthracene	56-55-3	Total	8270D	0.2
[redacted]	60-57-1	Total	8081	0.1
Pentachlorophenol	87-86-5	Total	8270D	0.2
Benzidine	92-87-5	Total	8270D	0.1
[redacted]	E1641638[2]	Total	HACH	5100
[redacted]	NA	Total	Method 900	0.1 pCi/L
[redacted]	E1642222[2]	Total	SM 2540C	60.4
[redacted]	NA	Total	SM 2540D	3450
[redacted]	N/A	Total	Standard Methods	980
[redacted]		Total	1664A	5000
[redacted]			SM 9223B	
[redacted]			SM 4500	
[redacted]		Dissolved	365.1	100
[redacted]		Total	365.1	100
[redacted]		Total	3500Cr C-2011	100

DAD 4/29/21

MBD0802

Due: 05/14/21

Anatek Labs, Inc.

Sample Receipt and Preservation Form

Client Name: HALL Project:

TAT: Normal RUSH: _____ days

Samples Received From: FedEx UPS USPS Client Courier Other: _____

Custody Seal on Cooler/Box: Yes No Custody Seals Intact: Yes No N/A

Number of Coolers/Boxes: 1 Type of Ice: Ice/Ice Packs Blue Ice Dry Ice None

Packing Material: Bubble Wrap Bags Foam/Peanuts None Other: _____

Cooler Temp As Read (°C): 4.1 Cooler Temp Corrected (°C): – Thermometer Used: IR-5

				Comments:
Samples Received Intact?	Yes	No	N/A	
Chain of Custody Present?	Yes	No	N/A	
Samples Received Within Hold Time?	Yes	No	N/A	
Samples Properly Preserved?	Yes	No	N/A	
VOC Vials Free of Headspace (<6mm)?	Yes	No	N/A	
VOC Trip Blanks Present?	Yes	No	N/A	
Labels and Chains Agree?	Yes	No	N/A	
Total Number of Sample Bottles Received: 10				

Chain of Custody Fully Completed?	Yes	No	N/A	
Correct Containers Received?	Yes	No	N/A	
Anatek Bottles Used?	Yes	No	Unknown	

Record preservatives (and lot numbers, if known) for containers below:

HCl → 8260 → g44ml x6 + 2TB

Notes, comments, etc. (also use this space if contacting the client - record names and date/time)

8270 → g1L x2

Received/Inspected By: [signature] Date/Time: 04/30/2021 1137

Form F19.00 - Eff 8 Feb 2019

ANALYTICAL REPORT

May 11, 2021

Hall Environmental Analysis Laboratory

Sample Delivery Group:	L1346058
Samples Received:	04/30/2021
Project Number:	
Description:	

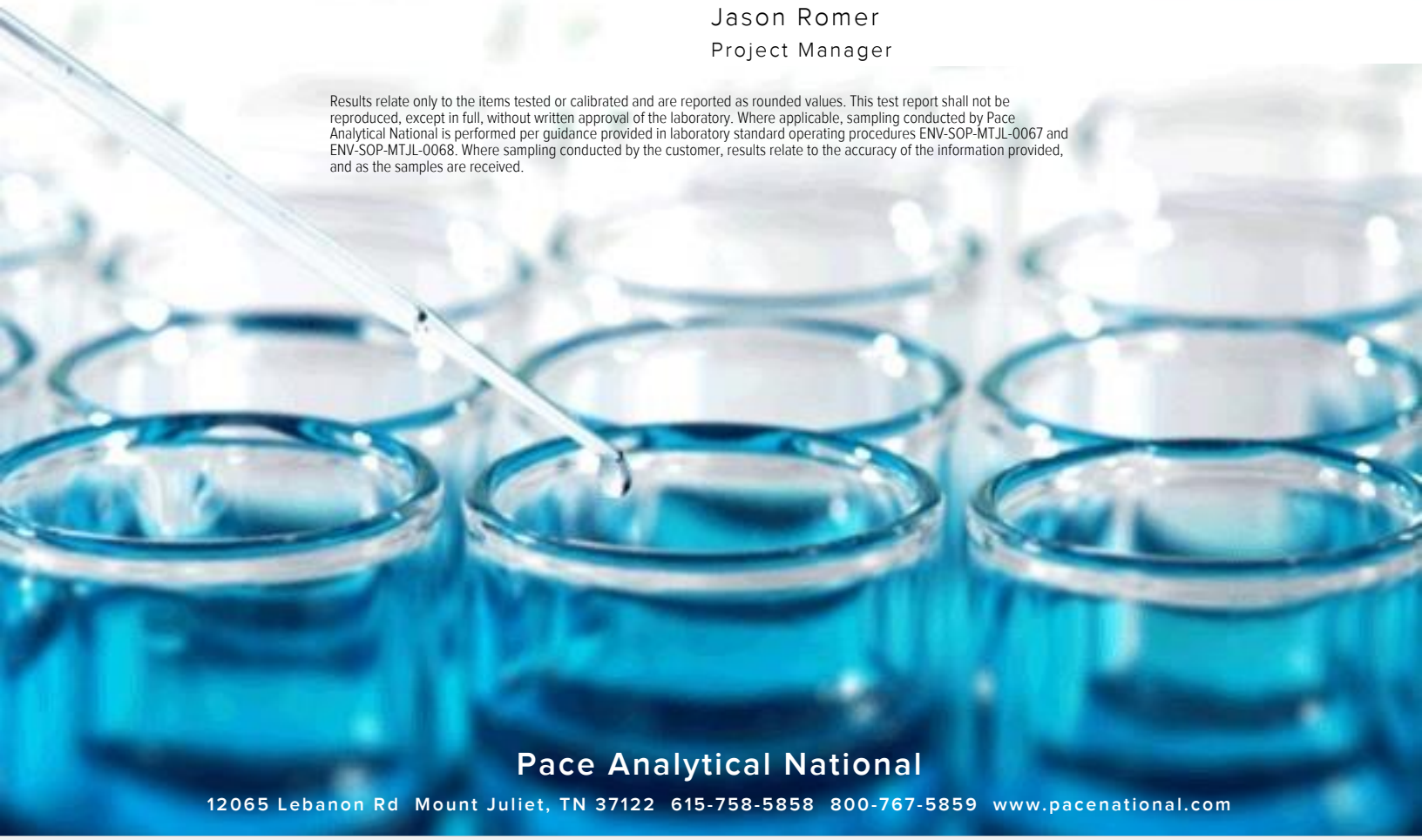
Report To: Jackie Bolte
4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:



Jason Romer
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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

TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 4

Sr: Sample Results 5

2104C54-001H RG-NORTH-20210428 L1346058-01 5

2104C54-001J RG-NORTH-20210428 L1346058-02 6

2104C54-003H RG-ISLETA-20210429 L1346058-03 7

2104C54-003J RG-ISLETA-20210429 L1346058-04 8

Qc: Quality Control Summary 9

Wet Chemistry by Method 3500Cr C-2011 9

Wet Chemistry by Method 410.4 10

Gl: Glossary of Terms 11

Al: Accreditations & Locations 12

Sc: Sample Chain of Custody 13

SAMPLE SUMMARY

2104C54-001H RG-NORTH-20210428 L1346058-01 WW

			Collected by	Collected date/time	Received date/time	
				04/28/21 12:30	04/30/21 09:15	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 410.4	WG1663227	1	05/03/21 10:25	05/03/21 18:08	KAB	Mt. Juliet, TN

2104C54-001J RG-NORTH-20210428 L1346058-02 WW

			Collected by	Collected date/time	Received date/time	
				04/28/21 12:30	04/30/21 09:15	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Cr C-2011	WG1664351	1	05/08/21 20:03	05/08/21 20:03	MSP	Mt. Juliet, TN

2104C54-003H RG-ISLETA-20210429 L1346058-03 WW

			Collected by	Collected date/time	Received date/time	
				04/29/21 08:30	04/30/21 09:15	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 410.4	WG1663227	1	05/03/21 10:25	05/03/21 18:11	KAB	Mt. Juliet, TN

2104C54-003J RG-ISLETA-20210429 L1346058-04 WW

			Collected by	Collected date/time	Received date/time	
				04/29/21 08:30	04/30/21 09:15	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Cr C-2011	WG1664351	1	05/08/21 20:27	05/08/21 20:27	MSP	Mt. Juliet, TN

CASE NARRATIVE

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



Jason Romer
Project Manager

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	ND		20.0	1	05/03/2021 18:08	WG1663227

Wet Chemistry by Method 3500Cr C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Hexavalent Chromium	ND		0.000500	1	05/08/2021 20:03	WG1664351

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	48.2		20.0	1	05/03/2021 18:11	WG1663227

Wet Chemistry by Method 3500Cr C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Hexavalent Chromium	ND		0.000500	1	05/08/2021 20:27	WG1664351

Method Blank (MB)

(MB) R3652835-1 05/08/21 16:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hexavalent Chromium	U		0.000150	0.000500

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3652835-3 05/08/21 18:12

Analyte	Original Result	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium		ND	1	0.000		20

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3652835-5 05/08/21 20:51

Analyte	Original Result	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium		ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3652835-2 05/08/21 17:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	0.00200	0.00207	103	90.0-110	

L1344024-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1344024-01 05/08/21 18:19 • (MS) R3652835-4 05/08/21 18:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	0.0500	ND	0.0497	99.5	1	90.0-110	

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3652835-6 05/08/21 21:06 • (MSD) R3652835-7 05/08/21 21:13

Analyte	Spike Amount mg/l	Original Result	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	0.0500		0.0501	0.0504	100	101	1	90.0-110			0.478	20

Method Blank (MB)

(MB) R3650050-1 05/03/21 17:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
COD	U		11.7	20.0

L1345225-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1345225-01 05/03/21 17:45 • (DUP) R3650050-3 05/03/21 17:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	65.2	61.1	1	6.55		20

L1346453-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1346453-01 05/03/21 17:49 • (DUP) R3650050-4 05/03/21 17:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	431	421	1	2.40		20

Laboratory Control Sample (LCS)

(LCS) R3650050-2 05/03/21 17:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
COD	500	505	101	90.0-110	

L1346340-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346340-01 05/03/21 17:55 • (MS) R3650050-5 05/03/21 17:59 • (MSD) R3650050-6 05/03/21 18:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
COD	500	35.0	666	709	126	135	1	80.0-120	J5	J5	6.34	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

B158

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: clients.hallenvironmental.com

SUB CONTRATOR: **Pace TN**	COMPANY: **PACE TN**	PHONE: **(800) 767-5859**	FAX: **(615) 758-5859**
ADDRESS: **12065 Lebanon Rd**		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: **Mt. Juliet, TN 37122**			

L1346058

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2104C54-001H	RG-North-20210428	500HDPEH2SO4	Aqueous	4/28/2021 12:30:00 PM	1	COD -01
2	2104C54-001I	RG-North-20210428	1LHDPEHNO3	Aqueous	4/28/2021 12:30:00 PM	1	Adjusted Gross Alpha
3	2104C54-001J	RG-North-20210428	120mL	Aqueous	4/28/2021 12:30:00 PM	1	Cr 6 -02
4	2104C54-003H	RG-Isleta-20210429	500HDPEH2SO4	Aqueous	4/29/2021 8:30:00 AM	1	COD -03
5	2104C54-003I	RG-Isleta-20210429	1LHDPEHNO3	Aqueous	4/29/2021 8:30:00 AM	1	Adjusted Gross Alpha
6	2104C54-003J	RG-Isleta-20210429	120mL	Aqueous	4/29/2021 8:30:00 AM	1	Cr 6 -04

Sample Receipt Checklist

COC Seal Present/Intact:	Y N		If Applicable
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

5016 12237735

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: [illegible]	Date: 4/29/2021	Time: 11:53 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: [signature]	Date: 4/30/21	Time: 0915

TAT: Standard ☑ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:

☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY

Temp of samples 2.1+0=2.1 °C A307 Attempt to Cool ?

Comments:

CFA | Cape Fear Analytical LLC
an affiliate of The GEL Group INC

3306 Kitty Hawk Road, Suite 120 Wilmington, NC 28405
P 910.795.0421
www.capefearanalytical.com

May 21, 2021

Mr. Andy Freeman
Hall Environmental
4901 Hawkins NE
Suite D
Albuquerque, New Mexico 87109

Re: Routine Analysis
Work Order: 18056
SDG: 2104C54

Dear Mr. Freeman:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on April 30, 2021. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,

Cynde Larkins

Cynde Larkins
Project Manager

Purchase Order: IDIQ Pricing
Enclosures

problem solved

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: clients.hallenvironmental.com

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

CFA NO #18056

SUB CONTRATOR: **Cape Fear Analytical**	COMPANY: **Cape Fear Analytical**	PHONE: **(910) 795-0421**	FAX:
ADDRESS: **3306 Kitty Hawk Rd Ste 120**		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: **Wilmington, NC 28405**			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2104C54-001G	RG-North-20210428	1LAMGU	Aqueous	4/28/2021 12:30:00 PM	2	PCB Congeners 1668
2	2104C54-003G	RG-Isleta-20210429	1LAMGU	Aqueous	4/29/2021 8:30:00 AM	2	PCB Congeners 1668

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 4/29/2021	Time: 11:50 AM	Received By: Cynde Larkins	Date: 30APR21	Time: 1005
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAT: Standard ☒ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples 6.4 °C Attempt to Cool ? ✓
Comments:

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: HALL	Work Order: 18056
Shipping Company: FedEx	Date/Time Received: 30APR21 1005

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?			✓
Samples identified as Foreign Soil?			✓

DOE Site Sample Packages	Yes	NA	No*
Screened <0.5 mR/hr?		✓	
Samples < 2x background?		✓	

* Notify RSO of any responses in this column immediately.

Air Sample Receipt Specifics	Yes	NA	No
Air sample in shipment?			✓

Air Witness: _____

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other(describe)
2	Custody seal/s present on cooler?	✓			Seal intact? (Yes) No
3	Chain of Custody documents included with shipment?	✓			
4	Samples requiring cold preservation within 0-6°C?			✓	Preservation Method: ice bags loose ice (blue ice) dry ice none other (describe) Temperature Blank present: Yes (No) 6.5° − 0.1 = 6.4°C
5	Aqueous samples found to have visible solids?	✓			Sample IDs, containers affected: Minimal visible solids (<1%)
5	Samples requiring chemical preservation at proper pH?		✓		Sample IDs, containers affected and pH observed: pH = 7 on both If preservative added, Lot#:
7	Samples requiring preservation have no residual chlorine?	✓			Sample IDs, containers affected: If preservative added, Lot#:
8	Samples received within holding time?	✓			Sample IDs, tests affected:
9	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
10	Date & time of COC match date & time on containers?	✓			Sample IDs, containers affected:
11	Number of containers received match number indicated on COC?			✓	List type and number of containers / Sample IDs, containers affected: COC lists 2 containers per sample, only 1-1L WMAG bottle per sample received
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:

From: Andy Freeman
To: Cynde Larkins
Subject: RE: 2104C54
Date: Friday, April 30, 2021 7:11:40 PM

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Cynde,

Please proceed with analysis.

Thank you,

Andy Freeman - Hall Environmental, 4901 Hawkins NE, Albuquerque, NM 87109, 505-345-3975, 505-345-4107 fax
www.hallenvironmental.com - andy@hallenvironmental.com -
https://www.surveymonkey.com/r/NGVXRBV

For easy access to all of your past reports, setup an account on the Hall Environmental Web Portal. Just visit our website and follow the instructions for setting up an account.
We welcome your feedback. Please visit the survey monkey link to complete a brief survey on your experience with Hall Environmental.

From: Cynde Larkins <Cynde.Larkins@cfanalytical.com>
Sent: Friday, April 30, 2021 12:25 PM
To: Andy Freeman <andy@hallenvironmental.com>
Subject: 2104C54

Andy,
CFA received the samples for the job number 2104C54 in good condition, but out of recommended temperature at 6.4°C. Please let me know if we may proceed with extraction.

Also, would you verify that these should be reported to the EDL or MDL?

Thanks,

Cynde Larkins
Project Manager
Cape Fear Analytical, LLC
3306 Kitty Hawk Road, Suite 120
Wilmington, NC 28405
(910) 795-0421

CFA | Cape Fear Analytical LLC

CFA is an Essential Business and remains open to support your analytical needs.

CONFIDENTIALITY NOTICE: This e-mail and any files transmitted with it are the property of The GEL Group, Inc. and its affiliates. All rights, including without limitation copyright, are reserved. The proprietary information contained in this e-mail message, and any files transmitted with it, is intended for the use of the recipient(s) named above. If the reader of this e-mail is not the intended recipient, you are hereby notified that you have received this e-mail in error and that any review, distribution or copying of this e-mail or any files transmitted with it is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately and delete the original message and any files transmitted. The unauthorized use of this e-mail or any files transmitted with it is prohibited and disclaimed by The GEL Group, Inc. and its affiliates..

PCB Congeners Analysis

Case Narrative

PCBC Case Narrative
Hall Environmental Analysis Laboratory (HALL)
SDG 2104C54
Work Order 18056

Method/Analysis Information

Product:	**PCB Congeners by EPA Method 1668A in Liquids**
Analytical Method:	EPA Method 1668A
Extraction Method:	SW846 3520C
Analytical Batch Number:	46817
Clean Up Batch Number:	46739
Extraction Batch Number:	46738

Sample Analysis

Samples were received at 6.4°C. (18056001,18056002).
The following samples were analyzed using the analytical protocol as established in EPA Method 1668A:

Sample ID	Client ID
12029212	Method Blank (MB)
12029213	Laboratory Control Sample (LCS)
12029214	Laboratory Control Sample Duplicate (LCSD)
18056001	2104C54-001G RG-North-20210428
18056002	2104C54-003G RG-Isleta-20210429

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-003 REV# 9.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

Calibration Information

Initial Calibration
All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement
The test results presented in this document are certified to meet all requirements of the 2009 TNI Standard.

Method Blank (MB) Statement
The MB(s) analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries
All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery
The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement
The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation
A matrix spike and matrix spike duplicate analysis was not required for this SDG.

Technical Information

Receipt Temperature
Samples were outside of the recommended range of 0-6°C. The client was notified of the temperature exceedance and the laboratory was instructed to proceed with analysis. 18056001 (2104C54-001G RG-North-20210428) and 18056002 (2104C54-003G RG-Isleta-20210429).

Holding Time Specifications
CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation
A NCR was not required for this SDG.

Manual Integrations
Manual integrations were required for data files in this SDG. Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction.

System Configuration
This analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
HRP875_1	PCB Analysis	PCB Analysis	SPB-Octyl	30m x 0.25mm, 0.25um

Sample Data Summary

Cape Fear Analytical, LLC
3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

Certificate of Analysis Report
for

HALL001 Hall Environmental Analysis Laboratory

Client SDG: 2104C54 CFA Work Order: 18056

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
B The target analyte was detected in the associated blank.
C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature:  **Name: Erin Suhrie**

Date: 21 MAY 2021 **Title: Data Validator**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056001**	**Date Collected:**	**04/28/2021 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-001G RG-North-20210428**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 19:52**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-4**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**956.2 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	2.28	105
2051-61-8	2-MoCB	U	ND	pg/L	2.97	105
2051-62-9	3-MoCB	U	ND	pg/L	2.59	105
13029-08-8	4-DiCB	U	ND	pg/L	15.4	105
16605-91-7	5-DiCB	U	ND	pg/L	12.7	105
25569-80-6	6-DiCB	U	ND	pg/L	12.4	105
33284-50-3	7-DiCB	U	ND	pg/L	11.0	105
34883-43-7	8-DiCB	U	ND	pg/L	11.1	105
34883-39-1	9-DiCB	U	ND	pg/L	15.0	105
33146-45-1	10-DiCB	U	ND	pg/L	10.2	105
2050-67-1	11-DiCB	U	ND	pg/L	40.9	105
2974-92-7	12-DiCB	CU	ND	pg/L	11.4	209
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	13.1	105
2050-68-2	15-DiCB	U	ND	pg/L	11.6	105
38444-78-9	16-TrCB	U	ND	pg/L	3.58	105
37680-66-3	17-TrCB	U	ND	pg/L	3.95	105
37680-65-2	18-TrCB	CU	ND	pg/L	4.94	209
38444-73-4	19-TrCB	U	ND	pg/L	4.14	105
38444-84-7	20-TrCB	CJ	6.73	pg/L	2.51	209
55702-46-0	21-TrCB	CJ	2.93	pg/L	2.59	209
38444-85-8	22-TrCB	U	ND	pg/L	2.93	105
55720-44-0	23-TrCB	U	ND	pg/L	2.59	105
55702-45-9	24-TrCB	U	ND	pg/L	2.80	105
55712-37-3	25-TrCB	U	ND	pg/L	2.32	105
38444-81-4	26-TrCB	CU	ND	pg/L	2.66	209
38444-76-7	27-TrCB	U	ND	pg/L	3.03	105
7012-37-5	28-TrCB	C20				
15862-07-4	29-TrCB	C26				
35693-92-6	30-TrCB	C18				
16606-02-3	31-TrCB	U	ND	pg/L	5.17	105
38444-77-8	32-TrCB	J	2.76	pg/L	2.74	105

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056001**	**Date Collected:**	**04/28/2021 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-001G RG-North-20210428**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 19:52**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-4**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**956.2 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	2.93	105
37680-69-6	35-TrCB	U	ND	pg/L	3.07	105
38444-87-0	36-TrCB	U	ND	pg/L	2.80	105
38444-90-5	37-TrCB	U	ND	pg/L	2.99	105
53555-66-1	38-TrCB	U	ND	pg/L	3.12	105
38444-88-1	39-TrCB	U	ND	pg/L	2.57	105
38444-93-8	40-TeCB	CU	ND	pg/L	3.37	209
52663-59-9	41-TeCB	U	ND	pg/L	4.69	105
36559-22-5	42-TeCB	U	ND	pg/L	3.91	105
70362-46-8	43-TeCB	U	ND	pg/L	4.87	105
41464-39-5	44-TeCB	CU	ND	pg/L	5.90	314
70362-45-7	45-TeCB	BCJ	3.16	pg/L	2.74	209
41464-47-5	46-TeCB	U	ND	pg/L	2.84	105
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	3.56	105
41464-40-8	49-TeCB	CU	ND	pg/L	3.51	209
62796-65-0	50-TeCB	CU	ND	pg/L	2.61	209
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	BJ	6.34	pg/L	4.14	209
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	1.95	105
74338-24-2	55-TeCB	U	ND	pg/L	3.16	105
41464-43-1	56-TeCB	U	ND	pg/L	3.41	105
70424-67-8	57-TeCB	U	ND	pg/L	3.45	105
41464-49-7	58-TeCB	U	ND	pg/L	3.12	105
74472-33-6	59-TeCB	CU	ND	pg/L	2.93	314
33025-41-1	60-TeCB	U	ND	pg/L	3.03	105
33284-53-6	61-TeCB	BCJ	8.01	pg/L	3.16	418
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	3.35	105
52663-58-8	64-TeCB	U	ND	pg/L	2.82	105

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056001**	**Date Collected:**	**04/28/2021 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-001G RG-North-20210428**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 19:52**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-4**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**956.2 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	U	ND	pg/L	3.28	105
73575-53-8	67-TeCB	U	ND	pg/L	2.99	105
73575-52-7	68-TeCB	U	ND	pg/L	2.84	105
60233-24-1	69-TeCB	C49				
32598-11-1	70-TeCB	C61				
41464-46-4	71-TeCB	C40				
41464-42-0	72-TeCB	U	ND	pg/L	3.43	105
74338-23-1	73-TeCB	U	ND	pg/L	2.97	105
32690-93-0	74-TeCB	C61				
32598-12-2	75-TeCB	C59				
70362-48-0	76-TeCB	C61				
32598-13-3	77-TeCB	U	ND	pg/L	3.20	105
70362-49-1	78-TeCB	U	ND	pg/L	3.56	105
41464-48-6	79-TeCB	U	ND	pg/L	3.07	105
33284-52-5	80-TeCB	U	ND	pg/L	2.82	105
70362-50-4	81-TeCB	U	ND	pg/L	2.80	105
52663-62-4	82-PeCB	U	ND	pg/L	4.50	105
60145-20-2	83-PeCB	U	ND	pg/L	4.75	105
52663-60-2	84-PeCB	U	ND	pg/L	4.25	105
65510-45-4	85-PeCB	CU	ND	pg/L	2.97	314
55312-69-1	86-PeCB	BCJ	9.50	pg/L	3.16	627
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	3.95	209
73575-57-2	89-PeCB	U	ND	pg/L	4.96	105
68194-07-0	90-PeCB	CJ	12.4	pg/L	3.39	314
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	U	ND	pg/L	4.58	105
73575-56-1	93-PeCB	CU	ND	pg/L	3.60	209
73575-55-0	94-PeCB	U	ND	pg/L	3.93	105
38379-99-6	95-PeCB	U	ND	pg/L	4.75	105
73575-54-9	96-PeCB	U	ND	pg/L	1.86	105

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056001**	**Date Collected:**	**04/28/2021 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-001G RG-North-20210428**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 19:52**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-4**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**956.2 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	4.06	209
38380-01-7	99-PeCB	J	3.49	pg/L	3.01	105
39485-83-1	100-PeCB	C93				
37680-73-2	101-PeCB	C90				
68194-06-9	102-PeCB	C98				
60145-21-3	103-PeCB	U	ND	pg/L	4.23	105
56558-16-8	104-PeCB	U	ND	pg/L	1.49	105
32598-14-4	105-PeCB	J	4.43	pg/L	2.70	105
70424-69-0	106-PeCB	U	ND	pg/L	3.37	105
70424-68-9	107-PeCB	U	ND	pg/L	2.38	105
70362-41-3	108-PeCB	CU	ND	pg/L	2.78	209
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	BCJ	17.4	pg/L	2.84	209
39635-32-0	111-PeCB	U	ND	pg/L	2.47	105
74472-36-9	112-PeCB	U	ND	pg/L	2.87	105
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	2.61	105
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB	BJ	9.14	pg/L	2.61	105
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	2.95	105
56558-18-0	121-PeCB	U	ND	pg/L	2.70	105
76842-07-4	122-PeCB	U	ND	pg/L	3.74	105
65510-44-3	123-PeCB	U	ND	pg/L	2.55	105
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	3.14	105
39635-33-1	127-PeCB	U	ND	pg/L	3.07	105
38380-07-3	128-HxCB	CU	ND	pg/L	3.22	209

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056001**	**Date Collected:**	**04/28/2021 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-001G RG-North-20210428**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 19:52**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-4**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**956.2 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	BCJ	18.8	pg/L	3.51	314
52663-66-8	130-HxCB	U	ND	pg/L	4.33	105
61798-70-7	131-HxCB	U	ND	pg/L	4.29	105
38380-05-1	132-HxCB	BJ	5.31	pg/L	3.89	105
35694-04-3	133-HxCB	U	ND	pg/L	4.50	105
52704-70-8	134-HxCB	U	ND	pg/L	4.37	105
52744-13-5	135-HxCB	CJ	4.23	pg/L	1.92	209
38411-22-2	136-HxCB	U	ND	pg/L	2.38	105
35694-06-5	137-HxCB	U	ND	pg/L	3.41	105
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	3.53	209
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	U	ND	pg/L	3.87	105
41411-61-4	142-HxCB	U	ND	pg/L	4.94	105
68194-15-0	143-HxCB	U	ND	pg/L	4.81	105
68194-14-9	144-HxCB	U	ND	pg/L	2.07	105
74472-40-5	145-HxCB	U	ND	pg/L	1.42	105
51908-16-8	146-HxCB	U	ND	pg/L	3.37	105
68194-13-8	147-HxCB	BCJ	8.09	pg/L	3.56	209
74472-41-6	148-HxCB	U	ND	pg/L	2.01	105
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	1.40	105
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	1.69	105
35065-27-1	153-HxCB	BCJ	10.4	pg/L	2.93	209
60145-22-4	154-HxCB	U	ND	pg/L	1.61	105
33979-03-2	155-HxCB	U	ND	pg/L	1.28	105
38380-08-4	156-HxCB	CU	ND	pg/L	2.51	209
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	2.68	105
39635-35-3	159-HxCB	U	ND	pg/L	2.09	105
41411-62-5	160-HxCB	U	ND	pg/L	2.99	105

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056001**	**Date Collected:**	**04/28/2021 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-001G RG-North-20210428**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 19:52**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-4**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**956.2 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	3.20	105
39635-34-2	162-HxCB	U	ND	pg/L	1.88	105
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	2.99	105
74472-46-1	165-HxCB	U	ND	pg/L	2.95	105
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	U	ND	pg/L	1.84	105
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	2.13	105
35065-30-6	170-HpCB	J	3.41	pg/L	2.59	105
52663-71-5	171-HpCB	CU	ND	pg/L	2.64	209
52663-74-8	172-HpCB	U	ND	pg/L	2.64	105
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	U	ND	pg/L	2.59	105
40186-70-7	175-HpCB	U	ND	pg/L	1.97	105
52663-65-7	176-HpCB	U	ND	pg/L	1.55	105
52663-70-4	177-HpCB	U	ND	pg/L	2.61	105
52663-67-9	178-HpCB	U	ND	pg/L	2.15	105
52663-64-6	179-HpCB	U	ND	pg/L	1.53	105
35065-29-3	180-HpCB	BCJ	5.44	pg/L	2.07	209
74472-47-2	181-HpCB	U	ND	pg/L	2.18	105
60145-23-5	182-HpCB	U	ND	pg/L	1.88	105
52663-69-1	183-HpCB	CU	ND	pg/L	2.26	209
74472-48-3	184-HpCB	U	ND	pg/L	1.34	105
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	1.42	105
52663-68-0	187-HpCB	U	ND	pg/L	2.82	105
74487-85-7	188-HpCB	U	ND	pg/L	1.42	105
39635-31-9	189-HpCB	U	ND	pg/L	1.72	105
41411-64-7	190-HpCB	U	ND	pg/L	2.01	105
74472-50-7	191-HpCB	U	ND	pg/L	1.95	105
74472-51-8	192-HpCB	U	ND	pg/L	1.97	105

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056001**	**Date Collected:**	**04/28/2021 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-001G RG-North-20210428**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 19:52**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-4**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**956.2 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	J	2.84	pg/L	1.82	105
52663-78-2	195-OcCB	U	ND	pg/L	1.92	105
42740-50-1	196-OcCB	J	2.51	pg/L	2.26	105
33091-17-7	197-OcCB	CU	ND	pg/L	1.69	209
68194-17-2	198-OcCB	CU	ND	pg/L	2.64	209
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	1.69	105
2136-99-4	202-OcCB	U	ND	pg/L	1.80	105
52663-76-0	203-OcCB	U	ND	pg/L	2.01	105
74472-52-9	204-OcCB	U	ND	pg/L	1.72	105
74472-53-0	205-OcCB	U	ND	pg/L	1.42	105
40186-72-9	206-NoCB	U	ND	pg/L	1.76	105
52663-79-3	207-NoCB	U	ND	pg/L	1.38	105
52663-77-1	208-NoCB	U	ND	pg/L	1.36	105
2051-24-3	209-DeCB	U	ND	pg/L	1.28	105
1336-36-3	Total PCB Congeners	J	147	pg/L		105

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		682	2090	pg/L	32.6	(15%-150%)
13C-3-MoCB		826	2090	pg/L	39.5	(15%-150%)
13C-4-DiCB		922	2090	pg/L	44.1	(25%-150%)
13C-15-DiCB		1380	2090	pg/L	65.9	(25%-150%)
13C-19-TrCB		1270	2090	pg/L	60.7	(25%-150%)
13C-37-TrCB		1300	2090	pg/L	62.2	(25%-150%)
13C-54-TeCB		1030	2090	pg/L	49.4	(25%-150%)
13C-77-TeCB		1750	2090	pg/L	83.8	(25%-150%)
13C-81-TeCB		1770	2090	pg/L	84.9	(25%-150%)
13C-104-PeCB		1010	2090	pg/L	48.1	(25%-150%)
13C-105-PeCB		1480	2090	pg/L	70.7	(25%-150%)
13C-114-PeCB		1440	2090	pg/L	68.9	(25%-150%)
13C-118-PeCB		1400	2090	pg/L	67.1	(25%-150%)
13C-123-PeCB		1490	2090	pg/L	71.3	(25%-150%)
13C-126-PeCB		1640	2090	pg/L	78.2	(25%-150%)
13C-155-HxCB		1150	2090	pg/L	55.0	(25%-150%)
13C-156-HxCB	C	2770	4180	pg/L	66.2	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1410	2090	pg/L	67.3	(25%-150%)
13C-169-HxCB		1490	2090	pg/L	71.5	(25%-150%)
13C-188-HpCB		1290	2090	pg/L	61.8	(25%-150%)
13C-189-HpCB		1270	2090	pg/L	60.8	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056001**	**Date Collected:**	**04/28/2021 12:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-001G RG-North-20210428**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 19:52**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-4**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**956.2 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1370	2090	pg/L	65.6	(25%-150%)
13C-205-OcCB		1670	2090	pg/L	79.6	(25%-150%)
13C-206-NoCB		1850	2090	pg/L	88.3	(25%-150%)
13C-208-NoCB		1560	2090	pg/L	74.7	(25%-150%)
13C-209-DeCB		1690	2090	pg/L	80.9	(25%-150%)
13C-28-TrCB		1420	2090	pg/L	67.8	(30%-135%)
13C-111-PeCB		1740	2090	pg/L	83.4	(30%-135%)
13C-178-HpCB		1950	2090	pg/L	93.3	(30%-135%)

Comments:

B **The target analyte was detected in the associated blank.**
C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**
J **Value is estimated**
U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056002**	**Date Collected:**	**04/29/2021 08:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-003G RG-Isleta-20210429**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 21:01**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**945.3 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	1.44	106
2051-61-8	2-MoCB	U	ND	pg/L	1.90	106
2051-62-9	3-MoCB	U	ND	pg/L	3.53	106
13029-08-8	4-DiCB	U	ND	pg/L	10.7	106
16605-91-7	5-DiCB	U	ND	pg/L	8.89	106
25569-80-6	6-DiCB	U	ND	pg/L	8.67	106
33284-50-3	7-DiCB	U	ND	pg/L	7.70	106
34883-43-7	8-DiCB	U	ND	pg/L	7.79	106
34883-39-1	9-DiCB	U	ND	pg/L	10.5	106
33146-45-1	10-DiCB	U	ND	pg/L	7.72	106
2050-67-1	11-DiCB	U	ND	pg/L	83.8	106
2974-92-7	12-DiCB	CU	ND	pg/L	8.00	212
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	9.16	106
2050-68-2	15-DiCB	U	ND	pg/L	8.44	106
38444-78-9	16-TrCB	U	ND	pg/L	2.98	106
37680-66-3	17-TrCB	U	ND	pg/L	3.91	106
37680-65-2	18-TrCB	CU	ND	pg/L	7.21	212
38444-73-4	19-TrCB	U	ND	pg/L	2.16	106
38444-84-7	20-TrCB	CJ	15.5	pg/L	1.54	212
55702-46-0	21-TrCB	CJ	5.73	pg/L	1.59	212
38444-85-8	22-TrCB	J	4.85	pg/L	1.48	106
55720-44-0	23-TrCB	U	ND	pg/L	1.59	106
55702-45-9	24-TrCB	U	ND	pg/L	1.71	106
55712-37-3	25-TrCB	U	ND	pg/L	1.42	106
38444-81-4	26-TrCB	CJ	2.73	pg/L	1.63	212
38444-76-7	27-TrCB	U	ND	pg/L	1.86	106
7012-37-5	28-TrCB	C20				
15862-07-4	29-TrCB	C26				
35693-92-6	30-TrCB	C18				
16606-02-3	31-TrCB	U	ND	pg/L	11.2	106
38444-77-8	32-TrCB	U	ND	pg/L	2.92	106

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056002**	**Date Collected:**	**04/29/2021 08:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-003G RG-Isleta-20210429**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 21:01**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**945.3 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	1.80	106
37680-69-6	35-TrCB	J	3.19	pg/L	2.09	106
38444-87-0	36-TrCB	U	ND	pg/L	1.88	106
38444-90-5	37-TrCB	U	ND	pg/L	6.77	106
53555-66-1	38-TrCB	U	ND	pg/L	2.12	106
38444-88-1	39-TrCB	U	ND	pg/L	1.73	106
38444-93-8	40-TeCB	CJ	5.37	pg/L	3.28	212
52663-59-9	41-TeCB	U	ND	pg/L	4.55	106
36559-22-5	42-TeCB	U	ND	pg/L	3.79	106
70362-46-8	43-TeCB	U	ND	pg/L	4.74	106
41464-39-5	44-TeCB	BCJ	15.8	pg/L	3.53	317
70362-45-7	45-TeCB	BCJ	3.81	pg/L	1.71	212
41464-47-5	46-TeCB	U	ND	pg/L	1.78	106
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	3.45	106
41464-40-8	49-TeCB	CJ	8.61	pg/L	3.41	212
62796-65-0	50-TeCB	BCJ	3.03	pg/L	1.63	212
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	BJ	23.5	pg/L	4.02	212
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	1.10	106
74338-24-2	55-TeCB	U	ND	pg/L	2.20	106
41464-43-1	56-TeCB	J	6.18	pg/L	2.37	106
70424-67-8	57-TeCB	U	ND	pg/L	2.41	106
41464-49-7	58-TeCB	U	ND	pg/L	2.18	106
74472-33-6	59-TeCB	CU	ND	pg/L	2.84	317
33025-41-1	60-TeCB	U	ND	pg/L	3.60	106
33284-53-6	61-TeCB	BCJ	26.4	pg/L	2.20	423
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	2.33	106
52663-58-8	64-TeCB	J	6.45	pg/L	2.73	106

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056002**	**Date Collected:**	**04/29/2021 08:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-003G RG-Isleta-20210429**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 21:01**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**945.3 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	BJ	12.1	pg/L	2.28	106
73575-53-8	67-TeCB	U	ND	pg/L	2.07	106
73575-52-7	68-TeCB	U	ND	pg/L	1.97	106
60233-24-1	69-TeCB	C49				
32598-11-1	70-TeCB	C61				
41464-46-4	71-TeCB	C40				
41464-42-0	72-TeCB	U	ND	pg/L	2.39	106
74338-23-1	73-TeCB	U	ND	pg/L	2.88	106
32690-93-0	74-TeCB	C61				
32598-12-2	75-TeCB	C59				
70362-48-0	76-TeCB	C61				
32598-13-3	77-TeCB	BJ	5.33	pg/L	2.24	106
70362-49-1	78-TeCB	U	ND	pg/L	2.48	106
41464-48-6	79-TeCB	U	ND	pg/L	2.14	106
33284-52-5	80-TeCB	U	ND	pg/L	1.97	106
70362-50-4	81-TeCB	U	ND	pg/L	2.05	106
52663-62-4	82-PeCB	J	5.80	pg/L	3.51	106
60145-20-2	83-PeCB	U	ND	pg/L	3.70	106
52663-60-2	84-PeCB	J	10.4	pg/L	3.32	106
65510-45-4	85-PeCB	BCJ	7.30	pg/L	2.33	317
55312-69-1	86-PeCB	BCJ	30.8	pg/L	2.45	635
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	4.72	212
73575-57-2	89-PeCB	U	ND	pg/L	3.87	106
68194-07-0	90-PeCB	CJ	39.1	pg/L	2.64	317
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	J	8.51	pg/L	3.58	106
73575-56-1	93-PeCB	CU	ND	pg/L	2.79	212
73575-55-0	94-PeCB	U	ND	pg/L	3.07	106
38379-99-6	95-PeCB	BJ	30.4	pg/L	3.70	106
73575-54-9	96-PeCB	U	ND	pg/L	1.50	106

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056002**	**Date Collected:**	**04/29/2021 08:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-003G RG-Isleta-20210429**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 21:01**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**945.3 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	3.15	212
38380-01-7	99-PeCB	J	13.4	pg/L	2.35	106
39485-83-1	100-PeCB	C93				
37680-73-2	101-PeCB	C90				
68194-06-9	102-PeCB	C98				
60145-21-3	103-PeCB	U	ND	pg/L	3.28	106
56558-16-8	104-PeCB	U	ND	pg/L	1.16	106
32598-14-4	105-PeCB	J	18.7	pg/L	2.18	106
70424-69-0	106-PeCB	U	ND	pg/L	2.60	106
70424-68-9	107-PeCB	U	ND	pg/L	2.88	106
70362-41-3	108-PeCB	CU	ND	pg/L	2.16	212
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	BCJ	56.8	pg/L	2.20	212
39635-32-0	111-PeCB	U	ND	pg/L	1.93	106
74472-36-9	112-PeCB	U	ND	pg/L	2.24	106
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	2.03	106
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB	BJ	37.6	pg/L	1.99	106
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	2.31	106
56558-18-0	121-PeCB	U	ND	pg/L	2.09	106
76842-07-4	122-PeCB	U	ND	pg/L	2.90	106
65510-44-3	123-PeCB	U	ND	pg/L	1.97	106
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	2.41	106
39635-33-1	127-PeCB	U	ND	pg/L	2.39	106
38380-07-3	128-HxCB	CJ	11.6	pg/L	2.56	212

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056002**	**Date Collected:**	**04/29/2021 08:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-003G RG-Isleta-20210429**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 21:01**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**945.3 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	CJ	83.8	pg/L	2.81	317
52663-66-8	130-HxCB	J	5.54	pg/L	3.45	106
61798-70-7	131-HxCB	U	ND	pg/L	3.41	106
38380-05-1	132-HxCB	BJ	19.3	pg/L	3.09	106
35694-04-3	133-HxCB	U	ND	pg/L	3.58	106
52704-70-8	134-HxCB	U	ND	pg/L	3.49	106
52744-13-5	135-HxCB	CU	ND	pg/L	19.4	212
38411-22-2	136-HxCB	J	7.85	pg/L	1.44	106
35694-06-5	137-HxCB	J	3.41	pg/L	2.71	106
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	2.81	212
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	J	13.7	pg/L	3.09	106
41411-61-4	142-HxCB	U	ND	pg/L	3.94	106
68194-15-0	143-HxCB	U	ND	pg/L	3.83	106
68194-14-9	144-HxCB	U	ND	pg/L	2.94	106
74472-40-5	145-HxCB	U	ND	pg/L	1.23	106
51908-16-8	146-HxCB	J	10.2	pg/L	2.67	106
68194-13-8	147-HxCB	CJ	44.9	pg/L	2.84	212
74472-41-6	148-HxCB	U	ND	pg/L	1.76	106
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	1.23	106
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	1.46	106
35065-27-1	153-HxCB	CJ	54.5	pg/L	2.33	212
60145-22-4	154-HxCB	U	ND	pg/L	1.40	106
33979-03-2	155-HxCB	U	ND	pg/L	1.16	106
38380-08-4	156-HxCB	CJ	9.61	pg/L	1.76	212
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	J	8.27	pg/L	2.14	106
39635-35-3	159-HxCB	U	ND	pg/L	1.48	106
41411-62-5	160-HxCB	U	ND	pg/L	2.39	106

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056002**	**Date Collected:**	**04/29/2021 08:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-003G RG-Isleta-20210429**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 21:01**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**945.3 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	2.56	106
39635-34-2	162-HxCB	U	ND	pg/L	1.31	106
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	J	5.73	pg/L	2.39	106
74472-46-1	165-HxCB	U	ND	pg/L	2.35	106
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	BJ	4.21	pg/L	1.25	106
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	1.50	106
35065-30-6	170-HpCB	J	21.6	pg/L	1.86	106
52663-71-5	171-HpCB	CU	ND	pg/L	6.41	212
52663-74-8	172-HpCB	U	ND	pg/L	4.53	106
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	J	21.4	pg/L	1.82	106
40186-70-7	175-HpCB	U	ND	pg/L	1.50	106
52663-65-7	176-HpCB	J	3.13	pg/L	1.18	106
52663-70-4	177-HpCB	J	12.6	pg/L	1.86	106
52663-67-9	178-HpCB	J	5.04	pg/L	1.65	106
52663-64-6	179-HpCB	J	8.29	pg/L	1.16	106
35065-29-3	180-HpCB	CJ	47.5	pg/L	1.48	212
74472-47-2	181-HpCB	U	ND	pg/L	1.57	106
60145-23-5	182-HpCB	U	ND	pg/L	1.44	106
52663-69-1	183-HpCB	CJ	15.1	pg/L	1.61	212
74472-48-3	184-HpCB	U	ND	pg/L	1.02	106
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	1.08	106
52663-68-0	187-HpCB	J	23.1	pg/L	1.27	106
74487-85-7	188-HpCB	U	ND	pg/L	1.16	106
39635-31-9	189-HpCB	U	ND	pg/L	1.57	106
41411-64-7	190-HpCB	J	4.82	pg/L	1.42	106
74472-50-7	191-HpCB	U	ND	pg/L	1.38	106
74472-51-8	192-HpCB	U	ND	pg/L	1.40	106

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056002**	**Date Collected:**	**04/29/2021 08:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-003G RG-Isleta-20210429**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 21:01**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**945.3 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	J	12.8	pg/L	1.35	106
52663-78-2	195-OcCB	J	4.65	pg/L	1.42	106
42740-50-1	196-OcCB	J	6.45	pg/L	1.63	106
33091-17-7	197-OcCB	CU	ND	pg/L	2.50	212
68194-17-2	198-OcCB	CJ	15.3	pg/L	1.65	212
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	1.90	106
2136-99-4	202-OcCB	J	3.77	pg/L	1.33	106
52663-76-0	203-OcCB	J	8.36	pg/L	1.44	106
74472-52-9	204-OcCB	U	ND	pg/L	1.23	106
74472-53-0	205-OcCB	U	ND	pg/L	1.02	106
40186-72-9	206-NoCB	J	10.8	pg/L	1.57	106
52663-79-3	207-NoCB	U	ND	pg/L	1.59	106
52663-77-1	208-NoCB	J	4.10	pg/L	1.23	106
2051-24-3	209-DeCB	U	ND	pg/L	5.59	106
1336-36-3	Total PCB Congeners	J	919	pg/L		106

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		735	2120	pg/L	34.8	(15%-150%)
13C-3-MoCB		895	2120	pg/L	42.3	(15%-150%)
13C-4-DiCB		1050	2120	pg/L	49.8	(25%-150%)
13C-15-DiCB		1460	2120	pg/L	68.9	(25%-150%)
13C-19-TrCB		1500	2120	pg/L	70.9	(25%-150%)
13C-37-TrCB		1330	2120	pg/L	62.7	(25%-150%)
13C-54-TeCB		1150	2120	pg/L	54.2	(25%-150%)
13C-77-TeCB		1790	2120	pg/L	84.4	(25%-150%)
13C-81-TeCB		1840	2120	pg/L	86.8	(25%-150%)
13C-104-PeCB		1100	2120	pg/L	51.8	(25%-150%)
13C-105-PeCB		1520	2120	pg/L	72.0	(25%-150%)
13C-114-PeCB		1500	2120	pg/L	70.8	(25%-150%)
13C-118-PeCB		1460	2120	pg/L	69.1	(25%-150%)
13C-123-PeCB		1530	2120	pg/L	72.5	(25%-150%)
13C-126-PeCB		1670	2120	pg/L	78.8	(25%-150%)
13C-155-HxCB		1160	2120	pg/L	54.7	(25%-150%)
13C-156-HxCB	C	2790	4230	pg/L	66.0	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1430	2120	pg/L	67.6	(25%-150%)
13C-169-HxCB		1500	2120	pg/L	70.9	(25%-150%)
13C-188-HpCB		1200	2120	pg/L	56.9	(25%-150%)
13C-189-HpCB		1250	2120	pg/L	59.3	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**18056002**	**Date Collected:**	**04/29/2021 08:30**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**04/30/2021 10:05**		
Client ID:	**2104C54-003G RG-Isleta-20210429**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/17/2021 21:01**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d17may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**945.3 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1320	2120	pg/L	62.2	(25%-150%)
13C-205-OcCB		1670	2120	pg/L	78.8	(25%-150%)
13C-206-NoCB		1830	2120	pg/L	86.5	(25%-150%)
13C-208-NoCB		1530	2120	pg/L	72.4	(25%-150%)
13C-209-DeCB		1710	2120	pg/L	80.7	(25%-150%)
13C-28-TrCB		1600	2120	pg/L	75.6	(30%-135%)
13C-111-PeCB		1970	2120	pg/L	93.1	(30%-135%)
13C-178-HpCB		2110	2120	pg/L	99.7	(30%-135%)

Comments:

B **The target analyte was detected in the associated blank.**
C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**
J **Value is estimated**
U **Analyte was analyzed for, but not detected above the specified detection limit.**

Quality Control Summary

PCB Congeners

Surrogate Recovery Report

SDG Number: 2104C54

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12029213	LCS for batch 46738	13C-1-MoCB		36.6	(15%-140%)
		13C-3-MoCB		39.3	(15%-140%)
		13C-4-DiCB		48.7	(30%-140%)
		13C-15-DiCB		60.7	(30%-140%)
		13C-19-TrCB		60.7	(30%-140%)
		13C-37-TrCB		49.6	(30%-140%)
		13C-54-TeCB		48.4	(30%-140%)
		13C-77-TeCB		75.3	(30%-140%)
		13C-81-TeCB		78.5	(30%-140%)
		13C-104-PeCB		64.4	(30%-140%)
		13C-105-PeCB		75.1	(30%-140%)
		13C-114-PeCB		76.0	(30%-140%)
		13C-118-PeCB		73.8	(30%-140%)
		13C-123-PeCB		77.9	(30%-140%)
		13C-126-PeCB		80.2	(30%-140%)
		13C-155-HxCB		71.0	(30%-140%)
		13C-156-HxCB	C	79.5	(30%-140%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		81.9	(30%-140%)
		13C-169-HxCB		83.9	(30%-140%)
		13C-188-HpCB		72.8	(30%-140%)
		13C-189-HpCB		76.6	(30%-140%)
		13C-202-OcCB		77.4	(30%-140%)
		13C-205-OcCB		94.2	(30%-140%)
		13C-206-NoCB		101	(30%-140%)
		13C-208-NoCB		90.4	(30%-140%)
		13C-209-DeCB		91.9	(30%-140%)
		13C-28-TrCB		66.7	(40%-125%)
		13C-111-PeCB		84.9	(40%-125%)
		13C-178-HpCB		91.6	(40%-125%)
12029214	LCSD for batch 46738	13C-1-MoCB		43.3	(15%-140%)
		13C-3-MoCB		45.6	(15%-140%)
		13C-4-DiCB		56.2	(30%-140%)
		13C-15-DiCB		63.3	(30%-140%)
		13C-19-TrCB		63.3	(30%-140%)
		13C-37-TrCB		45.3	(30%-140%)
		13C-54-TeCB		45.4	(30%-140%)
		13C-77-TeCB		71.8	(30%-140%)
		13C-81-TeCB		74.0	(30%-140%)
		13C-104-PeCB		61.5	(30%-140%)
		13C-105-PeCB		68.5	(30%-140%)
		13C-114-PeCB		69.8	(30%-140%)
		13C-118-PeCB		68.0	(30%-140%)
		13C-123-PeCB		71.7	(30%-140%)
		13C-126-PeCB		73.2	(30%-140%)
		13C-155-HxCB		68.5	(30%-140%)
		13C-156-HxCB	C	74.1	(30%-140%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		76.7	(30%-140%)
		13C-169-HxCB		78.2	(30%-140%)
		13C-188-HpCB		63.3	(30%-140%)
		13C-189-HpCB		69.6	(30%-140%)

Surrogate Recovery Report

SDG Number: 2104C54

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12029214	LCSD for batch 46738	13C-202-OcCB		69.4	(30%-140%)
		13C-205-OcCB		85.8	(30%-140%)
		13C-206-NoCB		92.3	(30%-140%)
		13C-208-NoCB		80.4	(30%-140%)
		13C-209-DeCB		80.7	(30%-140%)
		13C-28-TrCB		64.2	(40%-125%)
		13C-111-PeCB		81.2	(40%-125%)
		13C-178-HpCB		85.9	(40%-125%)
12029212	MB for batch 46738	13C-1-MoCB		44.0	(15%-150%)
		13C-3-MoCB		45.9	(15%-150%)
		13C-4-DiCB		56.2	(25%-150%)
		13C-15-DiCB		66.2	(25%-150%)
		13C-19-TrCB		64.9	(25%-150%)
		13C-37-TrCB		43.7	(25%-150%)
		13C-54-TeCB		46.1	(25%-150%)
		13C-77-TeCB		69.5	(25%-150%)
		13C-81-TeCB		73.3	(25%-150%)
		13C-104-PeCB		60.3	(25%-150%)
		13C-105-PeCB		63.2	(25%-150%)
		13C-114-PeCB		62.5	(25%-150%)
		13C-118-PeCB		61.2	(25%-150%)
		13C-123-PeCB		65.1	(25%-150%)
		13C-126-PeCB		65.1	(25%-150%)
		13C-155-HxCB		64.0	(25%-150%)
		13C-156-HxCB	C	67.7	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		70.6	(25%-150%)
		13C-169-HxCB		72.2	(25%-150%)
		13C-188-HpCB		57.6	(25%-150%)
		13C-189-HpCB		61.8	(25%-150%)
		13C-202-OcCB		61.3	(25%-150%)
		13C-205-OcCB		77.4	(25%-150%)
		13C-206-NoCB		81.6	(25%-150%)
		13C-208-NoCB		72.1	(25%-150%)
		13C-209-DeCB		70.6	(25%-150%)
		13C-28-TrCB		77.4	(30%-135%)
		13C-111-PeCB		85.5	(30%-135%)
		13C-178-HpCB		88.4	(30%-135%)
18056001	2104C54-001G RG-North-20210428	13C-1-MoCB		32.6	(15%-150%)
		13C-3-MoCB		39.5	(15%-150%)
		13C-4-DiCB		44.1	(25%-150%)
		13C-15-DiCB		65.9	(25%-150%)
		13C-19-TrCB		60.7	(25%-150%)
		13C-37-TrCB		62.2	(25%-150%)
		13C-54-TeCB		49.4	(25%-150%)
		13C-77-TeCB		83.8	(25%-150%)
		13C-81-TeCB		84.9	(25%-150%)
		13C-104-PeCB		48.1	(25%-150%)
		13C-105-PeCB		70.7	(25%-150%)
		13C-114-PeCB		68.9	(25%-150%)
		13C-118-PeCB		67.1	(25%-150%)

PCB Congeners

Surrogate Recovery Report

SDG Number: 2104C54

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
18056001	2104C54-001G RG-North-20210428	13C-123-PeCB		71.3	(25%-150%)
		13C-126-PeCB		78.2	(25%-150%)
		13C-155-HxCB		55.0	(25%-150%)
		13C-156-HxCB	C	66.2	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		67.3	(25%-150%)
		13C-169-HxCB		71.5	(25%-150%)
		13C-188-HpCB		61.8	(25%-150%)
		13C-189-HpCB		60.8	(25%-150%)
		13C-202-OcCB		65.6	(25%-150%)
		13C-205-OcCB		79.6	(25%-150%)
		13C-206-NoCB		88.3	(25%-150%)
		13C-208-NoCB		74.7	(25%-150%)
		13C-209-DeCB		80.9	(25%-150%)
		13C-28-TrCB		67.8	(30%-135%)
		13C-111-PeCB		83.4	(30%-135%)
		13C-178-HpCB		93.3	(30%-135%)
18056002	2104C54-003G RG-Isleta-20210429	13C-1-MoCB		34.8	(15%-150%)
		13C-3-MoCB		42.3	(15%-150%)
		13C-4-DiCB		49.8	(25%-150%)
		13C-15-DiCB		68.9	(25%-150%)
		13C-19-TrCB		70.9	(25%-150%)
		13C-37-TrCB		62.7	(25%-150%)
		13C-54-TeCB		54.2	(25%-150%)
		13C-77-TeCB		84.4	(25%-150%)
		13C-81-TeCB		86.8	(25%-150%)
		13C-104-PeCB		51.8	(25%-150%)
		13C-105-PeCB		72.0	(25%-150%)
		13C-114-PeCB		70.8	(25%-150%)
		13C-118-PeCB		69.1	(25%-150%)
		13C-123-PeCB		72.5	(25%-150%)
		13C-126-PeCB		78.8	(25%-150%)
		13C-155-HxCB		54.7	(25%-150%)
		13C-156-HxCB	C	66.0	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		67.6	(25%-150%)
		13C-169-HxCB		70.9	(25%-150%)
		13C-188-HpCB		56.9	(25%-150%)
		13C-189-HpCB		59.3	(25%-150%)
		13C-202-OcCB		62.2	(25%-150%)
		13C-205-OcCB		78.8	(25%-150%)
		13C-206-NoCB		86.5	(25%-150%)
		13C-208-NoCB		72.4	(25%-150%)
		13C-209-DeCB		80.7	(25%-150%)
		13C-28-TrCB		75.6	(30%-135%)
		13C-111-PeCB		93.1	(30%-135%)
		13C-178-HpCB		99.7	(30%-135%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

PCB Congeners

Quality Control Summary
Spike Recovery Report

SDG Number: **2104C54** **Sample Type:** **Laboratory Control Sample**

Client ID: **LCS for batch 46738** **Matrix:** **WATER**

Lab Sample ID: **12029213**

Instrument: **HRP875** **Analysis Date:** **05/07/2021 17:48** **Dilution:** **1**

Analyst: **MJC** **Prep Batch ID:** **46738**

Batch ID: **46817**

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits
2051-60-7	LCS	1-MoCB	500		385	77	50-150
2051-62-9	LCS	3-MoCB	500		432	86.4	50-150
13029-08-8	LCS	4-DiCB	500		417	83.5	50-150
2050-68-2	LCS	15-DiCB	500		466	93.3	50-150
38444-73-4	LCS	19-TrCB	500		457	91.4	50-150
38444-90-5	LCS	37-TrCB	500		429	85.8	50-150
15968-05-5	LCS	54-TeCB	1000		1010	101	50-150
32598-13-3	LCS	77-TeCB	1000		840	84	50-150
70362-50-4	LCS	81-TeCB	1000		719	71.9	50-150
56558-16-8	LCS	104-PeCB	1000		1020	102	50-150
32598-14-4	LCS	105-PeCB	1000		838	83.8	50-150
74472-37-0	LCS	114-PeCB	1000		1020	102	50-150
31508-00-6	LCS	118-PeCB	1000		987	98.7	50-150
65510-44-3	LCS	123-PeCB	1000		877	87.7	50-150
57465-28-8	LCS	126-PeCB	1000		927	92.7	50-150
33979-03-2	LCS	155-HxCB	1000		958	95.8	50-150
38380-08-4	LCS	156-HxCB	2000	C	2010	101	50-150
69782-90-7	LCS	157-HxCB		C156			
52663-72-6	LCS	167-HxCB	1000		932	93.2	50-150
32774-16-6	LCS	169-HxCB	1000		872	87.2	50-150
74487-85-7	LCS	188-HpCB	1000		932	93.2	50-150
39635-31-9	LCS	189-HpCB	1000		903	90.3	50-150
2136-99-4	LCS	202-OcCB	1500		1540	103	50-150
74472-53-0	LCS	205-OcCB	1500		1300	86.5	50-150
40186-72-9	LCS	206-NoCB	1500		1290	86.2	50-150
52663-77-1	LCS	208-NoCB	1500		1510	101	50-150
2051-24-3	LCS	209-DeCB	1500		1400	93.5	50-150

PCB Congeners

Quality Control Summary
Spike Recovery Report

SDG Number: 2104C54 **Sample Type:** Laboratory Control Sample Duplicate

Client ID: LCSD for batch 46738 **Matrix:** WATER

Lab Sample ID: 12029214

Instrument: HRP875 **Analysis Date:** 05/07/2021 18:56 **Dilution:** 1

Analyst: MJC **Prep Batch ID:** 46738

Batch ID: 46817

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
2051-60-7	LCSD	1-MoCB	500		400	80	50-150	3.89	0-20
2051-62-9	LCSD	3-MoCB	500		437	87.4	50-150	1.20	0-20
13029-08-8	LCSD	4-DiCB	500		430	86	50-150	3.01	0-20
2050-68-2	LCSD	15-DiCB	500		476	95.2	50-150	2.03	0-20
38444-73-4	LCSD	19-TrCB	500		461	92.1	50-150	0.807	0-20
38444-90-5	LCSD	37-TrCB	500		414	82.9	50-150	3.46	0-20
15968-05-5	LCSD	54-TeCB	1000		1020	102	50-150	0.597	0-20
32598-13-3	LCSD	77-TeCB	1000		846	84.6	50-150	0.757	0-20
70362-50-4	LCSD	81-TeCB	1000		725	72.5	50-150	0.911	0-20
56558-16-8	LCSD	104-PeCB	1000		1040	104	50-150	2.23	0-20
32598-14-4	LCSD	105-PeCB	1000		858	85.8	50-150	2.35	0-20
74472-37-0	LCSD	114-PeCB	1000		1040	104	50-150	2.29	0-20
31508-00-6	LCSD	118-PeCB	1000		1020	102	50-150	3.28	0-20
65510-44-3	LCSD	123-PeCB	1000		907	90.7	50-150	3.31	0-20
57465-28-8	LCSD	126-PeCB	1000		942	94.2	50-150	1.66	0-20
33979-03-2	LCSD	155-HxCB	1000		1020	102	50-150	6.27	0-20
38380-08-4	LCSD	156-HxCB	2000	C	2050	103	50-150	2.09	0-20
69782-90-7	LCSD	157-HxCB		C156					
52663-72-6	LCSD	167-HxCB	1000		961	96.1	50-150	3.12	0-20
32774-16-6	LCSD	169-HxCB	1000		899	89.9	50-150	3.00	0-20
74487-85-7	LCSD	188-HpCB	1000		977	97.7	50-150	4.67	0-20
39635-31-9	LCSD	189-HpCB	1000		927	92.7	50-150	2.67	0-20
2136-99-4	LCSD	202-OcCB	1500		1580	105	50-150	1.98	0-20
74472-53-0	LCSD	205-OcCB	1500		1330	88.7	50-150	2.57	0-20
40186-72-9	LCSD	206-NoCB	1500		1310	87.5	50-150	1.55	0-20
52663-77-1	LCSD	208-NoCB	1500		1560	104	50-150	3.28	0-20
2051-24-3	LCSD	209-DeCB	1500		1480	98.6	50-150	5.32	0-20

Method Blank Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Matrix:**	**WATER**
Client ID:	**MB for batch 46738**	**Instrument ID:**	**HRP875**	**Data File:**	**d07may21a-5**
Lab Sample ID:	**12029212**	**Prep Date:**	**04-MAY-21**	**Analyzed:**	**05/07/21 20:05**
Column:					

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 46738	12029213	d07may21a-3	05/07/21	1748
02	LCSD for batch 46738	12029214	d07may21a-4	05/07/21	1856
03	2104C54-001G RG-North-20210428	18056001	d17may21a-4	05/17/21	1952
04	2104C54-003G RG-Isleta-20210429	18056002	d17may21a-5	05/17/21	2101

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12029212**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 46738**				
Client ID:	**MB for batch 46738**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/07/2021 20:05**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d07may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	J	3.02	pg/L	1.00	100
2051-61-8	2-MoCB	J	3.58	pg/L	1.46	100
2051-62-9	3-MoCB	J	3.78	pg/L	1.30	100
13029-08-8	4-DiCB	U	ND	pg/L	14.8	100
16605-91-7	5-DiCB	U	ND	pg/L	14.7	100
25569-80-6	6-DiCB	U	ND	pg/L	14.1	100
33284-50-3	7-DiCB	U	ND	pg/L	12.6	100
34883-43-7	8-DiCB	U	ND	pg/L	12.7	100
34883-39-1	9-DiCB	U	ND	pg/L	16.0	100
33146-45-1	10-DiCB	U	ND	pg/L	10.3	100
2050-67-1	11-DiCB	J	42.3	pg/L	15.7	100
2974-92-7	12-DiCB	CU	ND	pg/L	14.2	200
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	15.2	100
2050-68-2	15-DiCB	U	ND	pg/L	15.1	100
38444-78-9	16-TrCB	U	ND	pg/L	2.26	100
37680-66-3	17-TrCB	U	ND	pg/L	2.36	100
37680-65-2	18-TrCB	CJ	3.26	pg/L	1.96	200
38444-73-4	19-TrCB	U	ND	pg/L	2.08	100
38444-84-7	20-TrCB	CU	ND	pg/L	4.92	200
55702-46-0	21-TrCB	CU	ND	pg/L	3.36	200
38444-85-8	22-TrCB	U	ND	pg/L	1.56	100
55720-44-0	23-TrCB	U	ND	pg/L	1.54	100
55702-45-9	24-TrCB	U	ND	pg/L	1.68	100
55712-37-3	25-TrCB	U	ND	pg/L	1.40	100
38444-81-4	26-TrCB	CU	ND	pg/L	1.70	200
38444-76-7	27-TrCB	U	ND	pg/L	1.86	100
7012-37-5	28-TrCB	C20				
15862-07-4	29-TrCB	C26				
35693-92-6	30-TrCB	C18				
16606-02-3	31-TrCB	J	3.26	pg/L	1.64	100
38444-77-8	32-TrCB	U	ND	pg/L	1.66	100

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
Q Quantitative Interference; value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12029212**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 46738**				
Client ID:	**MB for batch 46738**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/07/2021 20:05**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d07may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	1.88	100
37680-69-6	35-TrCB	U	ND	pg/L	2.42	100
38444-87-0	36-TrCB	U	ND	pg/L	2.18	100
38444-90-5	37-TrCB	U	ND	pg/L	2.52	100
53555-66-1	38-TrCB	U	ND	pg/L	2.40	100
38444-88-1	39-TrCB	U	ND	pg/L	1.98	100
38444-93-8	40-TeCB	CU	ND	pg/L	2.62	200
52663-59-9	41-TeCB	U	ND	pg/L	3.98	100
36559-22-5	42-TeCB	U	ND	pg/L	2.88	100
70362-46-8	43-TeCB	U	ND	pg/L	3.26	100
41464-39-5	44-TeCB	CJ	6.86	pg/L	2.80	300
70362-45-7	45-TeCB	CJ	2.40	pg/L	1.34	200
41464-47-5	46-TeCB	U	ND	pg/L	1.42	100
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	2.80	100
41464-40-8	49-TeCB	CU	ND	pg/L	2.64	200
62796-65-0	50-TeCB	CJ	1.56	pg/L	1.26	200
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	J	7.36	pg/L	3.44	200
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	1.00	100
74338-24-2	55-TeCB	U	ND	pg/L	2.16	100
41464-43-1	56-TeCB	U	ND	pg/L	2.82	100
70424-67-8	57-TeCB	U	ND	pg/L	2.36	100
41464-49-7	58-TeCB	U	ND	pg/L	2.18	100
74472-33-6	59-TeCB	CU	ND	pg/L	2.30	300
33025-41-1	60-TeCB	U	ND	pg/L	2.14	100
33284-53-6	61-TeCB	CJ	8.86	pg/L	2.20	400
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	2.38	100
52663-58-8	64-TeCB	U	ND	pg/L	2.12	100

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
Q Quantitative Interference; value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12029212**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 46738**				
Client ID:	**MB for batch 46738**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/07/2021 20:05**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d07may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	J	4.40	pg/L	2.44	100
73575-53-8	67-TeCB	U	ND	pg/L	1.98	100
73575-52-7	68-TeCB	U	ND	pg/L	1.94	100
60233-24-1	69-TeCB	C49				
32598-11-1	70-TeCB	C61				
41464-46-4	71-TeCB	C40				
41464-42-0	72-TeCB	U	ND	pg/L	2.26	100
74338-23-1	73-TeCB	U	ND	pg/L	2.28	100
32690-93-0	74-TeCB	C61				
32598-12-2	75-TeCB	C59				
70362-48-0	76-TeCB	C61				
32598-13-3	77-TeCB	J	3.52	pg/L	2.38	100
70362-49-1	78-TeCB	U	ND	pg/L	2.68	100
41464-48-6	79-TeCB	U	ND	pg/L	2.34	100
33284-52-5	80-TeCB	U	ND	pg/L	2.02	100
70362-50-4	81-TeCB	U	ND	pg/L	2.12	100
52663-62-4	82-PeCB	U	ND	pg/L	2.56	100
60145-20-2	83-PeCB	U	ND	pg/L	2.96	100
52663-60-2	84-PeCB	U	ND	pg/L	2.24	100
65510-45-4	85-PeCB	CJ	3.10	pg/L	1.74	300
55312-69-1	86-PeCB	CJ	7.30	pg/L	1.82	600
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	2.18	200
73575-57-2	89-PeCB	U	ND	pg/L	2.68	100
68194-07-0	90-PeCB	CU	ND	pg/L	5.60	300
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	U	ND	pg/L	2.48	100
73575-56-1	93-PeCB	CU	ND	pg/L	2.02	200
73575-55-0	94-PeCB	U	ND	pg/L	2.02	100
38379-99-6	95-PeCB	J	5.62	pg/L	2.46	100
73575-54-9	96-PeCB	U	ND	pg/L	1.24	100

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
Q Quantitative Interference; value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12029212**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 46738**				
Client ID:	**MB for batch 46738**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/07/2021 20:05**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d07may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	2.02	200
38380-01-7	99-PeCB	U	ND	pg/L	1.94	100
39485-83-1	100-PeCB	C93				
37680-73-2	101-PeCB	C90				
68194-06-9	102-PeCB	C98				
60145-21-3	103-PeCB	U	ND	pg/L	2.22	100
56558-16-8	104-PeCB	U	ND	pg/L	0.880	100
32598-14-4	105-PeCB	U	ND	pg/L	3.74	100
70424-69-0	106-PeCB	U	ND	pg/L	1.94	100
70424-68-9	107-PeCB	U	ND	pg/L	1.66	100
70362-41-3	108-PeCB	CU	ND	pg/L	3.08	200
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	CJ	6.34	pg/L	1.60	200
39635-32-0	111-PeCB	U	ND	pg/L	1.42	100
74472-36-9	112-PeCB	U	ND	pg/L	1.52	100
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	J	2.30	pg/L	1.78	100
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB	J	5.32	pg/L	1.76	100
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	1.70	100
56558-18-0	121-PeCB	U	ND	pg/L	1.42	100
76842-07-4	122-PeCB	U	ND	pg/L	2.48	100
65510-44-3	123-PeCB	U	ND	pg/L	1.72	100
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	2.20	100
39635-33-1	127-PeCB	U	ND	pg/L	2.02	100
38380-07-3	128-HxCB	CU	ND	pg/L	2.72	200

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
Q Quantitative Interference; value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12029212**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 46738**				
Client ID:	**MB for batch 46738**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/07/2021 20:05**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d07may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	CJ	6.50	pg/L	2.22	300
52663-66-8	130-HxCB	U	ND	pg/L	2.62	100
61798-70-7	131-HxCB	U	ND	pg/L	2.48	100
38380-05-1	132-HxCB	J	2.38	pg/L	2.26	100
35694-04-3	133-HxCB	U	ND	pg/L	2.64	100
52704-70-8	134-HxCB	U	ND	pg/L	2.54	100
52744-13-5	135-HxCB	CU	ND	pg/L	2.64	200
38411-22-2	136-HxCB	U	ND	pg/L	1.22	100
35694-06-5	137-HxCB	U	ND	pg/L	2.20	100
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	2.10	200
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	U	ND	pg/L	2.18	100
41411-61-4	142-HxCB	U	ND	pg/L	2.68	100
68194-15-0	143-HxCB	U	ND	pg/L	2.62	100
68194-14-9	144-HxCB	U	ND	pg/L	1.62	100
74472-40-5	145-HxCB	U	ND	pg/L	1.06	100
51908-16-8	146-HxCB	U	ND	pg/L	2.06	100
68194-13-8	147-HxCB	CJ	4.22	pg/L	2.06	200
74472-41-6	148-HxCB	U	ND	pg/L	1.54	100
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	1.02	100
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	1.22	100
35065-27-1	153-HxCB	CJ	4.86	pg/L	1.82	200
60145-22-4	154-HxCB	U	ND	pg/L	1.24	100
33979-03-2	155-HxCB	U	ND	pg/L	1.02	100
38380-08-4	156-HxCB	CU	ND	pg/L	4.44	200
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	1.60	100
39635-35-3	159-HxCB	U	ND	pg/L	2.00	100
41411-62-5	160-HxCB	U	ND	pg/L	1.70	100

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
Q Quantitative Interference; value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12029212**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 46738**				
Client ID:	**MB for batch 46738**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/07/2021 20:05**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d07may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	1.82	100
39635-34-2	162-HxCB	U	ND	pg/L	1.80	100
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	1.72	100
74472-46-1	165-HxCB	U	ND	pg/L	1.72	100
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	J	2.26	pg/L	1.88	100
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	J	3.00	pg/L	2.16	100
35065-30-6	170-HpCB	U	ND	pg/L	2.60	100
52663-71-5	171-HpCB	CU	ND	pg/L	2.50	200
52663-74-8	172-HpCB	U	ND	pg/L	2.56	100
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	U	ND	pg/L	2.28	100
40186-70-7	175-HpCB	U	ND	pg/L	1.98	100
52663-65-7	176-HpCB	U	ND	pg/L	1.58	100
52663-70-4	177-HpCB	U	ND	pg/L	2.54	100
52663-67-9	178-HpCB	U	ND	pg/L	2.12	100
52663-64-6	179-HpCB	U	ND	pg/L	1.50	100
35065-29-3	180-HpCB	CJ	4.12	pg/L	2.02	200
74472-47-2	181-HpCB	U	ND	pg/L	2.20	100
60145-23-5	182-HpCB	U	ND	pg/L	1.92	100
52663-69-1	183-HpCB	CU	ND	pg/L	2.22	200
74472-48-3	184-HpCB	U	ND	pg/L	1.32	100
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	1.42	100
52663-68-0	187-HpCB	U	ND	pg/L	2.84	100
74487-85-7	188-HpCB	U	ND	pg/L	1.50	100
39635-31-9	189-HpCB	J	2.36	pg/L	1.76	100
41411-64-7	190-HpCB	U	ND	pg/L	2.00	100
74472-50-7	191-HpCB	U	ND	pg/L	1.88	100
74472-51-8	192-HpCB	U	ND	pg/L	1.84	100

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
Q Quantitative Interference; value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12029212**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 46738**				
Client ID:	**MB for batch 46738**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/07/2021 20:05**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d07may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	U	ND	pg/L	2.66	100
52663-78-2	195-OcCB	U	ND	pg/L	2.08	100
42740-50-1	196-OcCB	U	ND	pg/L	1.94	100
33091-17-7	197-OcCB	CU	ND	pg/L	1.38	200
68194-17-2	198-OcCB	CU	ND	pg/L	1.92	200
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	1.36	100
2136-99-4	202-OcCB	U	ND	pg/L	1.58	100
52663-76-0	203-OcCB	U	ND	pg/L	1.66	100
74472-52-9	204-OcCB	U	ND	pg/L	1.44	100
74472-53-0	205-OcCB	U	ND	pg/L	1.48	100
40186-72-9	206-NoCB	U	ND	pg/L	2.06	100
52663-79-3	207-NoCB	U	ND	pg/L	1.54	100
52663-77-1	208-NoCB	U	ND	pg/L	1.48	100
2051-24-3	209-DeCB	U	ND	pg/L	3.30	100
1336-36-3	Total PCB Congeners	J	154	pg/L		100

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		881	2000	pg/L	44.0	(15%-150%)
13C-3-MoCB		917	2000	pg/L	45.9	(15%-150%)
13C-4-DiCB		1120	2000	pg/L	56.2	(25%-150%)
13C-15-DiCB		1320	2000	pg/L	66.2	(25%-150%)
13C-19-TrCB		1300	2000	pg/L	64.9	(25%-150%)
13C-37-TrCB		875	2000	pg/L	43.7	(25%-150%)
13C-54-TeCB		922	2000	pg/L	46.1	(25%-150%)
13C-77-TeCB		1390	2000	pg/L	69.5	(25%-150%)
13C-81-TeCB		1470	2000	pg/L	73.3	(25%-150%)
13C-104-PeCB		1210	2000	pg/L	60.3	(25%-150%)
13C-105-PeCB		1260	2000	pg/L	63.2	(25%-150%)
13C-114-PeCB		1250	2000	pg/L	62.5	(25%-150%)
13C-118-PeCB		1220	2000	pg/L	61.2	(25%-150%)
13C-123-PeCB		1300	2000	pg/L	65.1	(25%-150%)
13C-126-PeCB		1300	2000	pg/L	65.1	(25%-150%)
13C-155-HxCB		1280	2000	pg/L	64.0	(25%-150%)
13C-156-HxCB	C	2710	4000	pg/L	67.7	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1410	2000	pg/L	70.6	(25%-150%)
13C-169-HxCB		1440	2000	pg/L	72.2	(25%-150%)
13C-188-HpCB		1150	2000	pg/L	57.6	(25%-150%)
13C-189-HpCB		1240	2000	pg/L	61.8	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12029212**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 46738**				
Client ID:	**MB for batch 46738**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/07/2021 20:05**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d07may21a-5**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1230	2000	pg/L	61.3	(25%-150%)
13C-205-OcCB		1550	2000	pg/L	77.4	(25%-150%)
13C-206-NoCB		1630	2000	pg/L	81.6	(25%-150%)
13C-208-NoCB		1440	2000	pg/L	72.1	(25%-150%)
13C-209-DeCB		1410	2000	pg/L	70.6	(25%-150%)
13C-28-TrCB		1550	2000	pg/L	77.4	(30%-135%)
13C-111-PeCB		1710	2000	pg/L	85.5	(30%-135%)
13C-178-HpCB		1770	2000	pg/L	88.4	(30%-135%)

Comments:

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**
J **Value is estimated**
Q **Quantitative Interference; value is estimated**
U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12029213**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 46738**				
Client ID:	**LCS for batch 46738**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/07/2021 17:48**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d07may21a-3**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB		385	pg/L	1.88	100
2051-62-9	3-MoCB		432	pg/L	2.20	100
13029-08-8	4-DiCB		417	pg/L	14.7	100
2050-68-2	15-DiCB		466	pg/L	9.44	100
38444-73-4	19-TrCB		457	pg/L	2.26	100
38444-90-5	37-TrCB		429	pg/L	8.48	100
15968-05-5	54-TeCB		1010	pg/L	1.16	100
32598-13-3	77-TeCB		840	pg/L	5.44	100
70362-50-4	81-TeCB		719	pg/L	4.92	100
56558-16-8	104-PeCB		1020	pg/L	0.940	100
32598-14-4	105-PeCB		838	pg/L	4.76	100
74472-37-0	114-PeCB		1020	pg/L	4.30	100
31508-00-6	118-PeCB		987	pg/L	4.22	100
65510-44-3	123-PeCB		877	pg/L	4.26	100
57465-28-8	126-PeCB		927	pg/L	5.34	100
33979-03-2	155-HxCB		958	pg/L	0.880	100
38380-08-4	156-HxCB	C	2010	pg/L	3.38	200
69782-90-7	157-HxCB	C156				
52663-72-6	167-HxCB		932	pg/L	2.48	100
32774-16-6	169-HxCB		872	pg/L	2.92	100
74487-85-7	188-HpCB		932	pg/L	1.06	100
39635-31-9	189-HpCB		903	pg/L	2.04	100
2136-99-4	202-OcCB		1540	pg/L	9.12	100
74472-53-0	205-OcCB		1300	pg/L	1.78	100
40186-72-9	206-NoCB		1290	pg/L	2.42	100
52663-77-1	208-NoCB		1510	pg/L	1.76	100
2051-24-3	209-DeCB		1400	pg/L	2.60	100

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		731	2000	pg/L	36.6	(15%-140%)
13C-3-MoCB		786	2000	pg/L	39.3	(15%-140%)
13C-4-DiCB		973	2000	pg/L	48.7	(30%-140%)
13C-15-DiCB		1210	2000	pg/L	60.7	(30%-140%)
13C-19-TrCB		1210	2000	pg/L	60.7	(30%-140%)
13C-37-TrCB		992	2000	pg/L	49.6	(30%-140%)
13C-54-TeCB		967	2000	pg/L	48.4	(30%-140%)
13C-77-TeCB		1510	2000	pg/L	75.3	(30%-140%)
13C-81-TeCB		1570	2000	pg/L	78.5	(30%-140%)
13C-104-PeCB		1290	2000	pg/L	64.4	(30%-140%)
13C-105-PeCB		1500	2000	pg/L	75.1	(30%-140%)
13C-114-PeCB		1520	2000	pg/L	76.0	(30%-140%)
13C-118-PeCB		1480	2000	pg/L	73.8	(30%-140%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12029213**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 46738**				
Client ID:	**LCS for batch 46738**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/07/2021 17:48**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d07may21a-3**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-123-PeCB		1560	2000	pg/L	77.9	(30%-140%)
13C-126-PeCB		1600	2000	pg/L	80.2	(30%-140%)
13C-155-HxCB		1420	2000	pg/L	71.0	(30%-140%)
13C-156-HxCB	C	3180	4000	pg/L	79.5	(30%-140%)
13C-157-HxCB	C156L					
13C-167-HxCB		1640	2000	pg/L	81.9	(30%-140%)
13C-169-HxCB		1680	2000	pg/L	83.9	(30%-140%)
13C-188-HpCB		1460	2000	pg/L	72.8	(30%-140%)
13C-189-HpCB		1530	2000	pg/L	76.6	(30%-140%)
13C-202-OcCB		1550	2000	pg/L	77.4	(30%-140%)
13C-205-OcCB		1880	2000	pg/L	94.2	(30%-140%)
13C-206-NoCB		2020	2000	pg/L	101	(30%-140%)
13C-208-NoCB		1810	2000	pg/L	90.4	(30%-140%)
13C-209-DeCB		1840	2000	pg/L	91.9	(30%-140%)
13C-28-TrCB		1330	2000	pg/L	66.7	(40%-125%)
13C-111-PeCB		1700	2000	pg/L	84.9	(40%-125%)
13C-178-HpCB		1830	2000	pg/L	91.6	(40%-125%)

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12029214**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 46738**				
Client ID:	**LCSD for batch 46738**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/07/2021 18:56**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d07may21a-4**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB		400	pg/L	1.90	100
2051-62-9	3-MoCB		437	pg/L	2.42	100
13029-08-8	4-DiCB		430	pg/L	13.5	100
2050-68-2	15-DiCB		476	pg/L	19.2	100
38444-73-4	19-TrCB		461	pg/L	2.68	100
38444-90-5	37-TrCB		414	pg/L	7.02	100
15968-05-5	54-TeCB		1020	pg/L	1.18	100
32598-13-3	77-TeCB		846	pg/L	7.48	100
70362-50-4	81-TeCB		725	pg/L	6.90	100
56558-16-8	104-PeCB		1040	pg/L	1.06	100
32598-14-4	105-PeCB		858	pg/L	4.86	100
74472-37-0	114-PeCB		1040	pg/L	4.38	100
31508-00-6	118-PeCB		1020	pg/L	4.30	100
65510-44-3	123-PeCB		907	pg/L	4.30	100
57465-28-8	126-PeCB		942	pg/L	5.40	100
33979-03-2	155-HxCB		1020	pg/L	1.00	100
38380-08-4	156-HxCB	C	2050	pg/L	6.24	200
69782-90-7	157-HxCB	C156				
52663-72-6	167-HxCB		961	pg/L	4.50	100
32774-16-6	169-HxCB		899	pg/L	5.36	100
74487-85-7	188-HpCB		977	pg/L	1.42	100
39635-31-9	189-HpCB		927	pg/L	2.08	100
2136-99-4	202-OcCB		1580	pg/L	1.56	100
74472-53-0	205-OcCB		1330	pg/L	1.98	100
40186-72-9	206-NoCB		1310	pg/L	2.60	100
52663-77-1	208-NoCB		1560	pg/L	1.98	100
2051-24-3	209-DeCB		1480	pg/L	3.12	100

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		867	2000	pg/L	43.3	(15%-140%)
13C-3-MoCB		912	2000	pg/L	45.6	(15%-140%)
13C-4-DiCB		1120	2000	pg/L	56.2	(30%-140%)
13C-15-DiCB		1270	2000	pg/L	63.3	(30%-140%)
13C-19-TrCB		1270	2000	pg/L	63.3	(30%-140%)
13C-37-TrCB		905	2000	pg/L	45.3	(30%-140%)
13C-54-TeCB		908	2000	pg/L	45.4	(30%-140%)
13C-77-TeCB		1440	2000	pg/L	71.8	(30%-140%)
13C-81-TeCB		1480	2000	pg/L	74.0	(30%-140%)
13C-104-PeCB		1230	2000	pg/L	61.5	(30%-140%)
13C-105-PeCB		1370	2000	pg/L	68.5	(30%-140%)
13C-114-PeCB		1400	2000	pg/L	69.8	(30%-140%)
13C-118-PeCB		1360	2000	pg/L	68.0	(30%-140%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2104C54**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12029214**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 46738**				
Client ID:	**LCSD for batch 46738**			**Prep Basis:**	**As Received**
Batch ID:	**46817**	**Method:**	**EPA Method 1668A**		
Run Date:	**05/07/2021 18:56**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d07may21a-4**			**Dilution:**	**1**
Prep Batch:	**46738**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**04-MAY-21**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-123-PeCB		1430	2000	pg/L	71.7	(30%-140%)
13C-126-PeCB		1460	2000	pg/L	73.2	(30%-140%)
13C-155-HxCB		1370	2000	pg/L	68.5	(30%-140%)
13C-156-HxCB	C	2960	4000	pg/L	74.1	(30%-140%)
13C-157-HxCB	C156L					
13C-167-HxCB		1530	2000	pg/L	76.7	(30%-140%)
13C-169-HxCB		1560	2000	pg/L	78.2	(30%-140%)
13C-188-HpCB		1270	2000	pg/L	63.3	(30%-140%)
13C-189-HpCB		1390	2000	pg/L	69.6	(30%-140%)
13C-202-OcCB		1390	2000	pg/L	69.4	(30%-140%)
13C-205-OcCB		1720	2000	pg/L	85.8	(30%-140%)
13C-206-NoCB		1850	2000	pg/L	92.3	(30%-140%)
13C-208-NoCB		1610	2000	pg/L	80.4	(30%-140%)
13C-209-DeCB		1610	2000	pg/L	80.7	(30%-140%)
13C-28-TrCB		1280	2000	pg/L	64.2	(40%-125%)
13C-111-PeCB		1620	2000	pg/L	81.2	(40%-125%)
13C-178-HpCB		1720	2000	pg/L	85.9	(40%-125%)

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data

ANALYTICAL REPORT

June 01, 2021

Hall Environmental Analysis Laboratory

Sample Delivery Group:	L1346065
Samples Received:	04/30/2021
Project Number:	
Description:	
Report To:	Jackie Bolte

Entire Report Reviewed By:

John Hawkins
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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

TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 4

Sr: Sample Results 5

2104C54-001I RG-NORTH-20210428 L1346065-01 5

2104C54-003I RG-ISLETA-20210429 L1346065-02 6

Qc: Quality Control Summary 7

Radiochemistry by Method 900 7

Gl: Glossary of Terms 8

Al: Accreditations & Locations 9

Sc: Sample Chain of Custody 10

SAMPLE SUMMARY

2104C54-001I RG-NORTH-20210428 L1346065-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	04/28/21 12:30	04/30/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1676923	1	05/26/21 13:10	05/28/21 22:57	JMR	Mt. Juliet, TN

2104C54-003I RG-ISLETA-20210429 L1346065-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	04/29/21 08:30	04/30/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1676923	1	05/26/21 13:10	05/28/21 22:57	JMR	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



John Hawkins
Project Manager

Radiochemistry by Method 900

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
GROSS ALPHA	2.96		0.776	0.832	05/28/2021 22:57	WG1676923

COC requested adjusted gross alpha be reported. AMAFCA spoke with HEAL about result & reporting. Per HEAL the adjusted gross alpha will be be lower than the gross alpha reported here, both of which are well below the WQS of 15 pCi/l.

Radiochemistry by Method 900

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
GROSS ALPHA	4.32		0.983	1.02	05/28/2021 22:57	WG1676923

COC requested adjusted gross alpha be reported. AMAFCA spoke with HEAL about result & reporting. Per HEAL the adjusted gross alpha will be be lower than the gross alpha reported here, both of which are well below the WQS of 15 pCi/l.

QUALITY CONTROL SUMMARY

L1346065-01,02

Method Blank (MB)

(MB) R3661069-1 05/28/21 22:57

Analyte	MB Result	MB Qualifier	MB MDA
	pCi/l		pCi/l
GROSS ALPHA	-0.263	U	0.504

L1346065-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1346065-02 05/28/21 22:57 • (DUP) R3661069-5 05/28/21 22:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	pCi/l		%			%	
GROSS ALPHA	4.32	5.73	1	28.1	0.880		20	3

Laboratory Control Sample (LCS)

(LCS) R3661069-2 05/28/21 22:57

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
GROSS ALPHA	15.0	13.7	91.3	80.0-120	

L1346065-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1346065-01 05/28/21 22:57 • (MS) R3661069-3 05/28/21 22:57 • (MSD) R3661069-4 05/28/21 22:57

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
GROSS ALPHA	18.8	2.96	23.3	23.3	108	108	1	70.0-130			0.000		20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
U	Below Detectable Limits: Indicates that the analyte was not detected.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

B158

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: clients.hallenvironmental.com

SUB CONTRATOR:	Pace TN	COMPANY: PACE TN	PHONE: (800) 767-5859	FAX: (615) 758-5859	
ADDRESS:	12065 Lebanon Rd		ACCOUNT #:	EMAIL:	
CITY, STATE, ZIP:	Mt. Juliet, TN 37122				

L1346065

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2104C54-001H	RG-North-20210428	500HDPEH2SO4	Aqueous	4/28/2021 12:30:00 PM	1	COD
2	2104C54-001I	RG-North-20210428	1LHDPEHNO3	Aqueous	4/28/2021 12:30:00 PM	1	Adjusted Gross Alpha -01
3	2104C54-001J	RG-North-20210428	120mL	Aqueous	4/28/2021 12:30:00 PM	1	Cr 6
4	2104C54-003H	RG-Isleta-20210429	500HDPEH2SO4	Aqueous	4/29/2021 8:30:00 AM	1	COD
5	2104C54-003I	RG-Isleta-20210429	1LHDPEHNO3	Aqueous	4/29/2021 8:30:00 AM	1	Adjusted Gross Alpha -02
6	2104C54-003J	RG-Isleta-20210429	120mL	Aqueous	4/29/2021 8:30:00 AM	1	Cr 6

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

5016 12237735

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: ITG	Date: 4/29/2021	Time: 11:53 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 4/30/21	Time: 0915

TAT: Standard ☑ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:

☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY

Temp of samples 2.1+0=2.1 °C #307 Attempt to Cool ? _____

Comments: _____

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2104C54**

01-Jun-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-59819**	SampType: **MBLK**	TestCode: **EPA Method 1664B**
Client ID: **PBW**	Batch ID: **59819**	RunNo: **77203**
Prep Date: **5/5/2021**	Analysis Date: **5/5/2021**	SeqNo: **2737669** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	ND	10.0								

Sample ID: **LCS-59819**	SampType: **LCS**	TestCode: **EPA Method 1664B**
Client ID: **LCSW**	Batch ID: **59819**	RunNo: **77203**
Prep Date: **5/5/2021**	Analysis Date: **5/5/2021**	SeqNo: **2737670** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	35.6	10.0	40.00	0	89.0	78	114			

Sample ID: **LCSD-59819**	SampType: **LCSD**	TestCode: **EPA Method 1664B**
Client ID: **LCSS02**	Batch ID: **59819**	RunNo: **77203**
Prep Date: **5/5/2021**	Analysis Date: **5/5/2021**	SeqNo: **2737671** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	35.2	10.0	40.00	0	88.0	78	114	1.13	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2104C54**

01-Jun-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-59770**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW**	Batch ID: **59770**	RunNo: **77121**
Prep Date: **5/3/2021**	Analysis Date: **5/4/2021**	SeqNo: **2734655** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								

Sample ID: **LLLCS-59770**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC**	Batch ID: **59770**	RunNo: **77121**
Prep Date: **5/3/2021**	Analysis Date: **5/4/2021**	SeqNo: **2734657** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.57	1.0	0.5000	0	113	50	150			J
Chromium	0.0067	0.0060	0.006000	0	112	50	150			
Magnesium	0.55	1.0	0.5000	0	111	50	150			J

Sample ID: **LCS-59770**	SampType: **LCS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW**	Batch ID: **59770**	RunNo: **77121**
Prep Date: **5/3/2021**	Analysis Date: **5/4/2021**	SeqNo: **2734659** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	55	1.0	50.00	0	109	85	115			
Chromium	0.56	0.0060	0.5000	0	112	85	115			
Magnesium	55	1.0	50.00	0	110	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2104C54**

01-Jun-21

Client: AMAFCA

Project: CMC

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B77076**	RunNo: **77076**
Prep Date:	Analysis Date: **4/30/2021**	SeqNo: **2732177** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0010								
Lead	ND	0.00050								

Sample ID: **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B77076**	RunNo: **77076**
Prep Date:	Analysis Date: **4/30/2021**	SeqNo: **2732178** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.0010	0.0010	0.001000	0	103	50	150			
Lead	0.00052	0.00050	0.0005000	0	104	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B77076**	RunNo: **77076**
Prep Date:	Analysis Date: **4/30/2021**	SeqNo: **2732179** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.024	0.0010	0.02500	0	96.9	85	115			
Lead	0.012	0.00050	0.01250	0	97.7	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2104C54**
01-Jun-21

Client: AMAFCA
Project: CMC

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R77061**	RunNo: **77061**
Prep Date:	Analysis Date: **4/29/2021**	SeqNo: **2731791** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R77061**	RunNo: **77061**
Prep Date:	Analysis Date: **4/29/2021**	SeqNo: **2731792** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	94.6	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2104C54**

01-Jun-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-59722**	SampType: **MBLK**	TestCode: **EPA Method 8081: PESTICIDES**
Client ID: **PBW**	Batch ID: **59722**	RunNo: **77329**
Prep Date: **4/30/2021**	Analysis Date: **5/11/2021**	SeqNo: **2744012** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	ND	0.10								
Surr: Decachlorobiphenyl	2.5		2.500		99.8	41.7	129			
Surr: Tetrachloro-m-xylene	2.0		2.500		78.2	31.8	88.5			

Sample ID: **MB-59722**	SampType: **MBLK**	TestCode: **EPA Method 8081: PESTICIDES**
Client ID: **PBW**	Batch ID: **59722**	RunNo: **77329**
Prep Date: **4/30/2021**	Analysis Date: **5/11/2021**	SeqNo: **2744013** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	ND	0.10								
Surr: Decachlorobiphenyl	2.5		2.500		98.7	41.7	129			
Surr: Tetrachloro-m-xylene	2.0		2.500		79.1	31.8	88.5			

Sample ID: **LCS-59722**	SampType: **LCS**	TestCode: **EPA Method 8081: PESTICIDES**
Client ID: **LCSW**	Batch ID: **59722**	RunNo: **77329**
Prep Date: **4/30/2021**	Analysis Date: **5/11/2021**	SeqNo: **2744014** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	0.44	0.10	0.5000	0	88.0	17.4	145			
Surr: Decachlorobiphenyl	2.4		2.500		97.8	41.7	129			
Surr: Tetrachloro-m-xylene	1.6		2.500		62.6	31.8	88.5			

Sample ID: **LCS-59722**	SampType: **LCS**	TestCode: **EPA Method 8081: PESTICIDES**
Client ID: **LCSW**	Batch ID: **59722**	RunNo: **77329**
Prep Date: **4/30/2021**	Analysis Date: **5/11/2021**	SeqNo: **2744015** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	0.44	0.10	0.5000	0	88.7	17.4	145			
Surr: Decachlorobiphenyl	2.5		2.500		99.5	41.7	129			
Surr: Tetrachloro-m-xylene	1.7		2.500		66.2	31.8	88.5			

Sample ID: **LCSD-59722**	SampType: **LCSD**	TestCode: **EPA Method 8081: PESTICIDES**
Client ID: **LCSS02**	Batch ID: **59722**	RunNo: **77329**
Prep Date: **4/30/2021**	Analysis Date: **5/11/2021**	SeqNo: **2744016** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	0.42	0.10	0.5000	0	83.7	17.4	145	5.05	20	
Surr: Decachlorobiphenyl	2.3		2.500		91.0	41.7	129	0	20	
Surr: Tetrachloro-m-xylene	1.4		2.500		55.5	31.8	88.5	0	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2104C54**
01-Jun-21

Client: AMAFCA
Project: CMC

Sample ID: **LCSD-59722**	SampType: **LCSD**	TestCode: **EPA Method 8081: PESTICIDES**
Client ID: **LCSS02**	Batch ID: **59722**	RunNo: **77329**
Prep Date: ***4/30/2021***	Analysis Date: **5/11/2021**	SeqNo: **2744017** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	0.41	0.10	0.5000	0	83.0	17.4	145	6.63	20	
Surr: Decachlorobiphenyl	2.2		2.500		89.7	41.7	129	0	20	
Surr: Tetrachloro-m-xylene	1.5		2.500		58.2	31.8	88.5	0	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2104C54**

01-Jun-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-59737**	SampType: **MBLK**	TestCode: **SM5210B: BOD**
Client ID: **PBW**	Batch ID: **59737**	RunNo: **77198**
Prep Date: **4/30/2021**	Analysis Date: **5/5/2021**	SeqNo: **2737436** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID: **LCS-59737**	SampType: **LCS**	TestCode: **SM5210B: BOD**
Client ID: **LCSW**	Batch ID: **59737**	RunNo: **77198**
Prep Date: **4/30/2021**	Analysis Date: **5/5/2021**	SeqNo: **2737437** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	170	2.0	198.0	0	85.9	84.6	115.4			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2104C54**
01-Jun-21

Client: AMAFCA
Project: CMC

Sample ID: **MB-59720**	SampType: **MBLK**	TestCode: **SM 9223B Fecal Indicator: E. coli MPN**
Client ID: **PBW**	Batch ID: **59720**	RunNo: **77078**
Prep Date: ***4/29/2021***	Analysis Date: ***4/30/2021***	SeqNo: **2732197** Units: **MPN/100mL**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
E. Coli	<1	1.000								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2104C54**

01-Jun-21

Client: AMAFCA

Project: CMC

Sample ID: **MB**	SampType: **MBLK**	TestCode: **SM 4500 NH3: Ammonia**
Client ID: **PBW**	Batch ID: **R77333**	RunNo: **77333**
Prep Date:	Analysis Date: **5/12/2021**	SeqNo: **2744046** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	1.0								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **SM 4500 NH3: Ammonia**
Client ID: **LCSW**	Batch ID: **R77333**	RunNo: **77333**
Prep Date:	Analysis Date: **5/12/2021**	SeqNo: **2744047** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	9.8	1.0	10.00	0	98.0	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2104C54**
01-Jun-21

Client: AMAFCA
Project: CMC

Sample ID: **MB-59857**	SampType: **MBLK**	TestCode: **EPA Method 365.1: Total Phosphorous**
Client ID: **PBW**	Batch ID: **59857**	RunNo: **77273**
Prep Date: **5/6/2021**	Analysis Date: **5/7/2021**	SeqNo: **2740716** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	ND	0.010								

Sample ID: **LCS-59857**	SampType: **LCS**	TestCode: **EPA Method 365.1: Total Phosphorous**
Client ID: **LCSW**	Batch ID: **59857**	RunNo: **77273**
Prep Date: **5/6/2021**	Analysis Date: **5/7/2021**	SeqNo: **2740717** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.25	0.010	0.2500	0	102	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2104C54**
01-Jun-21

Client: AMAFCA
Project: CMC

Sample ID: **MB-59817**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **59817**	RunNo: **77202**
Prep Date: **5/5/2021**	Analysis Date: **5/6/2021**	SeqNo: **2737645** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-59817**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **59817**	RunNo: **77202**
Prep Date: **5/5/2021**	Analysis Date: **5/6/2021**	SeqNo: **2737646** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2104C54**

01-Jun-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-59967**	SampType: **MBLK**	TestCode: **SM 4500 Norg C: TKN**
Client ID: **PBW**	Batch ID: **59967**	RunNo: **77358**
Prep Date: **5/12/2021**	Analysis Date: **5/13/2021**	SeqNo: **2745155** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0								

Sample ID: **LCS-59967**	SampType: **LCS**	TestCode: **SM 4500 Norg C: TKN**
Client ID: **LCSW**	Batch ID: **59967**	RunNo: **77358**
Prep Date: **5/12/2021**	Analysis Date: **5/13/2021**	SeqNo: **2745156** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	9.9	1.0	10.00	0	99.4	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2104C54**
01-Jun-21

Client: AMAFCA
Project: CMC

Sample ID: **MB-59803**	SampType: **MBLK**	TestCode: **SM 2540D: TSS**
Client ID: **PBW**	Batch ID: **59803**	RunNo: **77153**
Prep Date: **5/4/2021**	Analysis Date: **5/5/2021**	SeqNo: **2735841** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	ND	4.0								

Sample ID: **LCS-59803**	SampType: **LCS**	TestCode: **SM 2540D: TSS**
Client ID: **LCSW**	Batch ID: **59803**	RunNo: **77153**
Prep Date: **5/4/2021**	Analysis Date: **5/5/2021**	SeqNo: **2735842** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	89	4.0	92.10	0	96.6	83.71	119.44			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **AMAFCA** Work Order Number: **2104C54** RcptNo: **1**

Received By: **Juan Rojas** **4/29/2021 9:48:00 AM**

Completed By: **Desiree Dominguez** **4/29/2021 11:29:04 AM**

Reviewed By: JR 4/29/21

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Client		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 12 (<2 or >12 unless noted)

Adjusted? no

Checked by: cm 4/29/21

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.7	Good				
2	3.0	Good				

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

Phone #:

email or Fax#: pchavez@AMAFCA.org

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: CMC

Project #:

Project Manager: Patrick Chavez

Sampler: C. Johanneson - DBSA

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 3.8-0.1=3.7 (°C)

3.1-0.1=3.0

HEAL No. 2104C54

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	See attached sheet	Ecoli - enumerate
4-28-21	1230	AQ	RGNorth-20210428	numerous		-001/002											X	
4-29-21	0830	AQ	RGIsleta-20210429	numerous		003/004 ~~003~~ DAO 4/29/21											X	
4-29-21	0645	AQ	RGAlameda-20210429	1		-005												X
—	—	AQ	Trip blank	3		-006											X	

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4-29-21	0945			CDO	4/29/21	9:48
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:
RGNorth-20210428 ecoli delivered on 4/28/21
Attached Collaborative Monitoring Coop sheet
PCB's analysis by EPA method 1668

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Collaborative Monitoring Cooperative - Analyses List
Attach to Chain of Custody

Please refer to attached NPDES Permit No. NMR04A00 Appendix F. Methods and minimum quantification levels (MQL's) will be those approved under 40 CFR 136 and specified in the attached permit

Analyte (Bold Indicates WQS)	CAS #	Fraction	Method #	MDL (µg/L)
Hardness (Ca + Mg)	NA	Total	200.7	2.4
Lead	7439-92-1	Dissolved	200.8	0.09
Copper	7440-50-8	Dissolved	200.8	1.06
Ammonia + organic nitrogen	7664-41-7	Total	350.1	31.32
Total Kjehldal Nitrogen	17778-88-0	Total	351.2	58.78
Nitrate + Nitrite	14797-55-8	Total	353.2	10.17
Polychlorinated biphenyls (PCBs)	1336-36-3	Total	1668	0.014
Tetrahydrofuran (THF)	109-99-9	Total	8260C	7.9
bis(2-Ethylhexyl)phthalate	117-81-7	Total	8270D	0.2
Dibenzofuran	132-64-9	Total	8270D	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	Total	8270D	0.2
Benzo(b)fluoranthene	205-99-2	Total	8270D	0.1
Benzo(k)fluoranthene	207-08-9	Total	8270D	0.1
Chrysene	218-01-9	Total	8270D	0.2
Benzo(a)pyrene	50-32-8	Total	8270D	0.3
Dibenzo(a,h)anthracene	53-70-3	Total	8270D	0.3
Benzo(a)anthracene	56-55-3	Total	8270D	0.2
Dieldrin	60-57-1	Total	8081	0.1
Pentachlorophenol	87-86-5	Total	8270D	0.2
Benzidine	92-87-5	Total	8270D	0.1
Chemical Oxygen Demand	E1641638[2]	Total	HACH	5100
Gross alpha (adjusted)	NA	Total	Method 900	0.1 pCi/L
Total Dissolved Solids	E1642222[2]	Total	SM 2540C	60.4
Total Suspended Solids	NA	Total	SM 2540D	3450
Biological Oxygen Demand	N/A	Total	Standard Methods	930
Oil and Grease		Total	1664A	5000
Ecoli-enumeration			SM 9223B	
pH			SM 4500	
Phosphorus		Dissolved	365.1	100
Phosphorus		Total	365.1	100
Chromium IV		Total	3500Cr C-2011	100

Samplers Chad J, Shannon W

CMC Sampling Data Sheet

Site Identification: RGNorth

Notes: Cloudy, light rain. pH sonde required multiple calibrations

Full Suite Sample Date and Time:	4/28/21 1230
Full Sample Identification:	RGNorth- 20210428
QC Samples:	Duplicate / (None) QC Sample ID:
QC samples require a DIFFERENT sample time than the environmental sample. QC Sample time:	

Full Suite Collection Point : MRGCD DAM

Full Suite Sample Volume: ~8 gal Collection Time Start: 1140 End: 1225

Field Parameters for each 2-gallon grab

Grab	Time	Temp (°C)	pH	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)
1	1140	11.79	7.10	315	8.85	81.5
2	1155	11.06	7.34	312	8.04	73.0
3	1210	11.09	7.59	312	9.17	83.6
4	1225	11.37	8.16	312	8.46	77.3
Composite	1230	11.59	7.61	476	8.81	80.9

☐Turbid Water ☒Color light brown to clear ☐Solids ☐Oil/Sheen ☒Foam ☐Odor_____

Analytical -see 2020 COC table

☒Site Photo ☒Sample Photo

Samplers C. Johannsen

CMC Sampling Data Sheet

Site Identification: Isleta Dam

Notes: Clear, Sunny. pH sonde required multiple calibrations/check

Full Suite Sample Date and Time:	4/29/21 0830
Full Sample Identification:	Isleta- RG Isleta-20210429
QC Samples: Duplicate (None)	QC Sample ID:
QC samples require a DIFFERENT sample time than the environmental sample. QC Sample time:	

Full Suite Collection Point : Isleta dam

Full Suite Sample Volume: 8 6 gal Collection Time Start: 0745 End: 0830

Field Parameters for each 2-gallon grab

Grab	Time	Temp (°C)	pH	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)
1	0745	10.34	7.62	417	8.38	74.7
2	0800	10.66	7.63	396	8.54	76.7
3	0815	11.02	7.74	397	8.73	79.2
4	0830	10.85	7.65	394	8.70	78.5
Composite	0830	10.96	7.69	396	8.73	78.8

☐Turbid Water ☒Color lt brown ☒Solids ☐Oil/Sheen ☐Foam ☐Odor_____

Analytical -see 2020 COC table

☒Site Photo ☒Sample Photo

Samplers C. Johansen, S. Williams

CMC Sampling Data Sheet

Site Identification: RG Alameda

Notes:

Full Suite Sample Date and Time:	4/28/21 1340
Full Sample Identification:	RG Alameda-20210428
QC Samples: Duplicate / (None)	QC Sample ID:
QC samples require a DIFFERENT sample time than the environmental sample. QC Sample time:	

Full Suite Collection Point : Bridge

Full Suite Sample Volume: 1/2 gal Collection Time Start: 1340 End: 1340

Field Parameters for each 2-gallon grab

Grab	Time	Temp (°C)	pH	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)
1	1340	12.47	6.12	333	10.57	95.2
2						
3						
4						
Composite						

☐Turbid Water ☒Color Brown ☒Solids ☐Oil/Sheen ☐Foam ☐Odor_____

Analytical -see 2020 COC table

☒Site Photo ☒Sample Photo

Samplers C Johansen, E. Bastow

CMC Sampling Data Sheet

Site Identification: RG-Alameda

Notes:

Full Suite Sample Date and Time:	4/29/21 0645
Full Sample Identification:	RG-Alameda-20210429
QC Samples: Duplicate / None	QC Sample ID:
QC samples require a DIFFERENT sample time than the environmental sample. QC Sample time:	

Full Suite Collection Point : Bridge

Full Suite Sample Volume: 1/2 gal Collection Time Start: 0645 End: 0648

Field Parameters for each 2-gallon grab

Grab	Time	Temp (°C)	pH	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)
1	0645	10.33	7.31	342	8.76	78.2
2						
3						
4						
Composite						

☒ *Turbid Water* ☐ *Color* Brown ☐ *Solids* ☐ *Oil/Sheen* ☒ *Foam* ☐ *Odor*_____

Analytical -see 2020 COC table

☒ Site Photo ☒ Sample Photo

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

Phone #:

email or Fax#: pchavez@amafca.org

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: CMC

Project #:

Project Manager: Patrick Chavez

Sampler: C. Johannesen - DBSA

On Ice: ☐ Yes ☐ No

# of Coolers:

Cooler Temp (including CF): (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	See attached sheet	E.coli - presence/absent				
4/28/21	1230	AQ	RGNorth-20210428	numerous													X					
4-29-21	0830	AQ	RGIsleta-20210429	numerous													X					
4-29-21	0645	AQ	RGAlameda 20210429	1														X				
—	—	AQ	Trip blank	3													X					

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4/29/21	0945					
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

RGNorth-20210428 will be delivered on 4/30/21

Attached Collaborative Monitoring Corp sheet

PCBs analysis by EPA method 1668

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

Phone #:

email or Fax#: pchavez@amafca.org

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: CMC

Project #:

Project Manager: Patrick Chavez

Sampler: C Johannesen - DBA

On Ice: ☐ Yes ☐ No

# of Coolers:

Cooler Temp(including CF): (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	see attached for comment	E.coli - enumerated
4-28-21	1230	AQ	RG North-20210428	1														X
"	1340	AQ	RG Alameda-20210428	1														X

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4-28-21	1550					
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

ATTACHMENT 2

FY 2021 DRY SEASON COMPLETED DATA VERIFICATION AND VALIDATION (V&V) FORMS

Attachment 1.1 Water Quality Sample Data Verification and Validation Worksheet

Study Name: Compliance Monitoring Cooperative (CMC)
Year: FY 2021 (April 2021 – Dry Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande North – 04/28/2021
Version of Verification/Validation Procedures: QAPP – CMC SOP #2 (2/2015); AMAFCA SOP #5 (2/2019)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? ☒ Yes ☐ No

If yes, proceed; if no, attempt to locate missing forms, then indicate any remaining missing forms and action taken.

Missing Field Data Forms	Action Taken

Total number of occurrences: 0

B. Are station name and ID, and sampling date and time on forms consistent with database? ☒ Yes ☐ No
If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station and Parameter	Action Taken	Re-verified?

Total number of occurrences: 0

C. Are field data on forms consistent with database? ☒ Yes ☐ No
If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station	Sampling Date	Parameter(s) Corrected	Re-verified?

Total number of occurrences: 0

D. Are RIDs correct and associated with the correct analytical suite, media subdivision (e.g. surface water, municipal waste, etc.) and activity type (e.g. Field observation, Routine sample, QA sample etc.)?
☒ Yes ☐ No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify

Station/RID	Sampling Date	RID Corrected	Re-verified?

Total number of occurrences: 0

☒ **Step 1 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 2: Verify Data Deliverables
A. Have all data in question been delivered? ☒ Yes ☐ No

If yes, proceed; if no, indicate RIDs with missing data (samples or blanks) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken. Complete this step upon receipt of all missing data.

RID	Submittal Date	Missing Data/Parameters	Date of Initial Verification	Date Missing Data Were Received

Total number of occurrences: 0

B. Do all of the analytical suites have the correct number and type of analytes. ☒ Yes ☐ No

If yes, proceed; if no, indicate RIDs with missing or incorrect analyte(s) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken.
*Note – Lab report identifies “Dissolved Phosphorous” as “Total Phosphorous” on a filtered sample (identified under “Client Sample ID” as (Dissolved)).

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?
Rio Grande North	4/28/2021	Lab report lists Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	Notified AMAFCA of this and verified with HEAL. BHI added note to the lab report.	Yes
_____	_____	_____	_____	_____

*Note – HEAL Lab report order number 2104C54.

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 3: Verify Flow Data

*Note – Not Applicable – no flow data provided with CMC sample collection

A. Identify incorrect or missing data on the flow calculation spreadsheet and correct errors.

Station	Sampling Date	Flow data missing or incorrect?
_____	_____	_____
_____	_____	_____

Total number of occurrences: 0

B. Identify incorrect or missing discharge measurements, correct errors in database and re-verify.

Station	Sampling Date	Flow data missing or incorrect?	Re-verified?
_____	_____	_____	_____
_____	_____	_____	_____

Total number of occurrences: 0

Not Applicable

☐ **Step 3 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 4: Verify Analytical Results for Missing Information or Questionable Results

Were any results with missing/questionable information identified? ☒ Yes ☐ No

If no, proceed; if yes, indicate results with missing information or questionable results or attach report. Contact data source and indicate action taken. Complete this step upon receipt of missing information or clarification of questionable results (clarify questionable results only, DO NOT change results without written approval (from lab or QA officer) and associated documentation).

RID	Sample Date	Missing or Questionable Information/Results	Action Taken
Rio Grande North	04/28/2021	Lab report provides Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	BHI added note to the lab report.
Rio Grande North	04/28/2021	Lab report provides Gross Alpha result but did not report Adjusted Gross Alpha.	AMAFCA spoke with Lab. Results well below WQS. BHI added note to the lab report.

*Note – HEAL Lab report order number 2104C54.
Total number of occurrences: 2

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 5: Validate Blanks Results
Were any analytes of concern detected in blank samples? ☐ Yes ☒ No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager, with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes have been added to database correctly.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database? *

*See validation procedures to determine which associated data need to be flagged and include on *Validation Codes Form*.

Total number of occurrences: 0

☒ **Step 5 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 6: Validate Holding Times Violations
Were any samples submitted that did not meet specified holding times? ☐ Yes ☒ No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database to ALL associated data?*

*See validation procedures to determine which associated data need to be flagged.
*Note – Lab reports lists pH with hold time flag. Database uses field data reported pH, so this is hold time is not applicable.
Total number of occurrences: 0

☒ **Step 6 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 7: Validate Replicate/Duplicate Results (if applicable)
Were any replicate/duplicate pairs submitted outside of the established control limit of 20%?
☐ Yes ☒ No
If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID Pairs		Replicate or Duplicate?	Sample Date	Parameter	RPD	Validation Code/Flag Applied	Code/Flag verified in database applied?*
_____	_____	_____	_____	_____	_____		_____
_____	_____	_____	_____	_____	_____		_____

*See validation procedures to determine which associated data need to be flagged.

Total number of occurrences: 0

☒ **Step 7 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

****

After all of the above steps have been completed, save and print the worksheet, attach all applicable supplemental information and sign below.

I acknowledge that the data verification and validation process has been completed for the data identified above in accordance with the procedures described in the CMC QAPP, SOP #2



8/16/2021

Data Verifier/Validator Signature Date

COMPLETION OF DATA VERIFICATION AND VALIDATION PROCESS

Once the data verification and validation process has been completed for the entire study (note: if the worksheet is for a subset of the data from a study, be sure ALL the data for the entire study is included before final completion of the data verification and validation process), notify the NMSQUID administrator that the process is complete and request that “V V in STORET” be added to the project title.

Once all data have been verified and validated for a study provide copies of ALL *Data Verification and Validation Worksheets* and attachments associated with the study to the Quality Assurance Officer and retain originals in the project binder.

Attachment 1.2 SWQB Validation Codes

When deficiencies are identified through the data verification and validation process, AMAFCA documents or "flags" the deficiencies by assigning validation codes. All data collected from the last compliant QC sample and up to the next compliant QC sample are assigned validation codes. The validation code alerts the data user that the results are outside QA control limits and may require re-sampling or a separate, qualitative analysis based on professional judgment.

Validation Code	Definition	WQX Equivalent
A1	Sample not collected according to SOP	
B1	Chemical was detected in the field blank at a concentration less than 5% of the sample concentration.	
BN	Blanks NOT collected during sampling run	
BU	Detection in blank. Analyte was not detected in this sample above the method's sample detection limit.	BU
RB1	Chemical was detected in the field blank at a concentration greater than or equal to 5% of the sample concentration. Results for this sample are rejected because they may be the result of contamination; the results may not be reported or used for regulatory compliance purposes.	B
R1	Rejected due to incorrect sample preservation	R
R2	Rejected due to equipment failure in the field	R
R3	Rejected based on best professional judgment	R
D1	Spike recovery not within method acceptance limits	
F1	Sample filter time exceeded	
J1	Estimated: the analyte was positively identified and the associated value is an approximate concentration of the analyte in the sample	J
K1	Holding time violation	H
Ea	Estimated-Incubation temperature between 35.5 and 38.0° Celsius	
Er	Rejected-Incubation temperature < 34.5 or >38.0° Celsius	
PD1	Percent difference between duplicate samples excessive	
S1	Per SLD, uncertainties (sigmas) are expressed as one standard deviation, i.e. one standard error. Small negative or positive values that are less than two standard deviations should be interpreted as "less than the detection limit."	
S2	Data are suspect but deemed usable based on best professional judgment; documentation of justification is required and should be included in the Data Verification and Validation Packet and reported with results	
Z1	Macroinvertebrate data did not meet QC criteria specified in Section 2.5 of QAPP	
H1	Habitat data did not meet QC criteria specified in Section 2.5 of QAPP	

Attachment 1.1 Water Quality Sample Data Verification and Validation Worksheet

Study Name: Compliance Monitoring Cooperative (CMC)
Year: FY 2021 (April 2021 – Dry Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande South – 04/29/2021
Version of Verification/Validation Procedures: QAPP – CMC SOP #2 (2/2015); AMAFCA SOP #5 (2/2019)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? ☒ Yes ☐ No

If yes, proceed; if no, attempt to locate missing forms, then indicate any remaining missing forms and action taken.

Missing Field Data Forms	Action Taken

Total number of occurrences: 0

B. Are station name and ID, and sampling date and time on forms consistent with database? ☒ Yes ☐ No
If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station and Parameter	Action Taken	Re-verified?

Total number of occurrences: 0

C. Are field data on forms consistent with database? ☒ Yes ☐ No
If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station	Sampling Date	Parameter(s) Corrected	Re-verified?

Total number of occurrences: 0

D. Are RIDs correct and associated with the correct analytical suite, media subdivision (e.g. surface water, municipal waste, etc.) and activity type (e.g. Field observation, Routine sample, QA sample etc.)?

☒ Yes ☐ No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify

Station/RID	Sampling Date	RID Corrected	Re-verified?

Total number of occurrences: 0

☒ **Step 1 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 2: Verify Data Deliverables

A. Have all data in question been delivered? ☒ Yes ☐ No

If yes, proceed; if no, indicate RIDs with missing data (samples or blanks) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken. Complete this step upon receipt of all missing data.

RID	Submittal Date	Missing Data/Parameters	Date of Initial Verification	Date Missing Data Were Received

Total number of occurrences: 0

B. Do all of the analytical suites have the correct number and type of analytes. ☒ Yes ☐ No

If yes, proceed; if no, indicate RIDs with missing or incorrect analyte(s) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken.

*Note – Lab report identifies “Dissolved Phosphorous” as “Total Phosphorous” on a filtered sample (identified under “Client Sample ID” as (Dissolved)).

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?
Rio Grande South	4/29/2021	Lab report lists Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	Notified AMAFCA of this and verified with HEAL. BHI added note to the lab report.	Yes
_____	_____	_____	_____	_____

*Note – HEAL Lab report order number 2104C54.

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 3: Verify Flow Data

*Note – Not Applicable – no flow data provided with CMC sample collection

A. Identify incorrect or missing data on the flow calculation spreadsheet and correct errors.

Station	Sampling Date	Flow data missing or incorrect?
_____	_____	_____
_____	_____	_____

Total number of occurrences: 0

B. Identify incorrect or missing discharge measurements, correct errors in database and re-verify.

Station	Sampling Date	Flow data missing or incorrect?	Re-verified?
_____	_____	_____	_____
_____	_____	_____	_____

Total number of occurrences: 0

Not Applicable

☐ **Step 3 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 4: Verify Analytical Results for Missing Information or Questionable Results

Were any results with missing/questionable information identified? ☒ Yes ☐ No

If no, proceed; if yes, indicate results with missing information or questionable results or attach report. Contact data source and indicate action taken. Complete this step upon receipt of missing information or clarification of questionable results (clarify questionable results only, DO NOT change results without written approval (from lab or QA officer) and associated documentation).

RID	Sample Date	Missing or Questionable Information/Results	Action Taken
Rio Grande South	04/29/2021	Lab report provides Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	BHI added note to the lab report.
Rio Grande South	04/29/2021	Lab report provides Gross Alpha result but did not report Adjusted Gross Alpha.	AMAFCA spoke with Lab. Results well below WQS. BHI added note to the lab report.

*Note – HEAL Lab report order number 2104C54.
Total number of occurrences: 2

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 5: Validate Blanks Results
Were any analytes of concern detected in blank samples? ☐ Yes ☒ No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager, with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes have been added to database correctly.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database? *

*See validation procedures to determine which associated data need to be flagged and include on *Validation Codes Form*.

Total number of occurrences: 0

☒ **Step 5 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 6: Validate Holding Times Violations
Were any samples submitted that did not meet specified holding times? ☐ Yes ☒ No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database to ALL associated data?*

*See validation procedures to determine which associated data need to be flagged.
*Note – Lab reports lists pH with hold time flag. Database uses field data reported pH, so this is hold time is not applicable.
Total number of occurrences: 0

☒ **Step 6 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 7: Validate Replicate/Duplicate Results (if applicable)
Were any replicate/duplicate pairs submitted outside of the established control limit of 20%?
☐ Yes ☒ No
If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID Pairs		Replicate or Duplicate?	Sample Date	Parameter	RPD	Validation Code/Flag Applied	Code/Flag verified in database applied?*
_____	_____	_____	_____	_____	_____		_____
_____	_____	_____	_____	_____	_____		_____

*See validation procedures to determine which associated data need to be flagged.

Total number of occurrences: 0

☒ **Step 7 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

****

After all of the above steps have been completed, save and print the worksheet, attach all applicable supplemental information and sign below.

I acknowledge that the data verification and validation process has been completed for the data identified above in accordance with the procedures described in the CMC QAPP, SOP #2



8/16/2021

Data Verifier/Validator Signature Date

COMPLETION OF DATA VERIFICATION AND VALIDATION PROCESS

Once the data verification and validation process has been completed for the entire study (note: if the worksheet is for a subset of the data from a study, be sure ALL the data for the entire study is included before final completion of the data verification and validation process), notify the NMSQUID administrator that the process is complete and request that “V V in STORET” be added to the project title.

Once all data have been verified and validated for a study provide copies of ALL *Data Verification and Validation Worksheets* and attachments associated with the study to the Quality Assurance Officer and retain originals in the project binder.

Attachment 1.2 SWQB Validation Codes

When deficiencies are identified through the data verification and validation process, AMAFCA documents or "flags" the deficiencies by assigning validation codes. All data collected from the last compliant QC sample and up to the next compliant QC sample are assigned validation codes. The validation code alerts the data user that the results are outside QA control limits and may require re-sampling or a separate, qualitative analysis based on professional judgment.

Validation Code	Definition	WQX Equivalent
A1	Sample not collected according to SOP	
B1	Chemical was detected in the field blank at a concentration less than 5% of the sample concentration.	
BN	Blanks NOT collected during sampling run	
BU	Detection in blank. Analyte was not detected in this sample above the method's sample detection limit.	BU
RB1	Chemical was detected in the field blank at a concentration greater than or equal to 5% of the sample concentration. Results for this sample are rejected because they may be the result of contamination; the results may not be reported or used for regulatory compliance purposes.	B
R1	Rejected due to incorrect sample preservation	R
R2	Rejected due to equipment failure in the field	R
R3	Rejected based on best professional judgment	R
D1	Spike recovery not within method acceptance limits	
F1	Sample filter time exceeded	
J1	Estimated: the analyte was positively identified and the associated value is an approximate concentration of the analyte in the sample	J
K1	Holding time violation	H
Ea	Estimated-Incubation temperature between 35.5 and 38.0° Celsius	
Er	Rejected-Incubation temperature < 34.5 or >38.0° Celsius	
PD1	Percent difference between duplicate samples excessive	
S1	Per SLD, uncertainties (sigmas) are expressed as one standard deviation, i.e. one standard error. Small negative or positive values that are less than two standard deviations should be interpreted as "less than the detection limit."	
S2	Data are suspect but deemed usable based on best professional judgment; documentation of justification is required and should be included in the Data Verification and Validation Packet and reported with results	
Z1	Macroinvertebrate data did not meet QC criteria specified in Section 2.5 of QAPP	
H1	Habitat data did not meet QC criteria specified in Section 2.5 of QAPP	

Attachment 1.1 Water Quality Sample Data Verification and Validation Worksheet

Study Name: Compliance Monitoring Cooperative (CMC)
Year: FY 2021 (April 2021 – Dry Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande at Alameda (E. coli only samples) – 04/28/2021 & 04/29/2021
Version of Verification/Validation Procedures: QAPP – CMC SOP #2 (2/2015); AMAFCA SOP #5 (2/2019)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? ☒ Yes ☐ No

If yes, proceed; if no, attempt to locate missing forms, then indicate any remaining missing forms and action taken.

Missing Field Data Forms	Action Taken

Total number of occurrences: 0

B. Are station name and ID, and sampling date and time on forms consistent with database? ☒ Yes ☐ No
If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station and Parameter	Action Taken	Re-verified?

Total number of occurrences: 0

C. Are field data on forms consistent with database? ☒ Yes ☐ No
If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station	Sampling Date	Parameter(s) Corrected	Re-verified?

Total number of occurrences: 0

D. Are RIDs correct and associated with the correct analytical suite, media subdivision (e.g. surface water, municipal waste, etc.) and activity type (e.g. Field observation, Routine sample, QA sample etc.)?

☒ Yes ☐ No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify

Station/RID	Sampling Date	RID Corrected	Re-verified?

Total number of occurrences: 0

☒ **Step 1 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 2: Verify Data Deliverables

A. Have all data in question been delivered? ☒ Yes ☐ No

If yes, proceed; if no, indicate RIDs with missing data (samples or blanks) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken. Complete this step upon receipt of all missing data.

RID	Submittal Date	Missing Data/Parameters	Date of Initial Verification	Date Missing Data Were Received

Total number of occurrences: 0

B. Do all of the analytical suites have the correct number and type of analytes. ☒ Yes ☐ No

If yes, proceed; if no, indicate RIDs with missing or incorrect analyte(s) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken.

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 3: Verify Flow Data
*Note – Not Applicable – no flow data provided with CMC sample collection
A. Identify incorrect or missing data on the flow calculation spreadsheet and correct errors.

Station	Sampling Date	Flow data missing or incorrect?

Total number of occurrences: 0

B. Identify incorrect or missing discharge measurements, correct errors in database and re-verify.

Station	Sampling Date	Flow data missing or incorrect?	Re-verified?

Total number of occurrences: 0

Not Applicable
☐ **Step 3 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 4: Verify Analytical Results for Missing Information or Questionable Results

Were any results with missing/questionable information identified? ☐ Yes ☒ No

If no, proceed; if yes, indicate results with missing information or questionable results or attach report. Contact data source and indicate action taken. Complete this step upon receipt of missing information or clarification of questionable results (clarify questionable results only, DO NOT change results without written approval (from lab or QA officer) and associated documentation).

RID	Sample Date	Missing or Questionable Information/Results	Action Taken

Total number of occurrences: 0

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 5: Validate Blanks Results
Were any analytes of concern detected in blank samples? ☐ Yes ☒ No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager, with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes have been added to database correctly.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database? *

*See validation procedures to determine which associated data need to be flagged and include on *Validation Codes Form*.

Total number of occurrences: 0

☒ **Step 5 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 6: Validate Holding Times Violations
Were any samples submitted that did not meet specified holding times? ☐ Yes ☒ No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database to ALL associated data?*

*See validation procedures to determine which associated data need to be flagged.

Total number of occurrences: 0

☒ **Step 6 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

- -

Step 7: Validate Replicate/Duplicate Results (if applicable)
Were any replicate/duplicate pairs submitted outside of the established control limit of 20%?
☐ Yes ☒ No
If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID Pairs		Replicate or Duplicate?	Sample Date	Parameter	RPD	Validation Code/Flag Applied	Code/Flag verified in database applied?*

*See validation procedures to determine which associated data need to be flagged.

Total number of occurrences: 0

☒ **Step 7 Completed** ***Initials:*** SJG ***Date:*** 8/16/2021

****

After all of the above steps have been completed, save and print the worksheet, attach all applicable supplemental information and sign below.

I acknowledge that the data verification and validation process has been completed for the data identified above in accordance with the procedures described in the CMC QAPP, SOP #2

Sarah Gamez 8/16/2021

Data Verifier/Validator Signature Date

COMPLETION OF DATA VERIFICATION AND VALIDATION PROCESS

Once the data verification and validation process has been completed for the entire study (note: if the worksheet is for a subset of the data from a study, be sure ALL the data for the entire study is included before final completion of the data verification and validation process), notify the NMSQUID administrator that the process is complete and request that “V V in STORET” be added to the project title.

Once all data have been verified and validated for a study provide copies of ALL *Data Verification and Validation Worksheets* and attachments associated with the study to the Quality Assurance Officer and retain originals in the project binder.

Attachment 1.2 SWQB Validation Codes

When deficiencies are identified through the data verification and validation process, AMAFCA documents or "flags" the deficiencies by assigning validation codes. All data collected from the last compliant QC sample and up to the next compliant QC sample are assigned validation codes. The validation code alerts the data user that the results are outside QA control limits and may require re-sampling or a separate, qualitative analysis based on professional judgment.

Validation Code	Definition	WQX Equivalent
A1	Sample not collected according to SOP	
B1	Chemical was detected in the field blank at a concentration less than 5% of the sample concentration.	
BN	Blanks NOT collected during sampling run	
BU	Detection in blank. Analyte was not detected in this sample above the method's sample detection limit.	BU
RB1	Chemical was detected in the field blank at a concentration greater than or equal to 5% of the sample concentration. Results for this sample are rejected because they may be the result of contamination; the results may not be reported or used for regulatory compliance purposes.	B
R1	Rejected due to incorrect sample preservation	R
R2	Rejected due to equipment failure in the field	R
R3	Rejected based on best professional judgment	R
D1	Spike recovery not within method acceptance limits	
F1	Sample filter time exceeded	
J1	Estimated: the analyte was positively identified and the associated value is an approximate concentration of the analyte in the sample	J
K1	Holding time violation	H
Ea	Estimated-Incubation temperature between 35.5 and 38.0° Celsius	
Er	Rejected-Incubation temperature < 34.5 or >38.0° Celsius	
PD1	Percent difference between duplicate samples excessive	
S1	Per SLD, uncertainties (sigmas) are expressed as one standard deviation, i.e. one standard error. Small negative or positive values that are less than two standard deviations should be interpreted as "less than the detection limit."	
S2	Data are suspect but deemed usable based on best professional judgment; documentation of justification is required and should be included in the Data Verification and Validation Packet and reported with results	
Z1	Macroinvertebrate data did not meet QC criteria specified in Section 2.5 of QAPP	
H1	Habitat data did not meet QC criteria specified in Section 2.5 of QAPP	

Bohannan Huston

Engineering
Spatial Data
Advanced Technologies

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335
www.bhinc.com
voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

M E M O R A N D U M

DATE: April 22, 2021

TO: Jerry Lovato, PE, AMAFCA
Patrick Chavez, PE, AMAFCA

FROM: Craig Hoover, PE
Sarah Ganley, PE

SUBJECT: **CMC Wet Season, Wet Weather Stormwater Monitoring**
Data Verification, Analysis Results Database, and Reporting Memo
FY 2021 Wet Season (July 1, 2020 to October 31, 2020)

Notification of In-Stream Water Quality Exceedances

For downstream notification purposes, the following parameters for in-stream samples taken in the Rio Grande for the FY 2021 wet season had results that exceeded applicable water quality standards for one or more samples: E. coli and Polychlorinated Biphenyls (PCBs). Table 1 summarizes the samples with exceedances and the applicable water quality standard (WQS) that was exceeded. Additional details on the sampling results are provided in this memo.

Table 1: Parameters Detected Above Applicable Water Quality Standards
CMC FY 2021 Wet Season Monitoring

Sampling Date Location	Parameters, Applicable Water Quality Standard (WQS), and Results Exceeding Applicable WQS	
	E. coli	**PCBs**
	WQS: 88 CFU/100 ml Pueblo of Isleta Primary Contact Ceremonial & Recreational	**WQS: 0.00017 ug/L** Pueblo of Isleta Human Health Criteria (based on fish consumption only)
10/26/2020 Rio Grande North Angostura Diversion Dam	141 CFU/100ml	No Exceedance
10/26/2020 Rio Grande South Isleta Diversion Dam Pre-Storm Sample – E. coli Only	>2419.6 CFU/100ml	Not Tested
10/28/2020 Rio Grande at Alameda Bridge E. coli Only	98.5	Not Tested
10/28/2020 Rio Grande South Isleta Diversion Dam	>2419.6 CFU/100ml	0.000956 ug/L

Overview of Stormwater Monitoring Activity

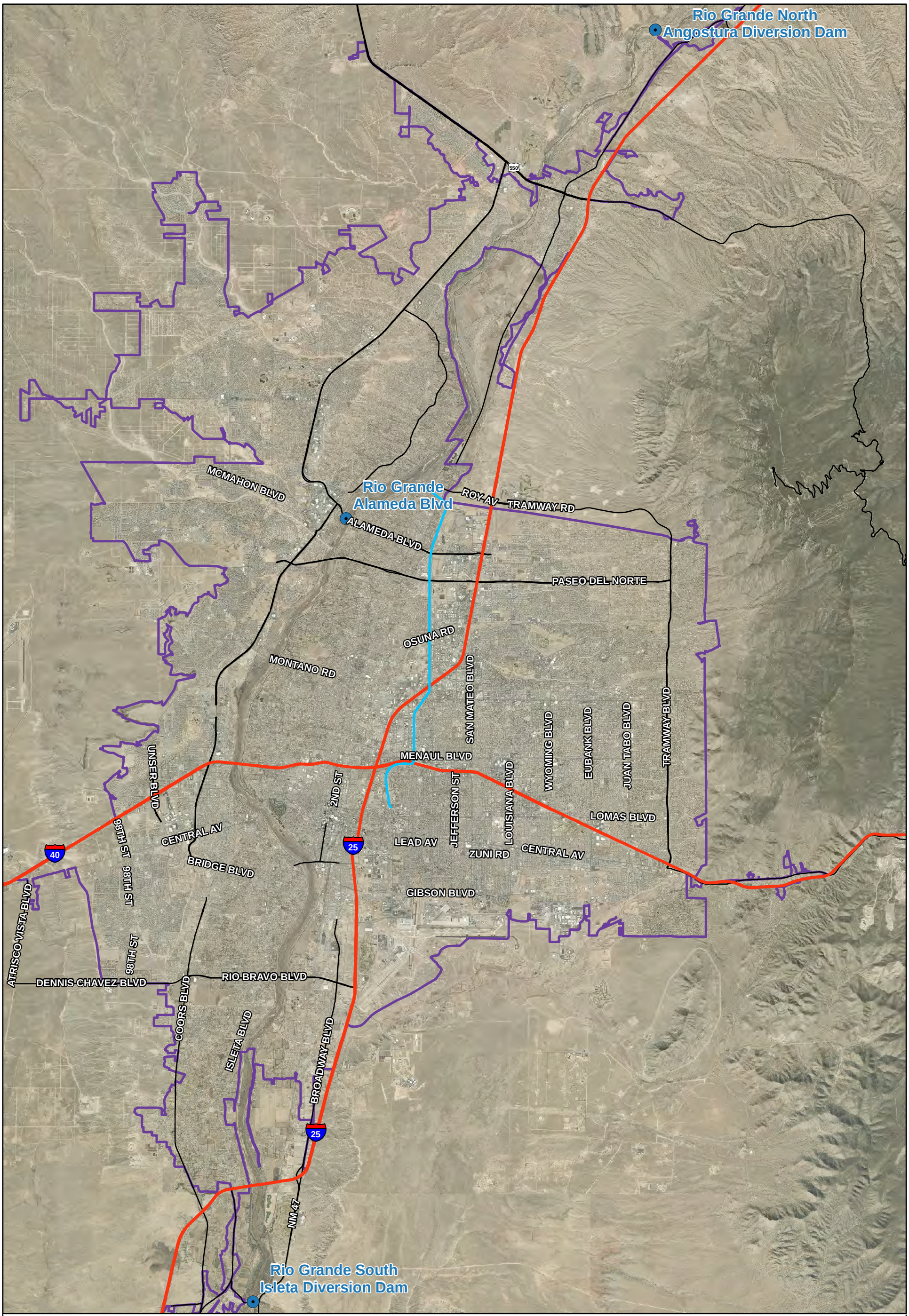
Bohannan Huston, Inc. (BHI) has been tasked to perform water quality services for the Compliance Monitoring Cooperative (CMC) Stormwater Data Verification, Database, and Reporting for the Wet Weather Stormwater Quality Monitoring Program for Fiscal Year (FY) 2021 (July 1, 2020 to June 30, 2021). The scope of work for this task includes data verification of the stormwater laboratory analysis results, compiling the analysis results into a database, and calculating the E. coli loading to compare with the Waste Load Allocation (WLA) for the qualifying storm events. The stormwater compliance monitoring is being conducted separately by Daniel B. Stephens & Associates, Inc. (DBS&A) and is not a part of this task. This task is being conducted to assist the CMC members with their comprehensive monitoring and assessment program for compliance under the 2014 Middle Rio Grande (MRG) Watershed Based Municipal Separate Storm Sewer System (MS4) Permit, NPDES Permit No. NMR04A000 ("WSB MS4 Permit").

The WSB MS4 Permit entered Administrative Continuance in December 2019 when U.S. Environmental Protection Agency (EPA) Region 6 did not issue a new MS4 Permit before the current MS4 Permit's expiration date. The MRG Technical Advisory Group (TAG) sent EPA a letter dated October 15, 2019, acknowledging Administrative Continuance after the expiration date of the 5-year Permit term. Until a new MS4 Permit is issued, there are no compliance monitoring requirements for the CMC in the Rio Grande. As identified in the CMC Monitoring Plan, the WSB MS4 Permit required a minimum of seven (7) storm events be sampled at both the Rio Grande North and Rio Grande South locations (refer to Figure 1, page 3). All Permit required samples have been obtained by the CMC, as well as the sample obtained in FY 2021 during Administrative Continuance; all CMC samples are summarized in Table 2 below.

Table 2: CMC Sample Summary
Compared to WSB MS4 Permit Requirements

No. of Storm Events Required to Sample	CMC-WSB MS4 Permit Required Samples per Season	FY (Date) Samples Obtained for CMC
1	#1 Wet Season	FY 2017 (8/10/2016)
2	#2 Wet Season	FY 2017 (9/12/2016)
3	#3 Wet Season	FY 2017 (9/21/2016)
4	#1 Dry Season	FY 2017 (11/21/2016)
5	#2 Dry Season	FY 2019 (3/13/2019)
6	Any Season	FY 2018 (Wet Season - 7/27/2017)
7	Any Season	FY 2018 (Wet Season - 9/27/2017)
Not Required	Wet Season	FY 2021 (10/28/2020)

During WSB MS4 Permit Administrative Continuance, the CMC members chose to continue sampling within the Rio Grande to support their MS4 program needs and gather additional data in support of the future MS4 Permit compliance. This memo reports on the wet weather stormwater monitoring activity for the FY 2021 wet season (July 1, 2020 to October 31, 2020).



AMAFCA

Bohannan Huston
www.bhinc.com 800.877.5332

Legend

- CMC Monitoring Locations
- North Diversion Channel
- Interstate Highway
- U.S. Highway
- State Highway
- Albuquerque Urbanized Area

N W E S

0 0.5 1 2

Miles

CMC Monitoring

Figure 1
Monitoring Locations

P:\20180302\WR\Reports\Preliminary & Draft\Figures\MXDs\Figure1-CMCMonitoringLocations.mxd
Author: eburn

The CMC Excel database was updated with the FY 2021 wet season, wet weather monitoring data as results were received. The database contains sample location, sample date, analyses conducted, methods used, applicable surface water quality standards (WQS), WSB MS4 Permit required Minimum Qualification Levels (MQL) and results. Any unusable data will be identified.

Summary of the CMC Sampling Plan

Sampling Parameters:

Samples from both the Rio Grande North and Rio Grande South monitoring locations were analyzed for the parameters defined in the EPA approved WSB MS4 CMC Monitoring Plan, May 5, 2016. The parameter list for both locations, which is intended to characterize stormwater discharges into the river, is as follows:

Total Suspended Solids (TSS)
Total Dissolved Solids (TDS)
Chemical Oxygen Demand (COD)
Biological Oxygen Demand – 5-day (BOD_5)
Dissolved Oxygen (DO)
Oil & grease (N-Hexane Extractable Material)
E. coli
pH
Total Kjeldahl Nitrogen (TKN)
Nitrate plus Nitrite
Dissolved Phosphorus
Ammonia plus Organic Nitrogen (Nitrogen, Ammonia and Nitrogen, Total)
Phosphorous (Total Phosphorous)
Polychlorinated Biphenyls (PCBs - Method 1668A)
Gross Alpha, adjusted
Tetrahydrofuran
Benzo(a)pyrene
Benzo(b)fluoranthene (3, 4 Benzofluoranthene)
Benzo(k)fluoranthene
Chrysene
lndeno (1 ,2,3-cd) Pyrene
Dieldrin
Pentachlorophenol
Benzidine
Benzo(a)anthracene
Dibenzofuran
Dibenzo(a, h)anthracene
Chromium VI (Hexavalent)
Copper – Dissolved
Lead – Dissolved
Bis (2-ethylhexyl) phthalate
Conductivity
Temperature

Hardness (as CaCO3) was added to the parameter list to allow dissolved metal results to be compared to the applicable WQSs. DO, pH, conductivity, and temperature are required by the WSB MS4 Permit to be analyzed in the field during sample collection, which was conducted by DBS&A, within 15 minutes of sample collection. All E. coli samples were submitted to the laboratory within eight (8) hours of collection in order to meet the specified hold time.

Sampling Locations:

The sampling locations are shown in Figure 1, page 3.

Rio Grande North – In-stream sampling within the Rio Grande was performed upstream of the Angostura Diversion Dam at the north end of the watershed. The location is upstream of all inputs from the Urban Area (UA) to the river and provides the background water conditions.

Rio Grande South – In-stream sampling within the Rio Grande was performed at the Isleta Bridge at the south end of the watershed. The location is downstream of all inputs from the UA to the river and provides the downstream water conditions. These locations have been accepted by EPA and New Mexico Environment Department (NMED) to meet the WSB MS4 Permit requirements in Part III.A.

During this FY 2021 wet season, an E. coli only sampling point was added within the Rio Grande at Alameda Blvd. This is the location of the NMED defined stream segment divide. This sample point was added after discussion with NMED in February 2017 regarding potential refinements to E. coli loading calculations.

Sample Collection:

As mentioned previously, sample collection for the CMC is being conducted by DBS&A (through a separate on-call contract) as well as by CMC members. Since BHI was not involved, this task and memo do not address the details of the methodologies regarding sampling, determining if an event was a qualifying storm event, or determining the timing of the hydrograph at the Rio Grande Alameda and Rio Grande South locations.

DBS&A provided BHI with their field notes and field sample data (temperature, DO, specific conductivity, and pH) for the FY 2021 wet season sampling. AMAFCA provided BHI the completed laboratory analysis reports from Hall Environmental Analysis Laboratory (HEAL) for this monitoring season.

Quality Assurance Project Plan (QAPP):

AMAFCA provided BHI with the Draft Quality Assurance Project Plan (QAPP) for the CMC dated June 14, 2016. DBS&A followed this QAPP during sample collection. BHI used this QAPP and the included standard operating procedures (SOPs) for the data verification and validation.

Monitoring Activity & Lab Analysis Summary

The list below provides a summary of the CMC comprehensive monitoring program activities completed for the FY 2021 wet season from July 2020 through October 2020. One (1) qualifying storm event was sampled and analyzed during the FY 2021 wet season.

- **October 26-28, 2020 – Qualifying Storm Event – Full Analysis of Samples.** A sample was collected at the Rio Grande North location beginning at 9:45 a.m. on October 26 and sent to the laboratory for an E. coli and BOD test. A pre-storm sample was collected at the Rio Grande South location beginning at 12:45 p.m. on October 26 and sent to the laboratory for an E. coli test. The CMC determined that the storm event beginning October 26 was a qualifying storm event. A sample in the Rio Grande at Alameda Blvd. was obtained at 12:05 p.m. on October 28. A Rio Grande South sample was collected beginning at 1:15 p.m. on October 28; the samples from the North (from October 26), Alameda Blvd., and South locations were taken to the HEAL laboratory for full parameter testing.

Stormwater Quality Database for CMC

As stated previously, there was one (1) qualifying storm event during the FY 2021 wet season, wet weather monitoring sampled by the CMC, which occurred October 26-28, 2020. DBS&A's field notes containing DO, pH, conductivity, and temperature measurements, as well as sampling comments have been received, and field results have been added to the database. Additionally, the HEAL lab reports for the corresponding time period have been received, added to the database, and are provided with this memo (Attachment 1). The laboratory reports attached to this memo have BHI added comments including the field parameter measurements and other relevant notes related to the laboratory report.

Database Data Entry:

The CMC Excel database was updated with the FY 2021 wet season, wet weather monitoring data. The database contains sample locations, sample date, analyses conducted, methods used, applicable surface water quality standards (WQS), WSB MS4 Permit required Minimum Quantification Levels (MQL), and analysis results. The database was updated under this Task to include the Rio Grande at Alameda sample location. Applicable surface WQSs found in New Mexico Administrative Code (NMAC) 20.6.4, as well as the Pueblo of Isleta WQSs, are entered in the Excel database for comparison purposes with testing results. There is an indicator in the database to show if the monitoring results exceed the applicable surface WQS. An exceedance is not a violation of the WSB MS4 Permit, as the Permit does not have numeric discharge limitations. These ">WQ Standard" flags simply and quickly show the CMC members where the results of the lab data exceed the applicable WQS.

Water quality data was entered into the database upon receipt of the lab reports. All data entered into the database is initially denoted with a "P" to indicate that it is provisional and has not been through the verification and validation process yet. Full parameter analyses of qualifying storm events for both Rio Grande North and Rio Grande South locations were entered respectively into the database. In addition, the E. coli only samples from the Rio Grande Alameda location were also entered into the database.

Data Verification and Validation:

The HEAL laboratory analysis reports were provided to BHI by AMAFCA. The lab reports also contain the Chain of Custody for the submitted samples. Field data was requested by and provided to BHI by DBS&A. Data verification and validation (V&V) was conducted by BHI on all field notes, lab reports, and Chain of Custody documents in accordance with the CMC Water Quality Standard Operating Procedure (SOP) #2, which is part of the existing CMC QAPP, Draft June 14, 2016.

These procedures are based on EPA Guidance for Environmental Data Verification and Validation (EPA, 2008).

As stated in the QAPP, the V&V process was completed by a different person than the one who entered the data into the database. The V&V process included use of the *Data Verification and Validation Worksheet* (provided in the QAPP). For this task, field data was verified first, confirming all field notes were complete. BHI handled field parameter questions directly with DBS&A. Chemical data verification began as soon as the lab reports were received, checking that all parameters were tested and looking for any obvious exceedances of WQS. Other steps listed on the *Data Verification and Validation Worksheet* were completed after all data from the laboratory was received and entered into the database. Sample blank results were reviewed to identify potential contamination during field processing or transport. Replica/duplicate samples were evaluated based on relative percent difference (as described in more detail in the QAPP) to determine the variability of the samples.

There were not any CMC FY 2021 wet season data that did not meet the appropriate QA/QC requirements. If there were any data that did not meet the appropriate QA/QC requirements, it would have been assigned an appropriate laboratory qualifier or validation codes. A summary of validation codes is provided in the QAPP.

Once the V&V process was completed, the worksheets were signed. Copies of the V&V worksheets are provided with this memo (Attachment 2). In the database, data that was checked during the V&V process was then changed from being denoted with a “P” for provisional to a “V” for verified, and laboratory qualifiers were added, as needed.

CMC FY 2021 Wet Season Assessment and Evaluation of Monitoring Results

The EPA approved WSB MS4 CMC Monitoring Plan, May 5, 2016, has 33 parameters to monitor at the Rio Grande North and Rio Grande South monitoring locations. Of these 33 parameters, 16 parameters were not detected in the FY 2021 wet season samples at either the Rio Grande North or South locations. Refer to Table 3 for a list of the parameters that were not detected.

Table 3: Parameters Not Detected
CMC FY 2021 Wet Season Monitoring

Parameters Not Detected	
COD	Dieldrin
Oil and Grease (N-Hexane Extractable Material)	Pentachlorophenol
Tetrahydrofuran	Benzidine
Benzo(a)pyrene	Benzo(a)anthracene
Benzo(b)fluoranthene (3, 4 Benzofluoranthene)	Dibenzofuran
Benzo(k)fluoranthene	Dibenzo(a,h)anthracene
Chrysene	Chromium VI (Hexavalent)
Indeno (1,2,3-cd) Pyrene	Bis (2-ethyhexyl) Phthalate (other names: Di(2-ethylhexly)phthalate, DEHP)

For the remaining 17 parameters on the CMC monitoring parameter list, only two (2) parameters (E. coli and PCBs) had exceedances of the applicable surface WQS found in New Mexico Administrative Code (NMAC) 20.6.4 and the Pueblo of Isleta WQS during the FY 2021 wet season. These exceedances are summarized on Table 1, page 1, and discussed below in further detail.

E. coli:

The E. coli results collected during the FY 2021 wet season are summarized in Table 4.

Table 4: E. coli Results
CMC FY 2021 Wet Season Monitoring

Date – Rio Grande Location	E. coli Results (CFU/100 ml)
October 26, 2020 – North	141
October 26, 2020 – South	>2419.6
October 28, 2020 – Alameda	98.5
October 28, 2020 – South	>2419.6

At the Rio Grande North location (upstream of the Albuquerque UA, at the Angostura Diversion Dam), one (1) sample was collected and tested for E. coli and the lab result exceeded the primary contact-single sample Pueblo of Isleta and Pueblo of Sandia WQS (88 CFU/100 mL), but was below the primary contact-single sample NMAC WQS (410 CFU/100 ml). At the Rio Grande South location (downstream of the MS4 UA), two (2) samples were collected and tested for E. coli and both of these samples had results that exceeded the Pueblo of Isleta and Pueblo of Sandia WQS (88 CFU/100 mL) and also exceeded the primary contact-single sample NMAC WQS (410 CFU/100 ml).

In addition, the CMC added an E. coli sample point in the Rio Grande at Alameda. This added analysis point was based on discussions with NMED in February 2017 on collecting actual data at the stream segment divide verses using an area percentage (as defined in the TMDL) for E. coli loading calculations. For the FY 2021 wet season storm event, a sample was collected at the Alameda location and the lab result exceeded the primary contact-single sample Pueblo of Isleta and Pueblo of Sandia WQS (88 CFU/100 mL), but was below the primary contact-single sample NMAC WQS (410 CFU/100 ml).

Monthly geometric mean values were not able to be calculated and compared to applicable WQSs because the CMC had only one (1) sample per location. As a reminder, in January 2017 the CMC members clarified with NMED that the units MPN/100 mL and CFU/100 mL are considered to be interchangeable for the purposes of this stormwater quality monitoring reporting. The New Mexico and Pueblo WQS for E. coli are currently in units of CFU/100 mL while the lab reports are typically in units of MPN/100mL. The graph presented in this section uses units of CFU/100 mL to be consistent with the WQS units. Refer to Figure 2 for a graphical representation of E. coli results from October 2020.

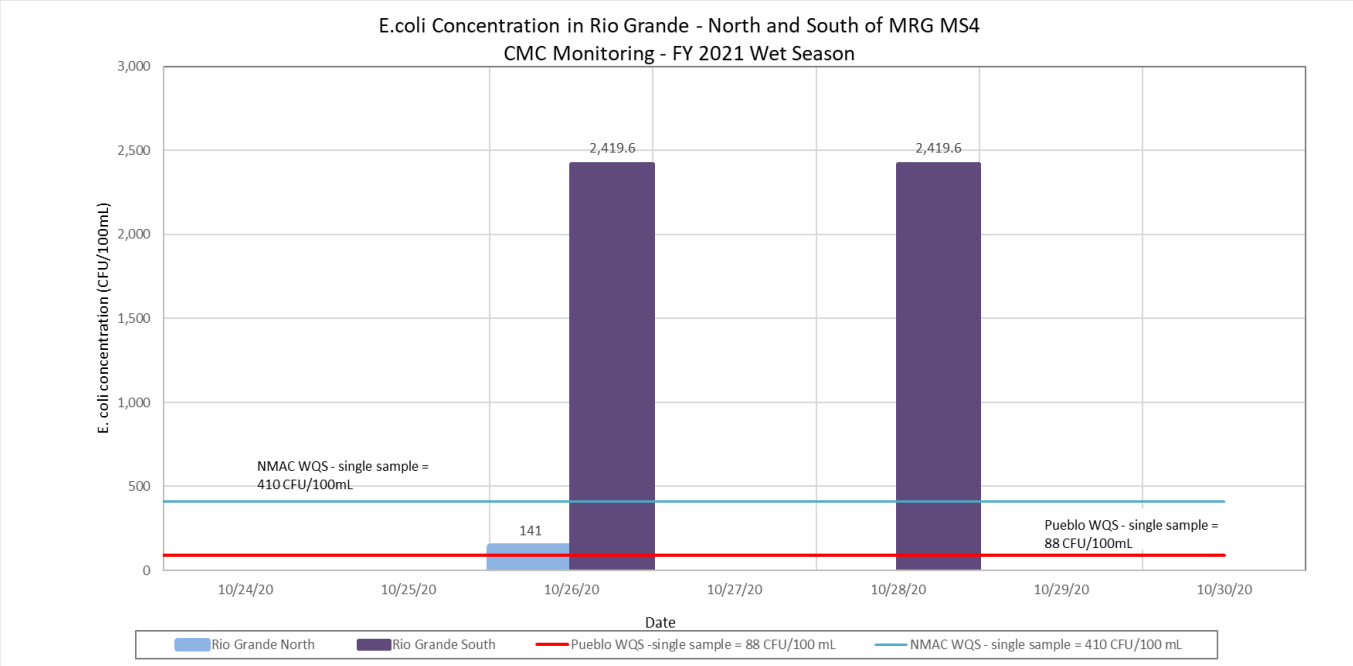


Figure 2: E. coli Results in Rio Grande
CMC Monitoring – FY 2021 Wet Season

PCBs:

There are multiple surface WQS values listed for PCBs in both the Pueblo of Isleta and the State of New Mexico standards for the various designated uses. The PCBs measured in samples collected from the Rio Grande during the FY 2021 wet season stormwater event were all below the minimum quantification level (MQL) established in EPA standards for the MS4 NPDES Permit (Appendix F, 0.2 ug/L for PCBs). The PCB results were also well below the New Mexico Surface WQSs and Pueblo of Isleta Surface WQSs for designated uses including drinking water (0.5 ug/L) and wildlife habitat, acute aquatic life, and chronic aquatic life (0.014 ug/L). However, the CMC sample from the Rio Grande South location was above the Pueblo of Isleta human health criteria (based on fish consumption only) WQS for surface waters. The human health-organism only criterion is based upon human consumption of fish and other aquatic life that bioaccumulate contaminants over time. The PCB results from 2016 through 2020 are shown in Figure 3 relative to several of the WQSs for PCBs.

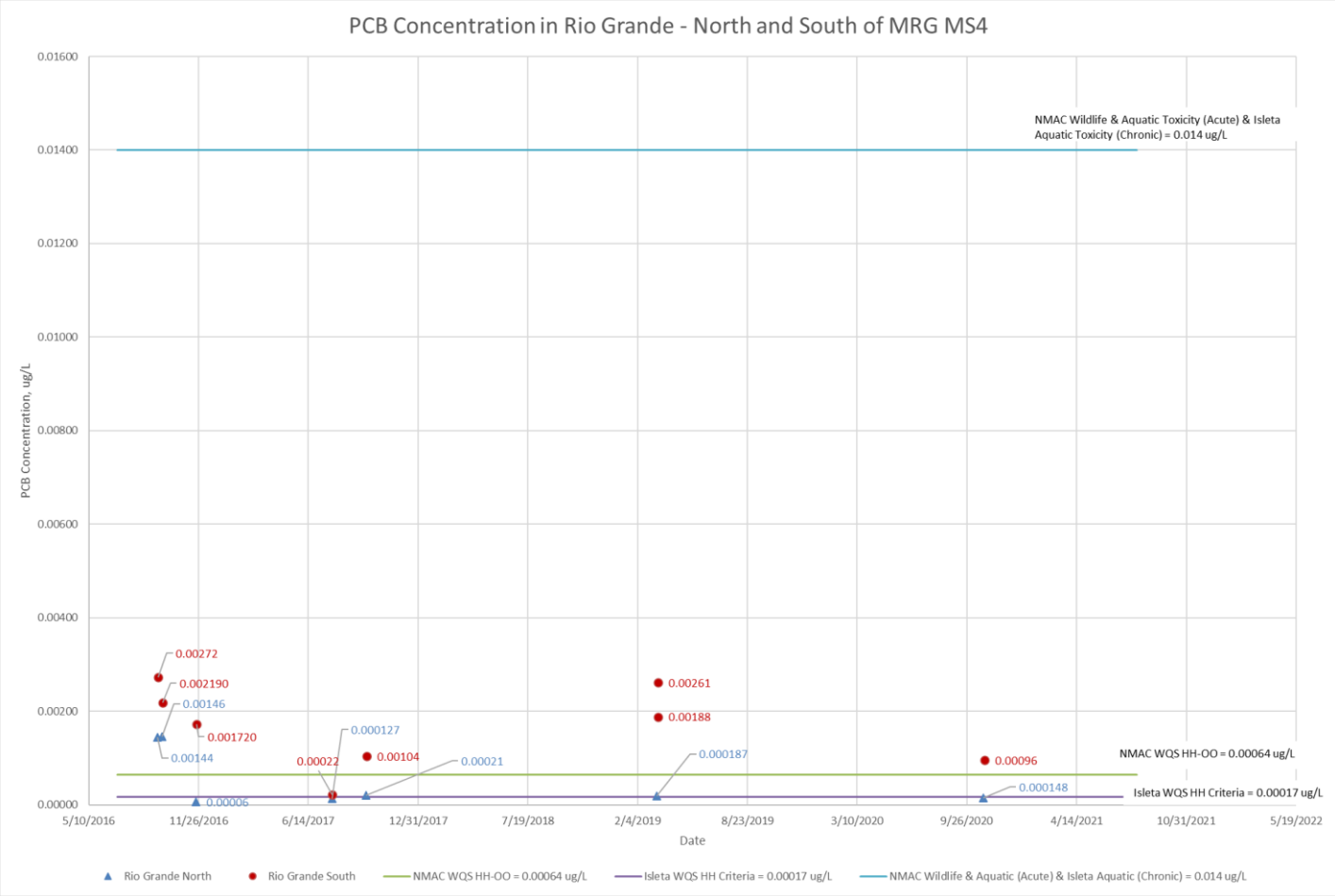


Figure 3: PCB Monitoring Results in Rio Grande
CMC Monitoring – 2016 - 2020

Dissolved Oxygen and Temperature:

Two (2) of the water quality parameters are specifically worth mentioning in this memo because they are listed in the WSB MS4 Permit, Part I.C.1 – Special Conditions: dissolved oxygen and temperature. These parameters did not have any surface water quality exceedances during the FY 2021 wet season sampling.

Dissolved oxygen is a water quality concern in the Rio Grande if it is below 5 mg/L. None of the samples taken from the Rio Grande during the FY 2021 wet season monitoring had dissolved oxygen values below 5 mg/L. This provides the MS4s with specific monitoring data showing that stormwater did not cause or contribute to exceedances of applicable dissolved oxygen water quality standards in the Rio Grande from any of the CMC samples from 2016 to 2020. Refer to Figure 4 for CMC dissolved oxygen results and comparison to applicable WQSs.

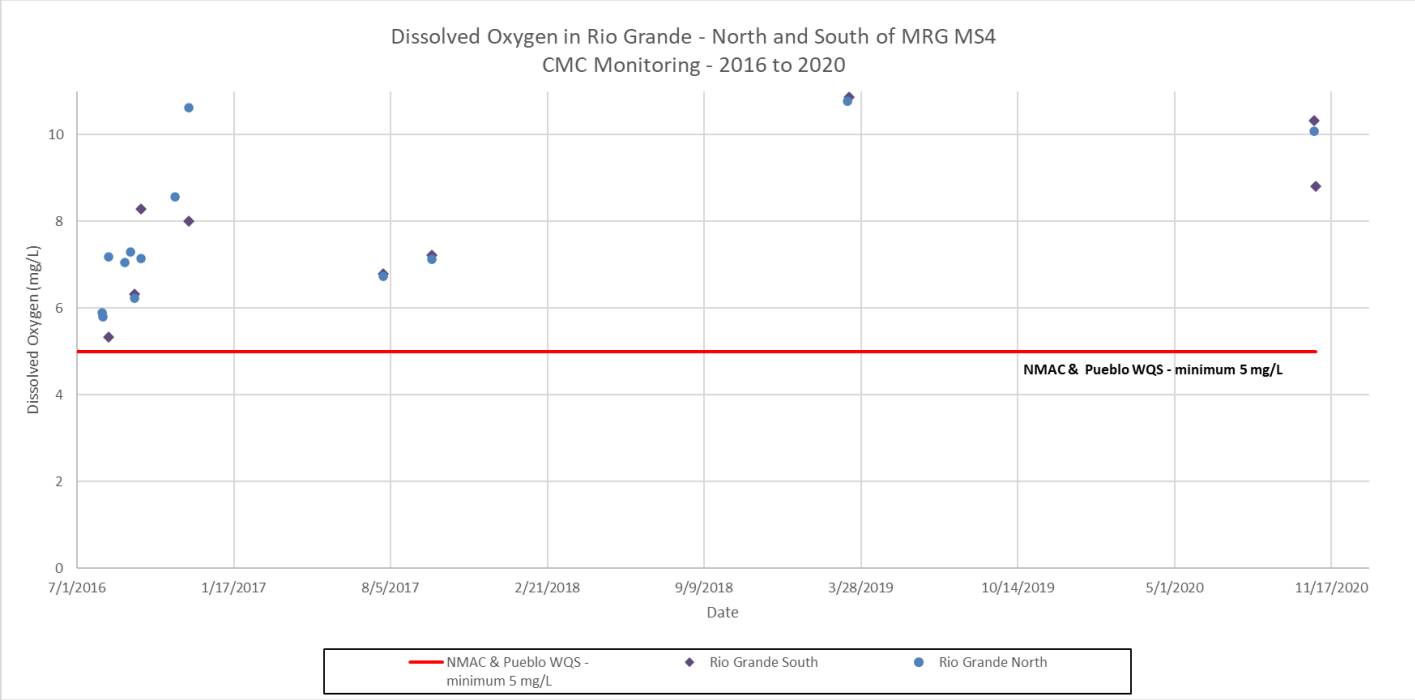


Figure 4: Dissolved Oxygen Results in Rio Grande
CMC Monitoring – 2016 - 2020

Temperature is listed in the WSB MS4 Permit as a special condition (currently only applicable to the City of Albuquerque and AMAFCA). Past data submitted to EPA and NMED by the MS4 permittees have proven that stormwater discharges into the Rio Grande are not raising the Rio Grande temperature above the WQSs. The data collected during this FY 2021 wet season monitoring also supports this conclusion. All the temperature field readings taken in the Rio Grande during the CMC FY 2021 wet season were below 32.2°C (90 °F) - the WQS for the State of New Mexico and for the Isleta and Sandia Pueblos. Refer to Figure 5 for temperature results and comparison to applicable WQSs for all CMC samples taken upstream and downstream of the MRG MS4 area from 2016 to 2020.

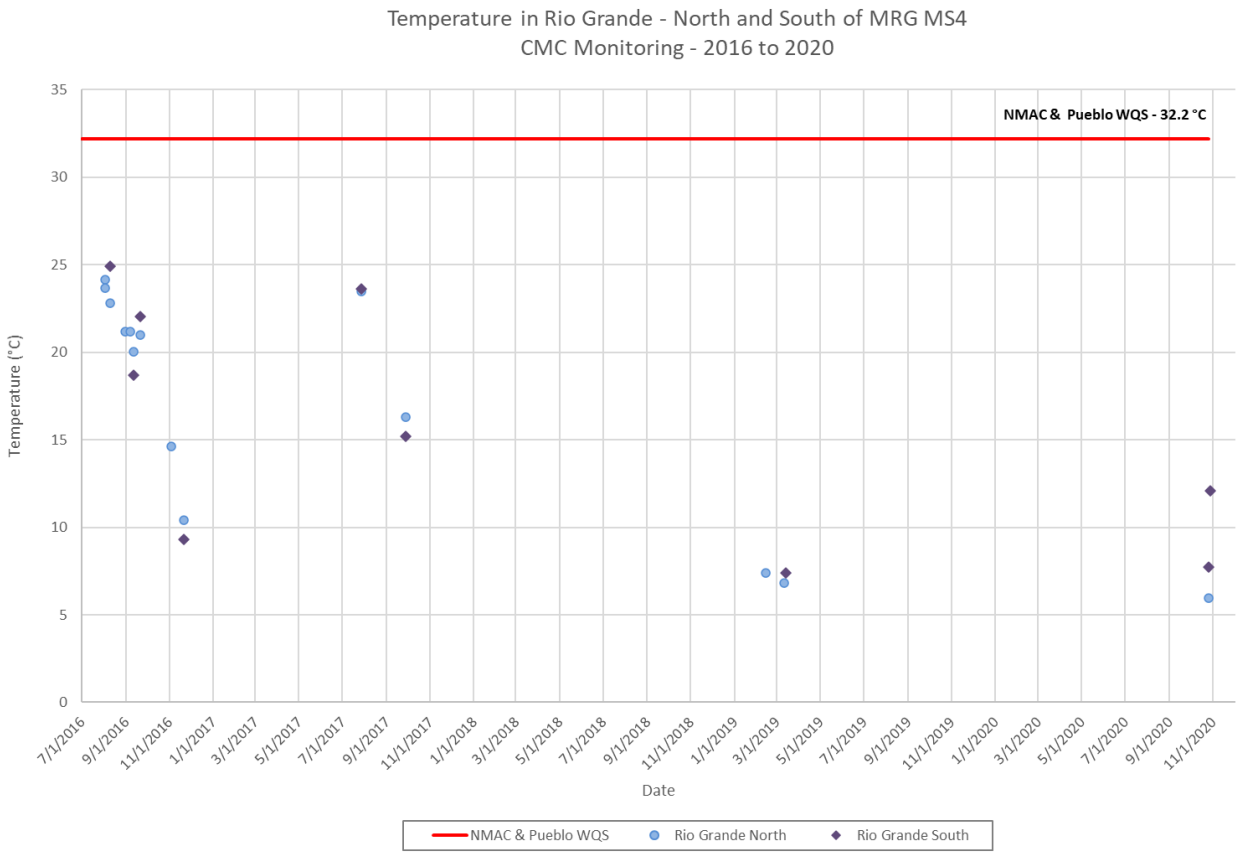


Figure 5: Temperature Monitoring Results in Rio Grande
CMC Monitoring – 2016 - 2020

CMC FY 2021 Wet Season E. coli Loading Calculations and Waste Load Allocation (WLA)

Related to assessing the stormwater results, BHI has calculated the E. coli loading and compared it to the aggregate Total Maximum Daily Load (TMDL) Waste Load Allocation (WLA) for the CMC group. A TMDL is the maximum amount of a pollutant (E. coli in this case) that a water body (Rio Grande) can assimilate on a daily basis without violating applicable surface WQS. The total TMDL for a stream segment consists of the multiple WLA for point sources, non-point sources, and natural sources, plus a margin of safety. The CMC MS4 allotted WLA was determined in the EPA Approved, Total Maximum Daily Load for the Middle Rio Grande Watershed, June 30, 2010, and subsequent communications with NMED. The WLA varies by flow condition in the Rio Grande and by stream segment.

E. coli loading calculations and comparison to the WLA follows the WSB MS4 Permit requirements in "Discharges to Water Quality Impaired Water Bodies with an Approved TMDL," Part I.C.2.b.(i).(c).B, Appendix B-Total Maximum Daily Loads (TMDLs) Tables of the WSB MS4 Permit, and the NMED guidance provided to the CMC. Attached to this memo is the WLA Calculation spreadsheet which steps through the E. coli loading calculations and assumptions comparing the calculated E. coli loading to the CMC aggregate WLA defined by NMED.

There are two (2) stream segments defined in the WSB MS4 Permit (Appendix B): Isleta Pueblo Boundary to Alameda Street Bridge (Stream Segment 2105_50) and Non-Pueblo Alameda Bridge to Angostura Diversion (Stream Segment 2105.1_00). These stream segments differ from NMED's current stream segments defined in "2020-2022 State of New Mexico Clean Water Act Section 303(d)/Section 305(b) Integrated Report," December 8, 2020. NMED currently has four (4) stream segments instead of the two (2) WSB MS4 stream segments. These various stream segment designations are shown in Figure 6, page 14.

The NMED 303(d)/305(b) 2020-2022 Integrated Report tables show the most recent assessment results, and currently all segments of the Rio Grande (Isleta to Angostura Diversion) are impaired for E. coli and have a TMDL for E. coli.

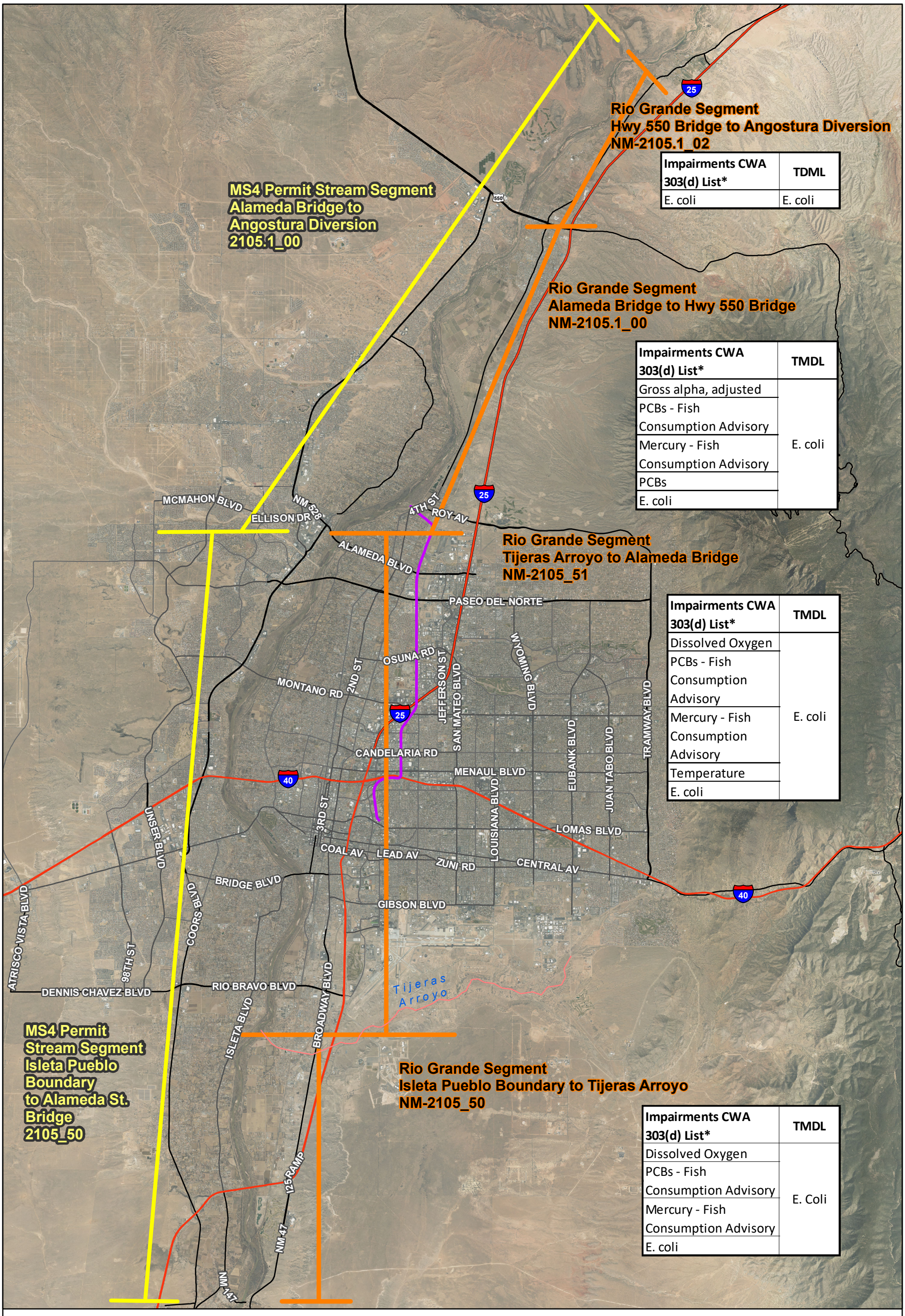
The E. coli daily loading associated with the CMC group and comparison to the NMED WLA was completed for the one (1) qualifying wet season storm event – October 26-28, 2020. For this event, the CMC obtained an E. coli sample in the Rio Grande at Alameda and used this to calculate the E. coli loading for the two (2) river segments. Refer to Table 5 for a summary of the WLA comparison results. A spreadsheet is attached to this memo that provides the detailed WLA calculations.

Table 5: Summary of CMC E. Coli Loading Compared to WLA for the CMC

Date / Stream Segment	Daily Mean Flow (cfs)	Flow Conditions (cfs) *range defined by NMED*	CMC Daily E. coli Loading (CFU/day)	NMED WLA for CMC for Stream Segment and Flow Conditions	Loading Compared to WLA Potential Exceedance or Acceptable
October 26-28, 2020 – Rio Grande North E. coli Concentration = 141.4 CFU/100 mL Rio Grande at Alameda E. coli Concentration = 98.5 CFU/100 mL Rio Grande South E. coli Concentration = >2419.6 CFU/100 mL					
Alameda to Angostura	146	Low	0.00E+00	1.68E+10	WLA Acceptable
Isleta to Alameda	180	Low	1.99E+11	3.42E+09	WLA Potential Exceedance

As Table 5 illustrates, the E. coli loading for the October 26-28, 2020 storm event for the northern segment (Alameda to Angostura) was below the WLA for the CMC MS4s. This analysis used the mid-point E. coli sample result obtained in the Rio Grande at Alameda. The E. coli loading for the southern segment for the October 26-28, 2020 storm event potentially exceeded the CMC allocated WLA.

The WSB MS4 Permit implies that the WLA is a measurable goal for the MS4s related to E. coli. Based on extensive review of the EPA Approved, Total Maximum Daily Load (TMDL) for the Middle Rio Grande Watershed, June 30, 2010, this seems to be an unattainable goal for MS4s. On page 40, the 2010 TMDL Report states, "It is important to remember that the TMDL is a planning tool to be used to achieve water quality standards…Meeting the calculated TMDL may be a difficult objective." The TMDL/WLA was calculated by NMED to meet the Pueblo (Sandia and Isleta) geometric mean maximum of 47 CFU/100 mL, which was done to be "protective of



Legend

- MS4 Permit Stream Segments
- NMED Stream Segments
- North Diversion Channel
- Rio Grande
- Interstate Highway
- U.S. Highway
- State Highway

* Final 2020-2022 State of NM Clean Water Act Section 303(d)/Section 305(b) Integrated Report

AMAFCA

Bohannan Huston
www.bhinc.com 800.877.5332

N W E S

0 1 2 4 Miles

CMC Monitoring

Figure 6
Rio Grande Impairments & TMDL Information

P:\20210236\WR\Reports\Preliminary & Draft\Figures\MXDs\Figure6-MS4_TMDLStreamSegments_2021_0416.mxd
Author: SThompson

August 2021

downstream waters" and "to provide an implicit margin of safety (MOS)." A single grab sample E. coli result meeting this very low geometric means WQSs will be very difficult for the MS4s to obtain.

The CMC members discussed the difficulty of using the WLA as a measurable goal with NMED on February 1, 2017. NMED explained that exceeding the WLA does not trigger enforcement. However, NMED strongly encouraged the MS4s to document what they are doing once they realize the WLA is potentially exceeded. The meeting on February 1, 2017, and the CMC discussion with NMED on February 16, 2017, demonstrate CMC members are working toward understanding the WLA. In addition, the CMC members began implementing a refinement to the sampling plan discussed with NMED by obtaining an E. coli sample in the Rio Grande at Alameda effective the FY 2018 wet season, as feasible. This demonstrates that the CMC is continuing to investigate the potential exceedances and make improvements to monitor E. coli in the Rio Grande.

Data Entry for Discharge Monitoring Reports

The WSB MS4 Permit entered Administrative Continuance in December 2019 when EPA Region 6 did not issue a new MS4 Permit before the current MS4 Permit's expiration date. Until a new MS4 Permit is issued, there are no compliance monitoring requirements for the CMC in the Rio Grande. As identified in the CMC Monitoring Plan, the WSB MS4 Permit required a minimum of seven (7) storm events be sampled at both the Rio Grande North and Rio Grande South locations. All MS4 Permit required samples have been obtained by the CMC and verified stormwater quality data from these required events have been submitted to the EPA using electronic Discharge Monitoring Report (DMR) forms. Data from the DMRs are uploaded to a comprehensive nation-wide database that contains discharge data for facilities and other point sources that discharge directly to receiving streams. For this Task, BHI has not completed any data entry related to the EPA DMRs for the FY 2021 wet season.

Conclusions and Planning

During the FY 2021 wet season (July 1 to October 31, 2020), one (1) qualifying stormwater sample was obtained by the CMC. Lab results were received, and this data has been entered into the CMC Excel database. The lab data entered is marked in the spreadsheet as "V" (verified), and data V&V has been completed (refer to Attachment 2).

To summarize, monitoring results and E. coli loading calculations for the FY 2021 wet season show that:

- The WSB MS4 Permit entered Administrative Continuance in December 2019 when U.S. Environmental Protection Agency (EPA) Region 6 did not issue a new MS4 Permit before the current MS4 Permit's expiration date. Until a new MS4 Permit is issued, there are no compliance monitoring requirements for the CMC in the Rio Grande. All MS4 Permit required samples have been obtained by the CMC, as well as the one sample obtained in FY 2021, as reported in this memo, during Administrative Continuance.
- For the FY 2021 wet season, 16 of the 33 parameters tested were not detected in any of the Rio Grande North or South samples.

- Several key parameters all met the applicable WQSs, as they have for all the CMC samples to date:
  - All dissolved oxygen results were greater than 5 mg/L (minimum WQS).
  - All temperature results were less than 32.2 °C (maximum WQS).
- The PCB results were below the New Mexico Surface WQSs and Pueblo of Isleta Surface WQSs for designated uses including drinking water, wildlife habitat, acute aquatic life, and chronic aquatic life. However, the Rio Grande South CMC sample from October 28, 2020 was above the Pueblo of Isleta human health criteria (based on fish consumption only) WQS for surface waters.
- The calculated E. coli loading for the October 26-28, 2020 storm event for the northern segment (Alameda to Angostura) was below the WLA for the CMC MS4s. This analysis used the mid-point E. coli sample result obtained in the Rio Grande at Alameda. The E. coli loading for the southern segment for the October 26-28, 2020 event potentially exceeded the CMC allocated WLA.
  - Sources for the E. coli loading measured in the river are not solely attributable to the CMC MS4 members; the E. coli loading calculations serve to provide a reasonable estimate of the CMC contribution to the measured E. coli loading.
  - This sampling and calculation approach is only an estimate of the CMC contribution to the E. coli loading which is why the term “potential exceedance” is used.
  - The in-stream data does not provide the concentration of E. coli contributed by only the CMC MS4s or any of the other potential sources. By using this percentage calculation approach, if other contributors are in exceedance of the WLA, then the CMC will likely also be in exceedance since this approach relies on a percentage of a total.

For planning purposes for the CMC members, the FY 2021 dry season monitoring activity (weather permitting), analytical results, and E. coli loading calculations will be summarized by BHI for the CMC in a memo due August 20, 2021.

SG/ab

Attachments:

Attachment 1 – Hall Environmental Analysis Laboratory Reports with BHI Notes for FY 2021 Wet Season & DBS&A Field Data

Attachment 2 – FY 2021 Wet Season Completed Data Verification and Validation (V&V) Forms

Spreadsheets Included Separately:

E. coli Loading and Comparison to Waste Load Allocation (WLA) Excel Spreadsheet

Excel CMC Spreadsheet with FY 2021 Wet Season Stormwater Quality Monitoring Results

ATTACHMENT 1

HALL ENVIRONMENTAL ANALYSIS LABORATORY REPORTS WITH BHI NOTES FOR FY 2021 WET SEASON & DBS&A FIELD DATA

Samplers Elizabeth Boston
Kylian Robinson

CMC Sampling Data Sheet

Site Identification: RG-North-20201026 Rio Grande @ Angostura Dam

Notes: Very cold and windy; scattered precip

Full Suite Sample Date and Time:	10/26/20 10:50
Full Sample Identification:	RG-North-20201026
QC Samples: Duplicate / (None)	QC Sample ID: N/A
QC samples require a DIFFERENT sample time than the environmental sample. QC Sample time:	

Full Suite Collection Point : Angostura Dam

Full Suite Sample Volume: 6 gallons Collection Time Start: 9:45 End: 10:30

Field Parameters for each ~~2~~ 1.5-gallon grab

Grab	Time	Temp (°C)	pH	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	ORP ~~SP~~ (mV)
1	9:45	5.90	6.76	359	10.51	83.8	234.5
2	10:00	7.59	7.89	386	10.85 ~~8.23 EB~~	89.8	233.2
3	10:15	7.49	8.46	384	10.70 ~~EB~~	86.3	234.5
4	10:30	7.53	8.57	386	9.59	80.1	
Composite	10:35	5.94	6.49	385	10.08	80.8	

☐Turbid Water ☒~~Color~~ Slightly yellow ☐Solids ☐Oil/Sheen ☐Foam ☐Odor No

Analytical -see 2020 COC table

☑Site Photo ☑Sample Photo

Samplers C. Bratton K. Robinson

CMC Sampling Data Sheet

Site Identification: Isleta Dam - RG-South - 20201026

Notes: Very Cold and Windy

Full Suite Sample Date and Time: 10/26/20 12:45	
Full Sample Identification: RG-South-20201026	
QC Samples: Duplicate / None	QC Sample ID:
QC samples require a DIFFERENT sample time than the environmental sample. QC Sample time:	

Full Suite Collection Point : Isleta Dam bridge w/ bucket

Full Suite Sample Volume: 1.5 gallon Collection Time Start: 12:45 End: 12:45

Field Parameters ~~for each 2-gallon grab~~

Grab	Time	Temp (°C)	pH	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)
1	12:40 1245	7.71	8.5	591	10.33	86.1
2						
3			N/A			
4				EB		
Composite						

ORP 2469

☐Turbid Water ☑Color slightly yellow ☐Solids ☐Oil/Sheen ☐Foam ☒Odor light sewer odor

Analytical -see 2020 COC table

☑Site Photo ☑Sample Photo

Samplers E Bastien + K Lylian Robinson

CMC Sampling Data Sheet

Site Identification: RG @ Alameda Bridge

Notes: Snowy conditions, ~3 inches on bridge, steady in RG

E.coli only

~~Full Suite~~ Sample Date and Time: 10/28/20
Full Sample Identification: RG-Alameda-20201028
QC Samples: Duplicate / ~~None~~ QC Sample ID: N/A
QC samples require a DIFFERENT sample time than the environmental sample. QC Sample time:

E.coli

~~Full Suite~~ Collection Point : sampled Grab

Full Suite Sample Volume: 1.5 gallons Collection Time Start: 12:05 End: 12:05

Field Parameters for each 2-gallon grab

Grab	Time	Temp (°C)	pH	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)
1	1205	6.94	7.24	437	12.52	104.2
2						
3						
4						
~~Composite~~						

ORP

226.4

EB 10/28/20

☐Turbid Water ☑Color light yellow ☐Solids ☐Oil/Sheen ☐Foam ☐Odor_____

Analytical -see 2020 COC table

☑Site Photo ☑Sample Photo

Samplers E. Bastian / K Robinson

CMC Sampling Data Sheet

Site Identification: RG-South-20201028 Isleta Dam

Notes:

Full Suite Sample Date and Time:	10/28/20 14:10
Full Sample Identification:	RG-South-20201028
QC Samples:	Duplicate / None QC Sample ID:
QC samples require a DIFFERENT sample time than the environmental sample. QC Sample time:	

Full Suite Collection Point : west of middle from Dam.

Full Suite Sample Volume: 6 ~~2~~ 1.5 gallons Collection Time Start: 13:15 End: 14:00

Field Parameters for each ~~2~~ 1.5-gallon grab

Grab	Time	Temp (°C)	pH	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	ORP (mV)
1	13:15	11.24	8.14	591	10.46	95.2	—
2	13:30	11.95	7.93	593	9.40	87.3	224.1
3	13:45	12.80	8.25	580	9.55	90.5	232.4
4	1400	13.52	8.17	590	8.58	82.6	243.8
Composite	1410	12.06	8.11	589	8.81	81.9	233.6

☐Turbid Water ☑Color light yellow cloudy ☑Solids 5-10 small sticks/leaves ☐Oil/Sheen ☐Foam Clotty ☑Odor Slight Soapy

Analytical -see 2020 COC table

☑Site Photo ☑Sample Photo

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

October 26, 2020 - Rio Grande North and South E. coli Lab Results Prior to Storm

October 28, 2020

Patrick Chavez
AMAFCA
2600 Prospect Ave NE
Albuquerque, NM 87107
TEL: (505) 884-2215
FAX:

RE: CMC OrderNo.: 2010B80

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/26/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Parameters
Rio Grande North-
Temp = 5.94 °C
pH = 8.49
Conductivity (uS/cm=umho/cm) = 385
Dissolved Oxygen (mg/L) = 10.08
Rio Grande South-
Temp = 7.71 °C
pH = 8.5
Conductivity (uS/cm=umho/cm) = 591
Dissolved Oxygen (mg/L) = 10.33

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2010B80**
Date Reported: **10/28/2020**

CLIENT: AMAFCA
Client Sample ID: R6-North-20200126
Project: CMC
Collection Date: 10/26/2020 10:50:00 AM
Lab ID: 2010B80-001
Matrix: AQUEOUS
Received Date: 10/26/2020 1:36:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **SMS**	
E. Coli	141.4	1.000		MPN/100	1	10/27/2020 5:06:00 PM	56051

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2010B80**
Date Reported: **10/28/2020**

CLIENT: AMAFCA
Client Sample ID: R6-South-20200126
Project: CMC
Collection Date: 10/26/2020 12:45:00 PM
Lab ID: 2010B80-002 **Matrix:** AQUEOUS **Received Date:** 10/26/2020 1:36:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM 9223B FECAL INDICATOR: E. COLI MPN						Analyst: **SMS**	
E. Coli	>2419.6	1.000		MPN/100	1	10/27/2020 5:06:00 PM	56051

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **AMAFCA** Work Order Number: **2010B80** RcptNo: 1

Received By: **Juan Rojas** **10/26/2020 1:36:00 PM** Juan Rojas

Completed By: **Cheyenne Cason** **10/26/2020 1:41:13 PM**

Reviewed By: CM 10/26/20 @ 1400

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Client		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

IO 10/26/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.6	Good				

Chain-of-Custody Record

Client: AMAFCA

Mailing Address: 2600 Prospect Ave

Phone #:

email or Fax#: pchavez@amafca.org

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: CMC

Project #:

Project Manager: Patrick Chavez

Sampler: K. Robinson, E. Bastien

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 4.6-0=4.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2010B80	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	E. coli - enumerated					
10/26/20	1050	AQ	RG-North-20201026	1		001											X					
10/26/20	1245	AQ	RG South-2020 1026	1		002											X					
																PA	R					

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10-26-20	1330	K. Robinson		CDO	10/26/20	13:36
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

November 04, 2020

October 26, 2020 - Rio Grande North BOD Lab Results Prior to Storm

Patrick Chavez
AMAFCA
2600 Prospect Ave NE
Albuquerque, NM 87107
TEL: (505) 884-2215
FAX:

RE: CMC OrderNo.: 2010C13

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/27/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Parameters
Rio Grande North-
Temp = 5.94 °C
pH = 8.49
Conductivity (uS/cm=umho/cm) = 385
Dissolved Oxygen (mg/L) = 10.08

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2010C13**
Date Reported: **11/4/2020**

CLIENT: AMAFCA
Client Sample ID: RG-North-20201026
Project: CMC
Collection Date: 10/26/2020 10:50:00 AM
Lab ID: 2010C13-001
Matrix: AQUEOUS
Received Date: 10/27/2020 3:29:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM5210B: BOD						Analyst: **AG**	
Biochemical Oxygen Demand	ND	2.0		mg/L	1	11/2/2020 12:50:00 PM	56071

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C13**

04-Nov-20

Client: AMAFCA

Project: CMC

Sample ID: **MB-56071**	SampType: **MBLK**	TestCode: **SM5210B: BOD**							
Client ID: **PBW**	Batch ID: **56071**	RunNo: **73077**							
Prep Date: **10/28/2020**	Analysis Date: **11/2/2020**	SeqNo: **2569461**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID: **LCS-56071**	SampType: **LCS**	TestCode: **SM5210B: BOD**							
Client ID: **LCSW**	Batch ID: **56071**	RunNo: **73077**							
Prep Date: **10/28/2020**	Analysis Date: **11/2/2020**	SeqNo: **2569462**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	124	2.0	198.0	0	62.6	84.6	115.4			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **AMAFCA** Work Order Number: **2010C13** RcptNo: **1**

Received By: **Cheyenne Cason** **10/27/2020 3:29:00 PM**

Completed By: **Cheyenne Cason** **10/27/2020 3:46:33 PM**

Reviewed By: ENM 10/27/20 @1600

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Client		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: CMC 10/27/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good				

Chain-of-Custody Record

Client: AMAFCA

Mailing Address: 2600 Prospectane

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: CMC

Project #:

Project Manager: Patrick Chavez

Sampler: E. Bastien

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.1+0=2.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 2010C13	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BOD				Air Bubbles (Y or N)
10/26/20	10:50	SW	RG-North-20201026	1-1L	Poly/none	001												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/27/20	15:24	Elizabeth Bast	CM CDO	10/27/20	1529
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

March 12, 2021

Patrick Chavez
AMAFCA
2600 Prospect Ave NE
Albuquerque, NM 87107
TEL: (505) 884-2215
FAX:

October 26, 2020 - Rio Grande North Lab Results Prior to Storm; October 28, 2020 Rio Grande at Alameda Blvd. E. Coli Result; and October 28, 2020 Rio Grande South Results

RE: CMC OrderNo.: 2010C61

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 6 sample(s) on 10/28/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,



Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Field Parameters
Rio Grande North (10/26/2020)-
Temp = 5.94 °C
pH = 8.49
Conductivity (uS/cm=umho/cm) = 385
Dissolved Oxygen (mg/L) = 10.08
Rio Grande at Alameda Blvd. (10/28/2020)-
Temp = 6.94 °C
pH = 7.24
Conductivity (uS/cm=umho/cm) = 437
Dissolved Oxygen (mg/L) = 12.52
Rio Grande South (10/28/2020)-
Temp = 12.06 °C
pH = 8.11
Conductivity (uS/cm=umho/cm) = 589
Dissolved Oxygen (mg/L) = 8.81

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2010C61**
Date Reported: **3/12/2021**

CLIENT: AMAFCA
Client Sample ID: RG-North-20201026
Project: CMC
Collection Date: 10/26/2020 10:50:00 AM
Lab ID: 2010C61-001
Matrix: AQUEOUS
Received Date: 10/28/2020 3:16:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8081: PESTICIDES							Analyst: **JME**	
Dieldrin	ND	0.076	0.10	H	µg/L	1	11/4/2020 12:27:31 PM	56166
Surr: Decachlorobiphenyl	84.6	0	38.2-102	H	%Rec	1	11/4/2020 12:27:31 PM	56166
Surr: Tetrachloro-m-xylene	75.7	0	32.3-92.4	H	%Rec	1	11/4/2020 12:27:31 PM	56166
EPA METHOD 300.0: ANIONS							Analyst: **JMT**	
Nitrate+Nitrite as N	0.34	0.061	1.0	J	mg/L	5	11/9/2020 10:04:07 PM	R73232
EPA METHOD 200.7: METALS							Analyst: **pmf**	
Calcium	47	0.11	1.0		mg/L	1	11/2/2020 8:32:54 AM	56135
Magnesium	8.3	0.067	1.0		mg/L	1	11/2/2020 8:32:54 AM	56135
EPA 200.8: DISSOLVED METALS							Analyst: **ELS**	
Copper	0.00062	0.00013	0.0010	J	mg/L	1	10/29/2020 4:37:44 PM	A73027
Lead	ND	0.000034	0.00050		mg/L	1	10/29/2020 4:37:44 PM	A73027
SM2340B: HARDNESS							Analyst: **pmf**	
Hardness (As CaCO3)	150	2.5	6.6		mg/L	1	11/2/2020	R73075
EPA METHOD 1664B							Analyst: **KMN**	
N-Hexane Extractable Material	ND	3.92	9.71		mg/L	1	11/4/2020 8:56:00 AM	56126
SM 4500 NH3: AMMONIA							Analyst: **CJS**	
Nitrogen, Ammonia	ND	0.36	1.0		mg/L	1	11/6/2020 1:59:00 PM	R73186
SM4500-H+B / 9040C: PH							Analyst: **MH**	
pH	8.15			H	pH units	1	10/30/2020 3:15:16 PM	R73062
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **CJS**	
Phosphorus, Total (As P)	ND	0.050	0.050	D	mg/L	1	11/5/2020 11:59:00 AM	56210
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **MH**	
Total Dissolved Solids	234	20.0	20.0		mg/L	1	10/30/2020 3:00:00 PM	56113
SM 4500 NORG C: TKN							Analyst: **OG**	
Nitrogen, Kjeldahl, Total	ND	0.23	1.0		mg/L	1	11/6/2020 1:36:00 PM	56235
SM 2540D: TSS							Analyst: **KS**	
Suspended Solids	18	4.0	4.0	H	mg/L	1	11/3/2020 12:11:00 PM	56151

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: RG-North-20201026 (Diss)
Project: CMC
Collection Date: 10/26/2020 10:50:00 AM
Lab ID: 2010C61-002
Matrix: AQUEOUS
Received Date: 10/28/2020 3:16:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **CJS**	
Phosphorus, Total (As P)	0.013	0.010	0.010		mg/L	1	11/5/2020 12:00:00 PM	56210

dissolved phosphorous

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: RG-South-20201028
Project: CMC
Collection Date: 10/28/2020 2:10:00 PM
Lab ID: 2010C61-003
Matrix: AQUEOUS
Received Date: 10/28/2020 3:16:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8081: PESTICIDES							Analyst: **JME**	
Dieldrin	ND	0.076	0.10		µg/L	1	11/4/2020 12:54:03 PM	56166
Surr: Decachlorobiphenyl	79.7	0	38.2-102		%Rec	1	11/4/2020 12:54:03 PM	56166
Surr: Tetrachloro-m-xylene	77.4	0	32.3-92.4		%Rec	1	11/4/2020 12:54:03 PM	56166
EPA METHOD 300.0: ANIONS							Analyst: **CAS**	
Nitrogen, Nitrite (As N)	ND	0.070	0.50		mg/L	5	10/29/2020 11:03:29 A	R73035
Nitrogen, Nitrate (As N)	1.3	0.10	0.50		mg/L	5	10/29/2020 11:03:29 A	R73035
EPA METHOD 200.7: METALS							Analyst: **pmf**	
Calcium	51	0.11	1.0		mg/L	1	11/2/2020 8:43:27 AM	56135
Magnesium	9.4	0.067	1.0		mg/L	1	11/2/2020 8:43:27 AM	56135
EPA 200.8: DISSOLVED METALS							Analyst: **ELS**	
Copper	0.00085	0.00013	0.0010	J	mg/L	1	10/29/2020 4:45:32 PM	A73027
Lead	0.000051	0.000034	0.00050	J	mg/L	1	10/29/2020 4:45:32 PM	A73027
SM2340B: HARDNESS							Analyst: **pmf**	
Hardness (As CaCO3)	160	2.5	6.6		mg/L	1	11/2/2020	R73075
EPA METHOD 1664B							Analyst: **KMN**	
N-Hexane Extractable Material	ND	3.85	9.53		mg/L	1	11/4/2020 8:56:00 AM	56126
SM5210B: BOD							Analyst: **AG**	
Biochemical Oxygen Demand	2.3	2.0	2.0	H	mg/L	1	11/3/2020 12:04:00 PM	56094
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **KMN**	
E. Coli	>2419.6	1.000	1.000		MPN/100	1	10/29/2020 5:15:00 PM	56090
SM 4500 NH3: AMMONIA							Analyst: **CJS**	
Nitrogen, Ammonia	ND	0.36	1.0		mg/L	1	11/6/2020 1:59:00 PM	R73186
SM4500-H+B / 9040C: PH							Analyst: **MH**	
pH	8.11			H	pH units	1	10/30/2020 3:19:32 PM	R73062
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **CJS**	
Phosphorus, Total (As P)	0.63	0.050	0.050	D	mg/L	1	11/5/2020 12:06:00 PM	56210
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **MH**	
Total Dissolved Solids	348	20.0	20.0		mg/L	1	10/30/2020 3:00:00 PM	56113
SM 4500 NORG C: TKN							Analyst: **OG**	
Nitrogen, Kjeldahl, Total	0.70	0.23	1.0	J	mg/L	1	11/6/2020 1:36:00 PM	56235
SM 2540D: TSS							Analyst: **KS**	
Suspended Solids	32	4.0	4.0		mg/L	1	11/3/2020 12:11:00 PM	56151

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: RG-South-20201028 (Diss)
Project: CMC
Collection Date: 10/28/2020 2:10:00 PM
Lab ID: 2010C61-004
Matrix: AQUEOUS
Received Date: 10/28/2020 3:16:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: **CJS**	
Phosphorus, Total (As P)	0.48	0.010	0.010		mg/L	1	11/5/2020 12:08:00 PM	56210

dissolved phosphorous

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Client Sample ID: RG-Alameda-20201028
Project: CMC
Collection Date: 10/28/2020 12:05:00 PM
Lab ID: 2010C61-005
Matrix: AQUEOUS
Received Date: 10/28/2020 3:16:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **KMN**	
E. Coli	98.5	1.000	1.000		MPN/100	1	10/29/2020 5:15:00 PM	56090

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Client:	Hall Environmental Analysis Lab	Work Order:	MAJ0864
Address:	4901 Hawkins NE Suite D	Project:	2010C61
	Albuquerque, NM 87109	Reported:	11/20/2020 11:28
Attn:	Andy Freeman		

Analytical Results Report

Sample Location:	2010C61-001A (RG-North-20201026)		
Lab/Sample Number:	MAJ0864-01	Collect Date:	10/26/20 10:50
Date Received:	10/30/20 11:33	Collected By:	
Matrix:	Water		

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Volatiles							
Tetrahydrofuran	ND	ug/L	1.00	11/2/20 16:25	TEC	EPA 8260C	

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Analytical Results Report

(Continued)

Sample Location: 2010C61-001K (RG-North-20201026)
Lab/Sample Number: MAJ0864-02 Collect Date: 10/26/20 10:50
Date Received: 10/30/20 11:33 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Semivolatiles							
Benzidine	ND	ug/L	0.500	11/14/20 0:42	MAH	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.500	11/14/20 0:42	MAH	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.500	11/14/20 0:42	MAH	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.500	11/14/20 0:42	MAH	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.500	11/14/20 0:42	MAH	EPA 8270D	
Chrysene	ND	ug/L	0.500	11/14/20 0:42	MAH	EPA 8270D	
Di (2-ethylhexyl) phthalate	ND	ug/L	0.500	11/14/20 0:42	MAH	EPA 8270D	
Dibenz(a,h)anthracene	ND	ug/L	0.500	11/14/20 0:42	MAH	EPA 8270D	
Dibenzofuran	ND	ug/L	0.500	11/14/20 0:42	MAH	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.500	11/14/20 0:42	MAH	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.500	11/14/20 0:42	MAH	EPA 8270D	
Surrogate: 2,4,6-Tribromophenol	*79.3%*		*41-132*	*11/14/20 0:42*	*MAH*	*EPA 8270D*	
Surrogate: 2-Fluorobiphenyl	*72.7%*		*52-119*	*11/14/20 0:42*	*MAH*	*EPA 8270D*	
Surrogate: 2-Fluorophenol	*77.6%*		*41-127*	*11/14/20 0:42*	*MAH*	*EPA 8270D*	
Surrogate: Nitrobenzene-d5	*78.5%*		*52-120*	*11/14/20 0:42*	*MAH*	*EPA 8270D*	
Surrogate: Phenol-2,3,4,5,6-d5	*82.4%*		*51-115*	*11/14/20 0:42*	*MAH*	*EPA 8270D*	
Surrogate: Terphenyl-d14	*75.8%*		*25-135*	*11/14/20 0:42*	*MAH*	*EPA 8270D*	

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Analytical Results Report

(Continued)

Sample Location: 2010C61-003A (RG-South-20201028)
Lab/Sample Number: MAJ0864-03 Collect Date: 10/28/20 14:10
Date Received: 10/30/20 11:33 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Volatiles							
Tetrahydrofuran	ND	ug/L	1.00	11/2/20 16:55	TEC	EPA 8260C	

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Analytical Results Report

(Continued)

Sample Location: 2010C61-003M (RG-South-20201028)
Lab/Sample Number: MAJ0864-04 Collect Date: 10/28/20 14:10
Date Received: 10/30/20 11:33 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Semivolatiles							
Benzidine	ND	ug/L	0.500	11/14/20 4:49	MAH	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.500	11/14/20 4:49	MAH	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.500	11/14/20 4:49	MAH	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.500	11/14/20 4:49	MAH	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.500	11/14/20 4:49	MAH	EPA 8270D	
Chrysene	ND	ug/L	0.500	11/14/20 4:49	MAH	EPA 8270D	
Di (2-ethylhexyl) phthalate	ND	ug/L	0.500	11/14/20 4:49	MAH	EPA 8270D	
Dibenz(a,h)anthracene	ND	ug/L	0.500	11/14/20 4:49	MAH	EPA 8270D	
Dibenzofuran	ND	ug/L	0.500	11/14/20 4:49	MAH	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.500	11/14/20 4:49	MAH	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.500	11/14/20 4:49	MAH	EPA 8270D	
Surrogate: 2,4,6-Tribromophenol	*86.7%*		*41-132*	*11/14/20 4:49*	*MAH*	*EPA 8270D*	
Surrogate: 2-Fluorobiphenyl	*77.8%*		*52-119*	*11/14/20 4:49*	*MAH*	*EPA 8270D*	
Surrogate: 2-Fluorophenol	*74.5%*		*41-127*	*11/14/20 4:49*	*MAH*	*EPA 8270D*	
Surrogate: Nitrobenzene-d5	*77.3%*		*52-120*	*11/14/20 4:49*	*MAH*	*EPA 8270D*	
Surrogate: Phenol-2,3,4,5,6-d5	*79.0%*		*51-115*	*11/14/20 4:49*	*MAH*	*EPA 8270D*	
Surrogate: Terphenyl-d14	*70.9%*		*25-135*	*11/14/20 4:49*	*MAH*	*EPA 8270D*	

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Analytical Results Report

(Continued)

Sample Location: 2010C61-006A (Trip Blank)
Lab/Sample Number: MAJ0864-05 Collect Date: 10/28/20 14:10
Date Received: 10/30/20 11:33 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Volatiles							
Tetrahydrofuran	ND	ug/L	0.500	11/2/20 17:24	TEC	EPA 8260C	

Authorized Signature,



Justin Doty For Todd Taruscio, Laboratory Manager

PQL	Practical Quantitation Limit
ND	Not Detected
MCL	EPA's Maximum Contaminant Level
Dry	Sample results reported on a dry weight basis

This report shall not be reproduced except in full, without the written approval of the laboratory
The results reported related only to the samples indicated.

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Quality Control Data

Semivolatiles

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BAK0012 - SVOC Water										
Blank (BAK0012-BLK1)					Prepared: 11/2/2020 Analyzed: 11/13/2020					
Dibenzofuran	ND		0.500	ug/L						
Pentachlorophenol	ND		0.500	ug/L						
Indeno[1,2,3-cd]pyrene	ND		0.500	ug/L						
Dibenz[a,h]anthracene	ND		0.500	ug/L						
Chrysene	ND		0.500	ug/L						
bis(2-Ethylhexyl)phthalate	ND		0.500	ug/L						
Benzo[k]fluoranthene	ND		0.500	ug/L						
Benzidine	ND		0.500	ug/L						
Benzo[a]anthracene	ND		0.500	ug/L						
Benzo[a]pyrene	ND		0.500	ug/L						
Benzo[b]fluoranthene	ND		0.500	ug/L						
Surrogate: Phenol-2,3,4,5,6-d5			*41.4*	*ug/L*	*49.5*		*83.7*	*51-115*		
Surrogate: Nitrobenzene-d5			*20.7*	*ug/L*	*25.0*		*82.6*	*52-120*		
Surrogate: Terphenyl-d14			*31.4*	*ug/L*	*25.5*		*123*	*25-135*		
Surrogate: 2-Fluorophenol			*38.7*	*ug/L*	*50.0*		*77.4*	*41-127*		
Surrogate: 2-Fluorobiphenyl			*19.4*	*ug/L*	*25.5*		*76.3*	*52-119*		
Surrogate: 2,4,6-Tribromophenol			*38.9*	*ug/L*	*51.2*		*75.8*	*41-132*		
LCS (BAK0012-BS1)					Prepared: 11/2/2020 Analyzed: 11/13/2020					
Chrysene	4.24		0.500	ug/L	5.00		84.8	50-130		
Dibenz[a,h]anthracene	3.61		0.500	ug/L	5.00		72.2	50-130		
Benzo[a]anthracene	4.13		0.500	ug/L	5.00		82.6	50-130		
Benzo[a]pyrene	3.87		0.500	ug/L	5.00		77.4	50-130		
Benzo[b]fluoranthene	4.59		0.500	ug/L	5.00		91.8	50-130		
Benzo[k]fluoranthene	4.48		0.500	ug/L	5.00		89.6	50-130		
bis(2-Ethylhexyl)phthalate	3.99		0.500	ug/L	5.00		79.8	50-130		
Dibenzofuran	4.29		0.500	ug/L	5.00		85.8	50-130		
Indeno[1,2,3-cd]pyrene	3.77		0.500	ug/L	5.00		75.4	50-130		
Pentachlorophenol	3.55		0.500	ug/L	5.00		71.0	50-130		
Surrogate: Phenol-2,3,4,5,6-d5			*44.4*	*ug/L*	*49.5*		*89.7*	*51-115*		
Surrogate: Nitrobenzene-d5			*21.9*	*ug/L*	*25.0*		*87.6*	*52-120*		
Surrogate: Terphenyl-d14			*23.0*	*ug/L*	*25.5*		*90.4*	*25-135*		
Surrogate: 2-Fluorophenol			*42.8*	*ug/L*	*50.0*		*85.6*	*41-127*		
Surrogate: 2-Fluorobiphenyl			*21.5*	*ug/L*	*25.5*		*84.2*	*52-119*		
Surrogate: 2,4,6-Tribromophenol			*41.9*	*ug/L*	*51.2*		*81.8*	*41-132*		

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Quality Control Data
(Continued)

Semivolatiles (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BAK0012 - SVOC Water (Continued)										
LCS Dup (BAK0012-BSD1)					Prepared: 11/2/2020 Analyzed: 11/13/2020					
Dibenz[a,h]anthracene	2.98		0.500	ug/L	5.00		59.6	50-130	19.1	25
Dibenzofuran	4.20		0.500	ug/L	5.00		84.0	50-130	2.12	25
Indeno[1,2,3-cd]pyrene	3.63		0.500	ug/L	5.00		72.6	50-130	3.78	25
Chrysene	4.28		0.500	ug/L	5.00		85.6	50-130	0.939	25
Benzo[a]pyrene	3.77		0.500	ug/L	5.00		75.4	50-130	2.62	25
Pentachlorophenol	3.47		0.500	ug/L	5.00		69.4	50-130	2.28	25
bis(2-Ethylhexyl)phthalate	3.78		0.500	ug/L	5.00		75.6	50-130	5.41	25
Benzo[b]fluoranthene	4.18		0.500	ug/L	5.00		83.6	50-130	9.35	25
Benzo[a]anthracene	4.32		0.500	ug/L	5.00		86.4	50-130	4.50	25
Benzo[k]fluoranthene	4.39		0.500	ug/L	5.00		87.8	50-130	2.03	25
Surrogate: Phenol-2,3,4,5,6-d5			*44.2*	*ug/L*	*49.5*		*89.3*	*51-115*		
Surrogate: Nitrobenzene-d5			*21.4*	*ug/L*	*25.0*		*85.7*	*52-120*		
Surrogate: Terphenyl-d14			*23.4*	*ug/L*	*25.5*		*91.7*	*25-135*		
Surrogate: 2-Fluorophenol			*42.0*	*ug/L*	*50.0*		*84.1*	*41-127*		
Surrogate: 2-Fluorobiphenyl			*21.6*	*ug/L*	*25.5*		*84.7*	*52-119*		
Surrogate: 2,4,6-Tribromophenol			*43.6*	*ug/L*	*51.2*		*85.1*	*41-132*		

Quality Control Data
(Continued)

Volatiles

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BAK0042 - VOC										
Blank (BAK0042-BLK1)					Prepared & Analyzed: 11/2/2020					
Tetrahydrofuran	ND		0.500	ug/L						
LCS (BAK0042-BS1)					Prepared & Analyzed: 11/2/2020					
Tetrahydrofuran	18.8		0.500	ug/L	22.7		82.6	80-120		
Matrix Spike (BAK0042-MS1)		**Source: MAJ0864-01**			Prepared & Analyzed: 11/2/2020					
Tetrahydrofuran	21.6		0.500	ug/L	22.7	ND	95.0	70-130		
Matrix Spike Dup (BAK0042-MSD1)		**Source: MAJ0864-01**			Prepared & Analyzed: 11/2/2020					
Tetrahydrofuran	22.1		0.500	ug/L	22.7	ND	97.4	70-130	2.52	25

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environ

MAJ0864

Due: 11/13/20

Website: clien

SUB CONTRATOR	Anatek ID	COMPANY: Anatek Labs, Inc.	PHONE: (208) 883-2839	FAX: (208) 882-9246	
ADDRESS:	1282 Alturas Dr		ACCOUNT #:	EMAIL:	
CITY, STATE, ZIP	Moscow, ID 83843				

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2010C61-001A	RG-North-20201026	VOAHCL	Aqueous	10/26/2020 10:50:00 AM	3	8260: Tetrahydrofuran
2	2010C61-001K	RG-North-20201026	1LAMGU	Aqueous	10/26/2020 10:50:00 AM	2	8270 See attached list
3	2010C61-003A	RG-South-20201028	VOAHCL	Aqueous	10/28/2020 2:10:00 PM	3	8260: Tetrahydrofuran
4	2010C61-003M	RG-South-20201028	1LAMGU	Aqueous	10/28/2020 2:10:00 PM	2	8270 See attached list
5	2010C61-006A	Trip Blank	VOAHCL	Trip Blan		2	8260: Tetrahydrofuran Trip Blank

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 10/29/2020	Time: 12:04 PM	Received By:	Date: 10/30/2020	Time: 1133
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAT: Standard X RUSH Next BD 2nd BD 3rd BD

REPORT TRANSMITTAL DESIRED:

HARDCOPY (extra cost) FAX EMAIL ONLINE

FOR LAB USE ONLY

Temp of samples C Attempt to Cool ?

Comments:

MAJ0864

Due: 11/13/20

Collaborative Monitoring Cooperative - Analyses List

Attach to Chain of Custody

Please refer to attached NPDES Permit No. NMR04A00 Appendix F. Methods and minimum qu
(MQL's) will be those approved under 40 CFR 136 and specified in the attached

Analyte (Bold Indicates WQS)	CAS #	Fraction	Method #	MDL (µg/L)
Hardness (Ca + Mg)	NA	Total	200.7	2.4
Lead	7439-92-1	Dissolved	200.8	0.09
Copper	7440-50-8	Dissolved	200.8	1.06
Ammonia + organic nitrogen	7664-41-7	Total	350.1	31.32
Total Kjehldal Nitrogen	17778-88-0	Total	351.2	58.78
Nitrate + Nitrite	14797-55-8	Total	353.2	10.17
Polychlorinated biphenyls (PCBs)	1336-36-3	Total	1668	0.014
Tetrahydrofuran (THF)	109-99-9	Total	8260C	7.9
bis(2-Ethylhexyl)phthalate	117-81-7	Total	8270D	0.2
Dibenzofuran	132-64-9	Total	8270D	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	Total	8270D	0.2
Benzo(b)fluoranthene	205-99-2	Total	8270D	0.1
Benzo(k)fluoranthene	207-08-9	Total	8270D	0.1
Chrysene	218-01-9	Total	8270D	0.2
Benzo(a)pyrene	50-32-8	Total	8270D	0.3
Dibenzo(a,h)anthracene	53-70-3	Total	8270D	0.3
Benzo(a)anthracene	56-55-3	Total	8270D	0.2
Dieldrin	60-57-1	Total	8081	0.1
Pentachlorophenol	87-86-5	Total	8270D	0.2
Benzidine	92-87-5	Total	8270D	0.1
Chemical Oxygen Demand	E1641638[2]	Total	HACH	5100
Gross alpha (adjusted)	NA	Total	Method 900	0.1 pCi/L
Total Dissolved Solids	E1642222[2]	Total	SM 2540C	60.4
Total Suspended Solids	NA	Total	SM 2540D	3450
Biological Oxygen Demand	N/A	Total	Standard Methods	930
Oil and Grease		Total	1664A	5000
Ecoli			SM 9223B	
pH			SM 4500	
Phosphorus		Dissolved	365.1	100
Phosphorus		Total	365.1	100
Chromium IV		Total	3500Cr C-2011	100

ENM 10/29/20

MAJ0864

Due: 11/13/20

Anatek Labs, Inc.

Sample Receipt and Preservation Form

Client Name: HALL Project: *(apply Anatek sample label here)*

TAT: Normal RUSH: _____ days

Samples Received From: FedEx UPS USPS Client Courier Other: _____

Custody Seal on Cooler/Box: Yes No Custody Seals Intact: Yes No N/A

Number of Coolers/Boxes: 1 Type of Ice: Ice/Ice Packs Blue Ice Dry Ice None

Packing Material: Bubble Wrap Bags Foam/Peanuts None Other: _____

Cooler Temp As Read (°C): 0.1 Cooler Temp Corrected (°C): — Thermometer Used: IR-5

				Comments:
Samples Received Intact?	Yes	No	N/A	
Chain of Custody Present?	Yes	No	N/A	
Samples Received Within Hold Time?	Yes	No	N/A	
Samples Properly Preserved?	Yes	No	N/A	
VOC Vials Free of Headspace (<6mm)?	Yes	No	N/A	
VOC Trip Blanks Present?	Yes	No	N/A	
Labels and Chains Agree?	Yes	No	N/A	
Total Number of Sample Bottles Received: ~~10~~ 10 HS				
Chain of Custody Fully Completed?	Yes	No	N/A	
Correct Containers Received?	Yes	No	N/A	
Anatek Bottles Used?	Yes	No	Unknown	

Record preservatives (and lot numbers, if known) for containers below:

HCl → VOC 8260 → 9 44ml X 6 + 2 TB

Notes, comments, etc. (also use this space if contacting the client - record names and date/time)

8270 → 500ml X 2

Received/Inspected By: _____ Date/Time: 10/30/2020 1133

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 06, 2020

Hall Environmental Analysis Laboratory

Sample Delivery Group:	L1279622
Samples Received:	10/30/2020
Project Number:	
Description:	

Report To: Jackie Bolte
4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:

John Hawkins
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 4

Sr: Sample Results 5

2010C61-001H/J RG-NORTH-20201026 L1279622-01 5

2010C61-003H/J RG-SOUTH-20201028 L1279622-02 6

Qc: Quality Control Summary 7

Wet Chemistry by Method 3500Cr C-2011 7

Wet Chemistry by Method 410.4 8

Gl: Glossary of Terms 9

Al: Accreditations & Locations 10

Sc: Sample Chain of Custody 11

2010C61-001H/J RG-NORTH-20201026 L1279622-01 WW

Collected by	Collected date/time	Received date/time
	10/26/20 10:50	10/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Cr C-2011	WG1569603	1	11/03/20 18:51	11/03/20 18:51	GB	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG1571427	1	11/05/20 09:37	11/05/20 17:13	LRP	Mt. Juliet, TN

2010C61-003H/J RG-SOUTH-20201028 L1279622-02 WW

Collected by	Collected date/time	Received date/time
	10/28/20 14:10	10/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Cr C-2011	WG1569603	1	11/03/20 18:58	11/03/20 18:58	GB	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG1571427	1	11/05/20 09:37	11/05/20 17:13	LRP	Mt. Juliet, TN

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

John Hawkins
Project Manager

Wet Chemistry by Method 3500Cr C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Hexavalent Chromium	ND		0.000500	1	11/03/2020 18:51	WG1569603

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	ND		20.0	1	11/05/2020 17:13	WG1571427

Wet Chemistry by Method 3500Cr C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Hexavalent Chromium	ND		0.000500	1	11/03/2020 18:58	WG1569603

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	ND		20.0	1	11/05/2020 17:13	WG1571427

Method Blank (MB)

(MB) R3589278-1 11/03/20 16:42

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hexavalent Chromium	U		0.000150	0.000500

L1277385-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1277385-01 11/03/20 17:36 • (DUP) R3589278-3 11/03/20 17:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	ND	ND	1	0.000		20

L1280221-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1280221-01 11/03/20 20:56 • (DUP) R3589278-7 11/03/20 21:04

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	ND	ND	1	0.909		20

Laboratory Control Sample (LCS)

(LCS) R3589278-2 11/03/20 16:51

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	0.00200	0.00197	98.5	90.0-110	

L1279574-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1279574-01 11/03/20 18:21 • (MS) R3589278-4 11/03/20 18:29

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	0.0500	0.000742	0.0501	98.7	1	90.0-110	

L1280214-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1280214-02 11/03/20 20:34 • (MS) R3589278-5 11/03/20 20:41 • (MSD) R3589278-6 11/03/20 20:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	0.0500	0.160	0.199	0.200	78.8	79.8	1	90.0-110	E J6	E J6	0.252	20

Method Blank (MB)

(MB) R3589914-1 11/05/20 17:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
COD	U		11.7	20.0

L1277374-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1277374-01 11/05/20 17:11 • (DUP) R3589914-3 11/05/20 17:11

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	357	372	1	4.13		20

L1279644-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1279644-01 11/05/20 17:15 • (DUP) R3589914-6 11/05/20 17:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3589914-2 11/05/20 17:10

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
COD	500	510	102	90.0-110	

L1279548-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1279548-01 11/05/20 17:12 • (MS) R3589914-4 11/05/20 17:12 • (MSD) R3589914-5 11/05/20 17:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
COD	500	ND	529	523	103	102	1	80.0-120			1.23	20

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

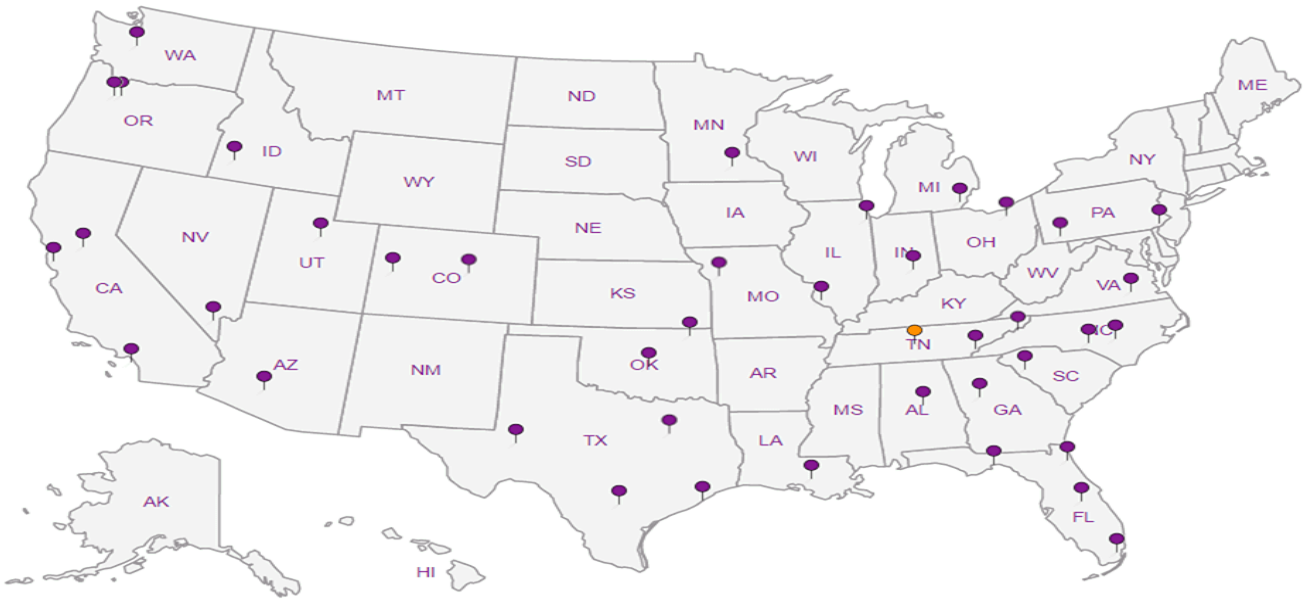
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

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



HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: OF:

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
D155
Website: clients.hall...ronmental.com

Sample Receipt Checklist

COC Seal Present/Intact:	__Y__N	If Applicable	
COC Signed/Accurate:	__Y__N	VOA Zero Headspace:	__Y__N
Bottles arrive intact:	__Y__N	Pres.Correct/Check:	__Y__N
Correct bottles used:	__Y__N		
Sufficient volume sent:	__Y__N		
RAD Screen <0.5 mR/hr:	__Y__N		

SUB CONTRATOR: **Pace TN**	COMPANY: **PACE TN**		PHONE: **(800) 767-5859**	FAX: **(615) 758-5859**	
ADDRESS: **12065 Lebanon Rd**			ACCOUNT #:	EMAIL:	
CITY, STATE, ZIP: **Mt. Juliet, TN 37122**					L1279622

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS	
1	2010C61-001H	RG-North-20201026	500HDPEH2SO4	Aqueous	10/26/2020 10:50:00 AM	1	COD	-01 ~~-01~~
2	2010C61-001J	RG-North-20201026	120mL	Aqueous	10/26/2020 10:50:00 AM	1	Cr 6	-01 ~~-02~~
3	2010C61-003H	RG-South-20201028	500HDPEH2SO4	Aqueous	10/28/2020 2:10:00 PM	1	COD	-02 ~~-03~~
4	2010C61-003J	RG-South-20201028	120mL	Aqueous	10/28/2020 2:10:00 PM	1	Cr 6	-02 ~~-04~~

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 10/29/2020	Time: 9:25 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 10/30	Time: 0900

TAT: Standard X RUSH Next BD 2nd BD 3rd BD

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY

Temp of samples 3.5-3.3°C Attempt to Cool ? OK

Comments:

COC 52

RAD SCREEN: <0.5 mR/hr

CFA | Cape Fear Analytical LLC
an affiliate of The GEL Group INC

3306 Kitty Hawk Road, Suite 120 Wilmington, NC 28405
P 910.795.0421
www.capefearanalytical.com

December 08, 2020

Mr. Andy Freeman
Hall Environmental
4901 Hawkins NE
Suite D
Albuquerque, New Mexico 87109

Re: Routine Analysis
Work Order: 17326
SDG: 2010C61

Dear Mr. Freeman:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 30, 2020. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,

Cynde Larkins

Cynde Larkins
Project Manager

Purchase Order: IDIQ Pricing
Enclosures

problem solved

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: clients.hallenvironmental.com

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

CFA WO#17326

SUB CONTRATOR: Cape Fear Analytical	COMPANY: Cape Fear Analytical		PHONE: (910) 795-0421	FAX:	
ADDRESS: 3306 Kitty Hawk Rd Ste 120			ACCOUNT #:	EMAIL:	
CITY, STATE, ZIP: Wilmington, NC 28405					

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2010C61-001G	RG-North-20201026	1LAMGU	Aqueous	10/26/2020 10:50:00 AM	2	PCB Congeners 1668
2	2010C61-003G	RG-South-20201028	1LAMGU	Aqueous	10/28/2020 2:10:00 PM	2	PCB Congeners 1668

ENM 10129120

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 10/29/2020	Time: 9:26 AM	Received By: Cynde Larkins	Date: 30OCT20	Time: 1000
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAT: Standard X RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples 5.9 °C Attempt to Cool ? ✓
Comments:

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: HALL	Work Order: 17326
Shipping Company: FedEx	Date/Time Received: 30OCT20 1000

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?			✓
Samples identified as Foreign Soil?			✓

DOE Site Sample Packages	Yes	NA	No*
Screened <0.5 mR/hr?		✓	
Samples < 2x background?		✓	

* Notify RSO of any responses in this column immediately.

Air Sample Receipt Specifics	Yes	NA	No
Air sample in shipment?			✓

Air Witness: _____

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other(describe)
2	Custody seal/s present on cooler?	✓			Seal intact? (Yes) No
3	Chain of Custody documents included with shipment?	✓			
4	Samples requiring cold preservation within 0-6°C?	✓			Preservation Method: ice bags loose ice (blue ice) dry ice none other (describe) Temperature Blank present: Yes (No) 5.9° + 0.0 = 5.9°C
5	Aqueous samples found to have visible solids?	✓			Sample IDs, containers affected: Minimal visible solids (<1%)
5	Samples requiring chemical preservation at proper pH?	✓			Sample IDs, containers affected and pH observed: all-pH=8 If preservative added, Lot#:
7	Samples requiring preservation have no residual chlorine?	✓			Sample IDs, containers affected: If preservative added, Lot#:
8	Samples received within holding time?	✓			Sample IDs, tests affected:
9	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
10	Date & time of COC match date & time on containers?	✓			Sample IDs, containers affected:
11	Number of containers received match number indicated on COC?			✓	List type and number of containers / Sample IDs, containers affected: 1-1L WMAG bottle per sample, COC lists 2.
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: HALL	Work Order: 17326
Shipping Company: FedEx	Date/Time Received: 24NOV20 1136

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?			✓
Samples identified as Foreign Soil?			✓

DOE Site Sample Packages	Yes	NA	No*
Screened <0.5 mR/hr?		✓	
Samples < 2x background?		✓	

* Notify RSO of any responses in this column immediately.

Air Sample Receipt Specifics	Yes	NA	No
Air sample in shipment?			✓

Air Witness: _____

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other(describe)
2	Custody seal/s present on cooler?	✓			Seal intact? (Yes) No
3	Chain of Custody documents included with shipment?			✓	
4	Samples requiring cold preservation within 0-6°C?	✓			Preservation Method: ice bags (blue ice) dry ice none other (describe) Temperature Blank present: Yes (No) 5.3° + 0.0 = 5.3°C
5	Aqueous samples found to have visible solids?	✓			Sample IDs, containers affected: Minimal visible solids (<1%)
5	Samples requiring chemical preservation at proper pH?		✓		Sample IDs, containers affected and pH observed: pH = 7 If preservative added, Lot#:
7	Samples requiring preservation have no residual chlorine?	✓			Sample IDs, containers affected: If preservative added, Lot#:
8	Samples received within holding time?	✓			Sample IDs, tests affected:
9	Sample IDs on COC match IDs on containers?			✓	Sample IDs, containers affected: Using original COC. Sample ID's end in "K"
10	Date & time of COC match date & time on containers?	✓			Sample IDs, containers affected:
11	Number of containers received match number indicated on COC?	✓			List type and number of containers / Sample IDs, containers affected: 2-1L NMAG bottles
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Replacement samples for re-extract.

Checklist performed by: Initials: CL Date: 24NOV20

CF-UD-F-7

PCB Congeners Analysis

Case Narrative

PCBC Case Narrative
Hall Environmental Analysis Laboratory (HALL)
SDG 2010C61
Work Order 17326

Method/Analysis Information

Product:	**PCB Congeners by EPA Method 1668A in Liquids**
Analytical Method:	EPA Method 1668A
Extraction Method:	SW846 3520C
Analytical Batch Number:	45453
Clean Up Batch Number:	45452
Extraction Batch Number:	45451

Sample Analysis

Samples were received at 5.3°C. (17326001,17326002). The following samples were analyzed using the analytical protocol as established in EPA Method 1668A:

Sample ID	Client ID
12028047	Method Blank (MB)
12028048	Laboratory Control Sample (LCS)
12028049	Laboratory Control Sample Duplicate (LCSD)
17326001	2010C61-001G RG-North-20201026
17326002	2010C61-003G RG-South-20201028

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-003 REV# 7.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

Calibration Information

Initial Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement
The test results presented in this document are certified to meet all requirements of the 2009 TNI Standard.

Method Blank (MB) Statement
The MB(s) analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries
All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery
The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement
The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation
A matrix spike and matrix spike duplicate analysis was not required for this SDG.

Technical Information

Receipt Temperature
Samples were received within temperature requirements.

Holding Time Specifications
CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis
Samples were re-extracted due to laboratory contamination in the associated method blank. 17326001 (2010C61-001G RG-North-20201026) and 17326002 (2010C61-003G RG-South-20201028).

Miscellaneous Information

Nonconformance (NCR) Documentation
A NCR was not required for this SDG.

Manual Integrations
Manual integrations were required for data files in this SDG. Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction.

System Configuration

This analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
HRP875_1	PCB Analysis	PCB Analysis	SPB-Octyl	30m x 0.25mm, 0.25um

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Sample Data Summary

Cape Fear Analytical, LLC
3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

Certificate of Analysis Report
for

HALL001 Hall Environmental Analysis Laboratory

Client SDG: 2010C61 CFA Work Order: 17326

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
B The target analyte was detected in the associated blank.
C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature:  **Name: Erin Suhrie**

Date: 08 DEC 2020 **Title: Data Validator**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326001**	**Date Collected:**	**10/26/2020 10:50**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-001G RG-North-20201026**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 00:12**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-6**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**928.5 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	5.19	108
2051-61-8	2-MoCB	U	ND	pg/L	5.19	108
2051-62-9	3-MoCB	U	ND	pg/L	4.29	108
13029-08-8	4-DiCB	U	ND	pg/L	20.1	108
16605-91-7	5-DiCB	U	ND	pg/L	11.4	108
25569-80-6	6-DiCB	U	ND	pg/L	10.2	108
33284-50-3	7-DiCB	U	ND	pg/L	8.85	108
34883-43-7	8-DiCB	U	ND	pg/L	8.87	108
34883-39-1	9-DiCB	U	ND	pg/L	12.3	108
33146-45-1	10-DiCB	U	ND	pg/L	9.80	108
2050-67-1	11-DiCB	U	ND	pg/L	33.2	108
2974-92-7	12-DiCB	CU	ND	pg/L	9.89	215
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	10.9	108
2050-68-2	15-DiCB	U	ND	pg/L	9.26	108
38444-78-9	16-TrCB	U	ND	pg/L	3.83	108
37680-66-3	17-TrCB	U	ND	pg/L	4.29	162
37680-65-2	18-TrCB	CU	ND	pg/L	4.54	215
38444-73-4	19-TrCB	U	ND	pg/L	5.39	108
38444-84-7	20-TrCB	BCJ	9.22	pg/L	2.89	215
55702-46-0	21-TrCB	CU	ND	pg/L	5.67	215
38444-85-8	22-TrCB	U	ND	pg/L	3.25	108
55720-44-0	23-TrCB	U	ND	pg/L	2.80	108
55702-45-9	24-TrCB	U	ND	pg/L	3.14	108
55712-37-3	25-TrCB	U	ND	pg/L	2.54	108
38444-81-4	26-TrCB	CU	ND	pg/L	3.17	215
38444-76-7	27-TrCB	U	ND	pg/L	3.34	108
7012-37-5	28-TrCB	C20				
15862-07-4	29-TrCB	C26				
35693-92-6	30-TrCB	C18				
16606-02-3	31-TrCB	BJ	7.69	pg/L	2.95	108
38444-77-8	32-TrCB	U	ND	pg/L	2.97	108

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326001**	**Date Collected:**	**10/26/2020 10:50**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-001G RG-North-20201026**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 00:12**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-6**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**928.5 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	3.36	108
37680-69-6	35-TrCB	U	ND	pg/L	3.04	108
38444-87-0	36-TrCB	U	ND	pg/L	2.91	108
38444-90-5	37-TrCB	U	ND	pg/L	2.93	108
53555-66-1	38-TrCB	U	ND	pg/L	2.99	108
38444-88-1	39-TrCB	U	ND	pg/L	2.48	108
38444-93-8	40-TeCB	CU	ND	pg/L	4.46	215
52663-59-9	41-TeCB	U	ND	pg/L	6.20	162
36559-22-5	42-TeCB	U	ND	pg/L	4.33	162
70362-46-8	43-TeCB	U	ND	pg/L	4.35	108
41464-39-5	44-TeCB	CU	ND	pg/L	12.3	323
70362-45-7	45-TeCB	CU	ND	pg/L	2.74	215
41464-47-5	46-TeCB	U	ND	pg/L	2.97	108
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	4.14	162
41464-40-8	49-TeCB	CU	ND	pg/L	6.35	215
62796-65-0	50-TeCB	CU	ND	pg/L	2.61	215
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	BJ	13.9	pg/L	4.82	215
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	2.15	108
74338-24-2	55-TeCB	U	ND	pg/L	2.61	108
41464-43-1	56-TeCB	BJ	3.86	pg/L	2.71	108
70424-67-8	57-TeCB	U	ND	pg/L	2.86	108
41464-49-7	58-TeCB	U	ND	pg/L	2.63	108
74472-33-6	59-TeCB	CU	ND	pg/L	3.36	323
33025-41-1	60-TeCB	U	ND	pg/L	2.58	108
33284-53-6	61-TeCB	BCJ	15.9	pg/L	2.58	431
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	2.80	108
52663-58-8	64-TeCB	U	ND	pg/L	4.24	108

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326001**	**Date Collected:**	**10/26/2020 10:50**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-001G RG-North-20201026**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 00:12**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-6**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**928.5 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	BJ	8.90	pg/L	2.93	215
73575-53-8	67-TeCB	U	ND	pg/L	2.39	108
73575-52-7	68-TeCB	U	ND	pg/L	2.30	108
60233-24-1	69-TeCB	C49				
32598-11-1	70-TeCB	C61				
41464-46-4	71-TeCB	C40				
41464-42-0	72-TeCB	U	ND	pg/L	2.76	108
74338-23-1	73-TeCB	U	ND	pg/L	3.36	108
32690-93-0	74-TeCB	C61				
32598-12-2	75-TeCB	C59				
70362-48-0	76-TeCB	C61				
32598-13-3	77-TeCB	U	ND	pg/L	2.97	108
70362-49-1	78-TeCB	U	ND	pg/L	3.21	108
41464-48-6	79-TeCB	U	ND	pg/L	2.61	108
33284-52-5	80-TeCB	U	ND	pg/L	2.48	108
70362-50-4	81-TeCB	U	ND	pg/L	2.84	108
52663-62-4	82-PeCB	U	ND	pg/L	4.93	108
60145-20-2	83-PeCB	U	ND	pg/L	5.60	108
52663-60-2	84-PeCB	U	ND	pg/L	4.26	108
65510-45-4	85-PeCB	CU	ND	pg/L	3.40	323
55312-69-1	86-PeCB	BCJ	9.74	pg/L	3.55	646
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	4.09	215
73575-57-2	89-PeCB	U	ND	pg/L	5.04	162
68194-07-0	90-PeCB	BCJ	9.78	pg/L	3.60	323
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	U	ND	pg/L	4.78	108
73575-56-1	93-PeCB	CU	ND	pg/L	3.73	215
73575-55-0	94-PeCB	U	ND	pg/L	3.81	108
38379-99-6	95-PeCB	BJ	8.10	pg/L	4.63	108
73575-54-9	96-PeCB	U	ND	pg/L	2.13	162

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326001**	**Date Collected:**	**10/26/2020 10:50**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-001G RG-North-20201026**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 00:12**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-6**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**928.5 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	3.77	215
38380-01-7	99-PeCB	U	ND	pg/L	3.38	108
39485-83-1	100-PeCB	C93				
37680-73-2	101-PeCB	C90				
68194-06-9	102-PeCB	C98				
60145-21-3	103-PeCB	U	ND	pg/L	4.16	108
56558-16-8	104-PeCB	U	ND	pg/L	1.81	215
32598-14-4	105-PeCB	J	5.92	pg/L	3.81	162
70424-69-0	106-PeCB	U	ND	pg/L	3.90	108
70424-68-9	107-PeCB	U	ND	pg/L	3.02	108
70362-41-3	108-PeCB	CU	ND	pg/L	3.42	215
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	BCJ	10.3	pg/L	2.89	215
39635-32-0	111-PeCB	U	ND	pg/L	2.80	108
74472-36-9	112-PeCB	U	ND	pg/L	2.89	108
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	3.68	108
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB	J	11.8	pg/L	3.58	108
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	3.27	108
56558-18-0	121-PeCB	U	ND	pg/L	2.76	108
76842-07-4	122-PeCB	U	ND	pg/L	4.74	108
65510-44-3	123-PeCB	U	ND	pg/L	3.42	108
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	4.09	108
39635-33-1	127-PeCB	U	ND	pg/L	3.79	108
38380-07-3	128-HxCB	CJ	2.82	pg/L	2.50	215

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326001**	**Date Collected:**	**10/26/2020 10:50**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-001G RG-North-20201026**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 00:12**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-6**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**928.5 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	CJ	9.28	pg/L	2.61	323
52663-66-8	130-HxCB	U	ND	pg/L	3.23	108
61798-70-7	131-HxCB	U	ND	pg/L	3.02	108
38380-05-1	132-HxCB	U	ND	pg/L	2.78	108
35694-04-3	133-HxCB	U	ND	pg/L	3.19	108
52704-70-8	134-HxCB	U	ND	pg/L	3.17	162
52744-13-5	135-HxCB	CU	ND	pg/L	2.63	215
38411-22-2	136-HxCB	U	ND	pg/L	1.85	108
35694-06-5	137-HxCB	U	ND	pg/L	2.65	162
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	2.54	215
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	U	ND	pg/L	2.67	108
41411-61-4	142-HxCB	U	ND	pg/L	3.32	162
68194-15-0	143-HxCB	U	ND	pg/L	3.14	108
68194-14-9	144-HxCB	U	ND	pg/L	2.39	108
74472-40-5	145-HxCB	U	ND	pg/L	1.57	108
51908-16-8	146-HxCB	U	ND	pg/L	2.54	108
68194-13-8	147-HxCB	BCJ	4.78	pg/L	2.52	215
74472-41-6	148-HxCB	U	ND	pg/L	2.30	108
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	1.51	108
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	1.85	108
35065-27-1	153-HxCB	BCJ	6.44	pg/L	2.24	215
60145-22-4	154-HxCB	U	ND	pg/L	1.90	108
33979-03-2	155-HxCB	U	ND	pg/L	1.40	108
38380-08-4	156-HxCB	CJ	2.80	pg/L	2.46	215
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	1.98	108
39635-35-3	159-HxCB	U	ND	pg/L	1.72	108
41411-62-5	160-HxCB	U	ND	pg/L	2.09	108

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326001**	**Date Collected:**	**10/26/2020 10:50**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-001G RG-North-20201026**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 00:12**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-6**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**928.5 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	2.26	108
39635-34-2	162-HxCB	U	ND	pg/L	1.57	108
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	2.15	108
74472-46-1	165-HxCB	U	ND	pg/L	2.13	108
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	U	ND	pg/L	1.68	108
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	1.90	108
35065-30-6	170-HpCB	U	ND	pg/L	2.48	108
52663-71-5	171-HpCB	CU	ND	pg/L	2.50	215
52663-74-8	172-HpCB	U	ND	pg/L	2.52	108
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	U	ND	pg/L	2.28	108
40186-70-7	175-HpCB	U	ND	pg/L	2.18	108
52663-65-7	176-HpCB	U	ND	pg/L	1.70	108
52663-70-4	177-HpCB	U	ND	pg/L	2.50	108
52663-67-9	178-HpCB	U	ND	pg/L	2.35	108
52663-64-6	179-HpCB	U	ND	pg/L	1.64	108
35065-29-3	180-HpCB	CU	ND	pg/L	2.00	215
74472-47-2	181-HpCB	U	ND	pg/L	2.15	108
60145-23-5	182-HpCB	U	ND	pg/L	2.07	108
52663-69-1	183-HpCB	CU	ND	pg/L	2.18	215
74472-48-3	184-HpCB	U	ND	pg/L	1.46	108
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	1.55	108
52663-68-0	187-HpCB	BJ	2.58	pg/L	1.85	108
74487-85-7	188-HpCB	U	ND	pg/L	1.57	162
39635-31-9	189-HpCB	U	ND	pg/L	2.37	108
41411-64-7	190-HpCB	U	ND	pg/L	1.90	108
74472-50-7	191-HpCB	U	ND	pg/L	1.85	108
74472-51-8	192-HpCB	U	ND	pg/L	1.83	108

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326001**	**Date Collected:**	**10/26/2020 10:50**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-001G RG-North-20201026**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 00:12**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-6**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**928.5 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	J	2.33	pg/L	2.28	108
52663-78-2	195-OcCB	U	ND	pg/L	2.46	108
42740-50-1	196-OcCB	U	ND	pg/L	2.13	108
33091-17-7	197-OcCB	CU	ND	pg/L	1.55	215
68194-17-2	198-OcCB	CJ	2.37	pg/L	2.11	215
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	1.55	108
2136-99-4	202-OcCB	U	ND	pg/L	1.66	108
52663-76-0	203-OcCB	U	ND	pg/L	1.81	108
74472-52-9	204-OcCB	U	ND	pg/L	1.59	108
74472-53-0	205-OcCB	U	ND	pg/L	1.94	108
40186-72-9	206-NoCB	U	ND	pg/L	4.09	108
52663-79-3	207-NoCB	U	ND	pg/L	3.08	108
52663-77-1	208-NoCB	U	ND	pg/L	2.93	108
2051-24-3	209-DeCB	U	ND	pg/L	2.56	108
1336-36-3	Total PCB Congeners	J	148	pg/L		108

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		904	2150	pg/L	42.0	(15%-150%)
13C-3-MoCB		1040	2150	pg/L	48.3	(15%-150%)
13C-4-DiCB		1090	2150	pg/L	50.7	(25%-150%)
13C-15-DiCB		1520	2150	pg/L	70.4	(25%-150%)
13C-19-TrCB		1270	2150	pg/L	58.8	(25%-150%)
13C-37-TrCB		1430	2150	pg/L	66.2	(25%-150%)
13C-54-TeCB		1200	2150	pg/L	55.9	(25%-150%)
13C-77-TeCB		1630	2150	pg/L	75.7	(25%-150%)
13C-81-TeCB		1630	2150	pg/L	75.8	(25%-150%)
13C-104-PeCB		1310	2150	pg/L	60.9	(25%-150%)
13C-105-PeCB		1600	2150	pg/L	74.5	(25%-150%)
13C-114-PeCB		1580	2150	pg/L	73.4	(25%-150%)
13C-118-PeCB		1570	2150	pg/L	72.7	(25%-150%)
13C-123-PeCB		1660	2150	pg/L	76.8	(25%-150%)
13C-126-PeCB		1730	2150	pg/L	80.3	(25%-150%)
13C-155-HxCB		1370	2150	pg/L	63.4	(25%-150%)
13C-156-HxCB	C	3060	4310	pg/L	71.1	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1590	2150	pg/L	73.9	(25%-150%)
13C-169-HxCB		1700	2150	pg/L	79.1	(25%-150%)
13C-188-HpCB		1480	2150	pg/L	68.6	(25%-150%)
13C-189-HpCB		1580	2150	pg/L	73.2	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326001**	**Date Collected:**	**10/26/2020 10:50**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-001G RG-North-20201026**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 00:12**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-6**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**928.5 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1460	2150	pg/L	67.8	(25%-150%)
13C-205-OcCB		1670	2150	pg/L	77.6	(25%-150%)
13C-206-NoCB		1740	2150	pg/L	81.0	(25%-150%)
13C-208-NoCB		1500	2150	pg/L	69.8	(25%-150%)
13C-209-DeCB		1640	2150	pg/L	76.2	(25%-150%)
13C-28-TrCB		1580	2150	pg/L	73.2	(30%-135%)
13C-111-PeCB		1750	2150	pg/L	81.4	(30%-135%)
13C-178-HpCB		1890	2150	pg/L	87.8	(30%-135%)

Comments:

B **The target analyte was detected in the associated blank.**
C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**
J **Value is estimated**
U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326002**	**Date Collected:**	**10/28/2020 14:10**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-003G RG-South-20201028**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 01:22**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-7**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**939.6 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	5.64	106
2051-61-8	2-MoCB	U	ND	pg/L	5.66	106
2051-62-9	3-MoCB	U	ND	pg/L	4.73	106
13029-08-8	4-DiCB	U	ND	pg/L	25.1	106
16605-91-7	5-DiCB	U	ND	pg/L	12.5	106
25569-80-6	6-DiCB	U	ND	pg/L	11.2	106
33284-50-3	7-DiCB	U	ND	pg/L	9.66	106
34883-43-7	8-DiCB	U	ND	pg/L	9.68	106
34883-39-1	9-DiCB	U	ND	pg/L	13.4	106
33146-45-1	10-DiCB	U	ND	pg/L	11.9	106
2050-67-1	11-DiCB	BJ	66.0	pg/L	12.0	106
2974-92-7	12-DiCB	CU	ND	pg/L	10.8	213
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	11.9	106
2050-68-2	15-DiCB	U	ND	pg/L	9.96	106
38444-78-9	16-TrCB	U	ND	pg/L	4.36	106
37680-66-3	17-TrCB	U	ND	pg/L	5.87	160
37680-65-2	18-TrCB	CU	ND	pg/L	9.51	213
38444-73-4	19-TrCB	U	ND	pg/L	6.15	106
38444-84-7	20-TrCB	BCJ	16.0	pg/L	3.30	213
55702-46-0	21-TrCB	BCJ	7.22	pg/L	3.41	213
38444-85-8	22-TrCB	J	5.96	pg/L	3.26	106
55720-44-0	23-TrCB	U	ND	pg/L	3.19	106
55702-45-9	24-TrCB	U	ND	pg/L	3.60	106
55712-37-3	25-TrCB	U	ND	pg/L	2.89	106
38444-81-4	26-TrCB	CJ	4.09	pg/L	3.53	213
38444-76-7	27-TrCB	U	ND	pg/L	3.81	106
7012-37-5	28-TrCB	C20				
15862-07-4	29-TrCB	C26				
35693-92-6	30-TrCB	C18				
16606-02-3	31-TrCB	BJ	14.0	pg/L	3.36	106
38444-77-8	32-TrCB	U	ND	pg/L	3.98	106

Comments:

B **The target analyte was detected in the associated blank.**
C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**
J **Value is estimated**
U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326002**	**Date Collected:**	**10/28/2020 14:10**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-003G RG-South-20201028**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 01:22**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-7**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**939.6 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	3.85	106
37680-69-6	35-TrCB	U	ND	pg/L	3.49	106
38444-87-0	36-TrCB	U	ND	pg/L	3.34	106
38444-90-5	37-TrCB	J	6.07	pg/L	3.34	106
53555-66-1	38-TrCB	U	ND	pg/L	3.45	106
38444-88-1	39-TrCB	U	ND	pg/L	2.83	106
38444-93-8	40-TeCB	BCJ	6.77	pg/L	5.73	213
52663-59-9	41-TeCB	U	ND	pg/L	9.47	160
36559-22-5	42-TeCB	U	ND	pg/L	6.62	160
70362-46-8	43-TeCB	U	ND	pg/L	6.64	106
41464-39-5	44-TeCB	CU	ND	pg/L	26.7	319
70362-45-7	45-TeCB	CU	ND	pg/L	4.87	213
41464-47-5	46-TeCB	U	ND	pg/L	3.26	106
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	6.30	160
41464-40-8	49-TeCB	BCJ	12.2	pg/L	5.87	213
62796-65-0	50-TeCB	CJ	3.68	pg/L	2.85	213
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	BJ	31.5	pg/L	7.36	213
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	2.41	106
74338-24-2	55-TeCB	U	ND	pg/L	3.24	106
41464-43-1	56-TeCB	BJ	7.17	pg/L	3.38	106
70424-67-8	57-TeCB	U	ND	pg/L	3.55	106
41464-49-7	58-TeCB	U	ND	pg/L	3.26	106
74472-33-6	59-TeCB	CU	ND	pg/L	5.15	319
33025-41-1	60-TeCB	J	3.64	pg/L	3.21	106
33284-53-6	61-TeCB	BCJ	34.1	pg/L	3.21	426
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	3.49	106
52663-58-8	64-TeCB	U	ND	pg/L	7.56	106

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326002**	**Date Collected:**	**10/28/2020 14:10**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-003G RG-South-20201028**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 01:22**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-7**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**939.6 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	BJ	17.8	pg/L	3.64	213
73575-53-8	67-TeCB	U	ND	pg/L	2.96	106
73575-52-7	68-TeCB	U	ND	pg/L	2.87	106
60233-24-1	69-TeCB	C49				
32598-11-1	70-TeCB	C61				
41464-46-4	71-TeCB	C40				
41464-42-0	72-TeCB	U	ND	pg/L	3.43	106
74338-23-1	73-TeCB	U	ND	pg/L	5.13	106
32690-93-0	74-TeCB	C61				
32598-12-2	75-TeCB	C59				
70362-48-0	76-TeCB	C61				
32598-13-3	77-TeCB	U	ND	pg/L	5.32	106
70362-49-1	78-TeCB	U	ND	pg/L	3.98	106
41464-48-6	79-TeCB	U	ND	pg/L	3.24	106
33284-52-5	80-TeCB	U	ND	pg/L	3.07	106
70362-50-4	81-TeCB	U	ND	pg/L	3.62	106
52663-62-4	82-PeCB	U	ND	pg/L	6.94	106
60145-20-2	83-PeCB	U	ND	pg/L	7.88	106
52663-60-2	84-PeCB	J	9.88	pg/L	5.98	106
65510-45-4	85-PeCB	CU	ND	pg/L	4.79	319
55312-69-1	86-PeCB	BCJ	28.9	pg/L	5.00	639
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	5.75	213
73575-57-2	89-PeCB	U	ND	pg/L	7.09	160
68194-07-0	90-PeCB	BCJ	42.6	pg/L	5.04	319
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	J	10.8	pg/L	6.70	106
73575-56-1	93-PeCB	CU	ND	pg/L	5.24	213
73575-55-0	94-PeCB	U	ND	pg/L	5.36	106
38379-99-6	95-PeCB	BJ	37.6	pg/L	6.49	106
73575-54-9	96-PeCB	U	ND	pg/L	2.53	160

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326002**	**Date Collected:**	**10/28/2020 14:10**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-003G RG-South-20201028**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 01:22**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-7**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**939.6 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	5.28	213
38380-01-7	99-PeCB	BJ	14.1	pg/L	4.75	106
39485-83-1	100-PeCB	C93				
37680-73-2	101-PeCB	C90				
68194-06-9	102-PeCB	C98				
60145-21-3	103-PeCB	U	ND	pg/L	5.83	106
56558-16-8	104-PeCB	U	ND	pg/L	2.06	213
32598-14-4	105-PeCB	J	19.6	pg/L	4.60	160
70424-69-0	106-PeCB	U	ND	pg/L	4.68	106
70424-68-9	107-PeCB	U	ND	pg/L	3.64	106
70362-41-3	108-PeCB	CU	ND	pg/L	4.13	213
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	BCJ	49.6	pg/L	4.07	213
39635-32-0	111-PeCB	U	ND	pg/L	3.94	106
74472-36-9	112-PeCB	U	ND	pg/L	4.07	106
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	4.51	106
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB	J	42.8	pg/L	4.28	106
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	4.60	106
56558-18-0	121-PeCB	U	ND	pg/L	3.90	106
76842-07-4	122-PeCB	U	ND	pg/L	5.70	106
65510-44-3	123-PeCB	U	ND	pg/L	4.19	106
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	4.77	106
39635-33-1	127-PeCB	U	ND	pg/L	4.56	106
38380-07-3	128-HxCB	CJ	9.92	pg/L	3.32	213

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326002**	**Date Collected:**	**10/28/2020 14:10**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-003G RG-South-20201028**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 01:22**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-7**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**939.6 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	CJ	79.3	pg/L	3.49	319
52663-66-8	130-HxCB	U	ND	pg/L	4.34	106
61798-70-7	131-HxCB	U	ND	pg/L	4.02	106
38380-05-1	132-HxCB	J	20.6	pg/L	3.70	106
35694-04-3	133-HxCB	U	ND	pg/L	4.24	106
52704-70-8	134-HxCB	U	ND	pg/L	4.24	160
52744-13-5	135-HxCB	BCJ	23.3	pg/L	3.53	213
38411-22-2	136-HxCB	J	7.96	pg/L	2.87	106
35694-06-5	137-HxCB	U	ND	pg/L	3.53	160
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	3.38	213
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	J	12.4	pg/L	3.55	106
41411-61-4	142-HxCB	U	ND	pg/L	4.41	160
68194-15-0	143-HxCB	U	ND	pg/L	4.19	106
68194-14-9	144-HxCB	J	4.00	pg/L	3.75	106
74472-40-5	145-HxCB	U	ND	pg/L	2.47	106
51908-16-8	146-HxCB	U	ND	pg/L	11.7	106
68194-13-8	147-HxCB	CJ	51.3	pg/L	3.36	213
74472-41-6	148-HxCB	U	ND	pg/L	3.62	106
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	2.36	106
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	2.87	106
35065-27-1	153-HxCB	BCJ	64.4	pg/L	2.98	213
60145-22-4	154-HxCB	U	ND	pg/L	2.96	106
33979-03-2	155-HxCB	U	ND	pg/L	2.23	106
38380-08-4	156-HxCB	CJ	8.79	pg/L	2.92	213
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	J	6.22	pg/L	2.64	106
39635-35-3	159-HxCB	U	ND	pg/L	2.06	106
41411-62-5	160-HxCB	U	ND	pg/L	2.77	106

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326002**	**Date Collected:**	**10/28/2020 14:10**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-003G RG-South-20201028**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 01:22**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-7**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**939.6 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	3.02	106
39635-34-2	162-HxCB	U	ND	pg/L	1.89	106
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	5.11	106
74472-46-1	165-HxCB	U	ND	pg/L	2.83	106
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	J	3.60	pg/L	2.00	106
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	2.34	106
35065-30-6	170-HpCB	J	19.6	pg/L	4.19	106
52663-71-5	171-HpCB	CJ	7.28	pg/L	4.21	213
52663-74-8	172-HpCB	J	4.41	pg/L	4.26	106
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	J	20.2	pg/L	3.85	106
40186-70-7	175-HpCB	U	ND	pg/L	2.96	106
52663-65-7	176-HpCB	J	3.02	pg/L	2.32	106
52663-70-4	177-HpCB	J	14.5	pg/L	4.21	106
52663-67-9	178-HpCB	U	ND	pg/L	5.13	106
52663-64-6	179-HpCB	J	8.51	pg/L	2.23	106
35065-29-3	180-HpCB	CJ	41.1	pg/L	3.36	213
74472-47-2	181-HpCB	U	ND	pg/L	3.62	106
60145-23-5	182-HpCB	U	ND	pg/L	2.83	106
52663-69-1	183-HpCB	CU	ND	pg/L	13.1	213
74472-48-3	184-HpCB	U	ND	pg/L	1.98	106
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	2.13	106
52663-68-0	187-HpCB	BJ	21.9	pg/L	2.53	106
74487-85-7	188-HpCB	U	ND	pg/L	2.17	160
39635-31-9	189-HpCB	U	ND	pg/L	2.53	106
41411-64-7	190-HpCB	U	ND	pg/L	4.41	106
74472-50-7	191-HpCB	U	ND	pg/L	3.15	106
74472-51-8	192-HpCB	U	ND	pg/L	3.09	106

Comments:

B **The target analyte was detected in the associated blank.**

C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**

J **Value is estimated**

U **Analyte was analyzed for, but not detected above the specified detection limit.**

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326002**	**Date Collected:**	**10/28/2020 14:10**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-003G RG-South-20201028**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 01:22**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-7**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**939.6 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	J	9.86	pg/L	2.43	106
52663-78-2	195-OcCB	J	4.38	pg/L	2.60	106
42740-50-1	196-OcCB	U	ND	pg/L	4.58	106
33091-17-7	197-OcCB	CU	ND	pg/L	1.89	213
68194-17-2	198-OcCB	CU	ND	pg/L	11.8	213
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	1.92	106
2136-99-4	202-OcCB	J	2.55	pg/L	2.00	106
52663-76-0	203-OcCB	J	6.39	pg/L	2.21	106
74472-52-9	204-OcCB	U	ND	pg/L	1.96	106
74472-53-0	205-OcCB	U	ND	pg/L	2.06	106
40186-72-9	206-NoCB	J	5.19	pg/L	4.60	106
52663-79-3	207-NoCB	U	ND	pg/L	3.41	106
52663-77-1	208-NoCB	U	ND	pg/L	3.21	106
2051-24-3	209-DeCB	J	2.92	pg/L	2.77	106
1336-36-3	Total PCB Congeners	J	956	pg/L		106

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		855	2130	pg/L	40.2	(15%-150%)
13C-3-MoCB		967	2130	pg/L	45.4	(15%-150%)
13C-4-DiCB		966	2130	pg/L	45.4	(25%-150%)
13C-15-DiCB		1370	2130	pg/L	64.4	(25%-150%)
13C-19-TrCB		1150	2130	pg/L	54.1	(25%-150%)
13C-37-TrCB		1400	2130	pg/L	65.8	(25%-150%)
13C-54-TeCB		1150	2130	pg/L	53.9	(25%-150%)
13C-77-TeCB		1640	2130	pg/L	76.9	(25%-150%)
13C-81-TeCB		1610	2130	pg/L	75.8	(25%-150%)
13C-104-PeCB		1270	2130	pg/L	59.9	(25%-150%)
13C-105-PeCB		1530	2130	pg/L	72.0	(25%-150%)
13C-114-PeCB		1510	2130	pg/L	70.7	(25%-150%)
13C-118-PeCB		1500	2130	pg/L	70.5	(25%-150%)
13C-123-PeCB		1590	2130	pg/L	74.5	(25%-150%)
13C-126-PeCB		1690	2130	pg/L	79.4	(25%-150%)
13C-155-HxCB		1300	2130	pg/L	61.0	(25%-150%)
13C-156-HxCB	C	2940	4260	pg/L	69.1	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1520	2130	pg/L	71.4	(25%-150%)
13C-169-HxCB		1600	2130	pg/L	75.4	(25%-150%)
13C-188-HpCB		1380	2130	pg/L	64.6	(25%-150%)
13C-189-HpCB		1500	2130	pg/L	70.4	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**17326002**	**Date Collected:**	**10/28/2020 14:10**	**Matrix:**	**WATER**
Client Sample:	**1668A Water**	**Date Received:**	**11/24/2020 11:36**		
Client ID:	**2010C61-003G RG-South-20201028**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/28/2020 01:22**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-7**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**939.6 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1360	2130	pg/L	63.9	(25%-150%)
13C-205-OcCB		1580	2130	pg/L	74.1	(25%-150%)
13C-206-NoCB		1630	2130	pg/L	76.6	(25%-150%)
13C-208-NoCB		1420	2130	pg/L	66.6	(25%-150%)
13C-209-DeCB		1540	2130	pg/L	72.3	(25%-150%)
13C-28-TrCB		1570	2130	pg/L	73.7	(30%-135%)
13C-111-PeCB		1750	2130	pg/L	82.3	(30%-135%)
13C-178-HpCB		1800	2130	pg/L	84.8	(30%-135%)

Comments:

B **The target analyte was detected in the associated blank.**
C **Congener has coeluters. When Cxxx, refer to congener number xxx for data**
J **Value is estimated**
U **Analyte was analyzed for, but not detected above the specified detection limit.**

Quality Control Summary

PCB Congeners

Surrogate Recovery Report

SDG Number: 2010C61

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12028048	LCS for batch 45451	13C-1-MoCB		41.8	(15%-140%)
		13C-3-MoCB		46.4	(15%-140%)
		13C-4-DiCB		48.3	(30%-140%)
		13C-15-DiCB		64.8	(30%-140%)
		13C-19-TrCB		55.5	(30%-140%)
		13C-37-TrCB		63.3	(30%-140%)
		13C-54-TeCB		53.7	(30%-140%)
		13C-77-TeCB		74.7	(30%-140%)
		13C-81-TeCB		75.2	(30%-140%)
		13C-104-PeCB		58.9	(30%-140%)
		13C-105-PeCB		74.8	(30%-140%)
		13C-114-PeCB		72.8	(30%-140%)
		13C-118-PeCB		72.8	(30%-140%)
		13C-123-PeCB		76.3	(30%-140%)
		13C-126-PeCB		81.6	(30%-140%)
		13C-155-HxCB		60.0	(30%-140%)
		13C-156-HxCB	C	72.8	(30%-140%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		74.6	(30%-140%)
		13C-169-HxCB		80.7	(30%-140%)
		13C-188-HpCB		63.7	(30%-140%)
		13C-189-HpCB		73.8	(30%-140%)
		13C-202-OcCB		65.9	(30%-140%)
		13C-205-OcCB		77.2	(30%-140%)
		13C-206-NoCB		81.5	(30%-140%)
		13C-208-NoCB		69.3	(30%-140%)
		13C-209-DeCB		76.1	(30%-140%)
		13C-28-TrCB		68.9	(40%-125%)
		13C-111-PeCB		76.1	(40%-125%)
		13C-178-HpCB		83.5	(40%-125%)
12028049	LCSD for batch 45451	13C-1-MoCB		41.4	(15%-140%)
		13C-3-MoCB		46.8	(15%-140%)
		13C-4-DiCB		49.3	(30%-140%)
		13C-15-DiCB		62.7	(30%-140%)
		13C-19-TrCB		54.9	(30%-140%)
		13C-37-TrCB		62.3	(30%-140%)
		13C-54-TeCB		56.0	(30%-140%)
		13C-77-TeCB		71.6	(30%-140%)
		13C-81-TeCB		72.2	(30%-140%)
		13C-104-PeCB		60.8	(30%-140%)
		13C-105-PeCB		71.7	(30%-140%)
		13C-114-PeCB		70.4	(30%-140%)
		13C-118-PeCB		70.2	(30%-140%)
		13C-123-PeCB		73.2	(30%-140%)
		13C-126-PeCB		76.1	(30%-140%)
		13C-155-HxCB		63.1	(30%-140%)
		13C-156-HxCB	C	68.9	(30%-140%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		72.2	(30%-140%)
		13C-169-HxCB		76.1	(30%-140%)
		13C-188-HpCB		67.5	(30%-140%)
		13C-189-HpCB		72.1	(30%-140%)

PCB Congeners

Surrogate Recovery Report

SDG Number: 2010C61

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12028049	LCSD for batch 45451	13C-202-OcCB		68.0	(30%-140%)
		13C-205-OcCB		78.2	(30%-140%)
		13C-206-NoCB		83.3	(30%-140%)
		13C-208-NoCB		71.3	(30%-140%)
		13C-209-DeCB		79.1	(30%-140%)
		13C-28-TrCB		67.9	(40%-125%)
		13C-111-PeCB		74.3	(40%-125%)
		13C-178-HpCB		82.9	(40%-125%)
12028047	MB for batch 45451	13C-1-MoCB		37.7	(15%-150%)
		13C-3-MoCB		44.4	(15%-150%)
		13C-4-DiCB		45.9	(25%-150%)
		13C-15-DiCB		66.3	(25%-150%)
		13C-19-TrCB		54.0	(25%-150%)
		13C-37-TrCB		58.3	(25%-150%)
		13C-54-TeCB		47.9	(25%-150%)
		13C-77-TeCB		67.7	(25%-150%)
		13C-81-TeCB		67.9	(25%-150%)
		13C-104-PeCB		52.6	(25%-150%)
		13C-105-PeCB		65.8	(25%-150%)
		13C-114-PeCB		64.3	(25%-150%)
		13C-118-PeCB		63.9	(25%-150%)
		13C-123-PeCB		67.5	(25%-150%)
		13C-126-PeCB		72.0	(25%-150%)
		13C-155-HxCB		53.9	(25%-150%)
		13C-156-HxCB	C	62.5	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		64.8	(25%-150%)
		13C-169-HxCB		69.4	(25%-150%)
		13C-188-HpCB		57.6	(25%-150%)
		13C-189-HpCB		65.1	(25%-150%)
		13C-202-OcCB		58.5	(25%-150%)
		13C-205-OcCB		68.2	(25%-150%)
		13C-206-NoCB		71.4	(25%-150%)
		13C-208-NoCB		61.8	(25%-150%)
		13C-209-DeCB		66.9	(25%-150%)
		13C-28-TrCB		68.7	(30%-135%)
		13C-111-PeCB		74.1	(30%-135%)
		13C-178-HpCB		80.6	(30%-135%)
17326001	2010C61-001G RG-North-20201026	13C-1-MoCB		42.0	(15%-150%)
		13C-3-MoCB		48.3	(15%-150%)
		13C-4-DiCB		50.7	(25%-150%)
		13C-15-DiCB		70.4	(25%-150%)
		13C-19-TrCB		58.8	(25%-150%)
		13C-37-TrCB		66.2	(25%-150%)
		13C-54-TeCB		55.9	(25%-150%)
		13C-77-TeCB		75.7	(25%-150%)
		13C-81-TeCB		75.8	(25%-150%)
		13C-104-PeCB		60.9	(25%-150%)
		13C-105-PeCB		74.5	(25%-150%)
		13C-114-PeCB		73.4	(25%-150%)
		13C-118-PeCB		72.7	(25%-150%)

PCB Congeners

Surrogate Recovery Report

SDG Number: 2010C61

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
17326001	2010C61-001G RG-North-20201026	13C-123-PeCB		76.8	(25%-150%)
		13C-126-PeCB		80.3	(25%-150%)
		13C-155-HxCB		63.4	(25%-150%)
		13C-156-HxCB	C	71.1	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		73.9	(25%-150%)
		13C-169-HxCB		79.1	(25%-150%)
		13C-188-HpCB		68.6	(25%-150%)
		13C-189-HpCB		73.2	(25%-150%)
		13C-202-OcCB		67.8	(25%-150%)
		13C-205-OcCB		77.6	(25%-150%)
		13C-206-NoCB		81.0	(25%-150%)
		13C-208-NoCB		69.8	(25%-150%)
		13C-209-DeCB		76.2	(25%-150%)
		13C-28-TrCB		73.2	(30%-135%)
		13C-111-PeCB		81.4	(30%-135%)
		13C-178-HpCB		87.8	(30%-135%)
17326002	2010C61-003G RG-South-20201028	13C-1-MoCB		40.2	(15%-150%)
		13C-3-MoCB		45.4	(15%-150%)
		13C-4-DiCB		45.4	(25%-150%)
		13C-15-DiCB		64.4	(25%-150%)
		13C-19-TrCB		54.1	(25%-150%)
		13C-37-TrCB		65.8	(25%-150%)
		13C-54-TeCB		53.9	(25%-150%)
		13C-77-TeCB		76.9	(25%-150%)
		13C-81-TeCB		75.8	(25%-150%)
		13C-104-PeCB		59.9	(25%-150%)
		13C-105-PeCB		72.0	(25%-150%)
		13C-114-PeCB		70.7	(25%-150%)
		13C-118-PeCB		70.5	(25%-150%)
		13C-123-PeCB		74.5	(25%-150%)
		13C-126-PeCB		79.4	(25%-150%)
		13C-155-HxCB		61.0	(25%-150%)
		13C-156-HxCB	C	69.1	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		71.4	(25%-150%)
		13C-169-HxCB		75.4	(25%-150%)
		13C-188-HpCB		64.6	(25%-150%)
		13C-189-HpCB		70.4	(25%-150%)
		13C-202-OcCB		63.9	(25%-150%)
		13C-205-OcCB		74.1	(25%-150%)
		13C-206-NoCB		76.6	(25%-150%)
		13C-208-NoCB		66.6	(25%-150%)
		13C-209-DeCB		72.3	(25%-150%)
		13C-28-TrCB		73.7	(30%-135%)
		13C-111-PeCB		82.3	(30%-135%)
		13C-178-HpCB		84.8	(30%-135%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

PCB Congeners

Quality Control Summary
Spike Recovery Report

SDG Number: 2010C61 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 45451 **Matrix:** WATER

Lab Sample ID: 12028048

Instrument: HRP875 **Analysis Date:** 11/27/2020 20:44 **Dilution:** 1

Analyst: MJC **Prep Batch ID:** 45451

Batch ID: 45453

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits
2051-60-7	LCS	1-MoCB	500		560	112	50-150
2051-62-9	LCS	3-MoCB	500		619	124	50-150
13029-08-8	LCS	4-DiCB	500		498	99.6	50-150
2050-68-2	LCS	15-DiCB	500		612	122	50-150
38444-73-4	LCS	19-TrCB	500		554	111	50-150
38444-90-5	LCS	37-TrCB	500		591	118	50-150
15968-05-5	LCS	54-TeCB	1000		1060	106	50-150
32598-13-3	LCS	77-TeCB	1000		1130	113	50-150
70362-50-4	LCS	81-TeCB	1000		896	89.6	50-150
56558-16-8	LCS	104-PeCB	1000		1130	113	50-150
32598-14-4	LCS	105-PeCB	1000		1010	101	50-150
74472-37-0	LCS	114-PeCB	1000		1220	122	50-150
31508-00-6	LCS	118-PeCB	1000		1310	131	50-150
65510-44-3	LCS	123-PeCB	1000		1090	109	50-150
57465-28-8	LCS	126-PeCB	1000		1170	117	50-150
33979-03-2	LCS	155-HxCB	1000		1120	112	50-150
38380-08-4	LCS	156-HxCB	2000	C	2340	117	50-150
69782-90-7	LCS	157-HxCB		C156			
52663-72-6	LCS	167-HxCB	1000		1100	110	50-150
32774-16-6	LCS	169-HxCB	1000		1190	119	50-150
74487-85-7	LCS	188-HpCB	1000		1130	113	50-150
39635-31-9	LCS	189-HpCB	1000		1160	116	50-150
2136-99-4	LCS	202-OcCB	1500		1660	110	50-150
74472-53-0	LCS	205-OcCB	1500		1600	107	50-150
40186-72-9	LCS	206-NoCB	1500		1560	104	50-150
52663-77-1	LCS	208-NoCB	1500		1720	114	50-150
2051-24-3	LCS	209-DeCB	1500		1650	110	50-150

PCB Congeners

Quality Control Summary
Spike Recovery Report

SDG Number: 2010C61 **Sample Type:** Laboratory Control Sample Duplicate

Client ID: LCSD for batch 45451 **Matrix:** WATER

Lab Sample ID: 12028049

Instrument: HRP875 **Analysis Date:** 11/27/2020 21:53 **Dilution:** 1

Analyst: MJC **Prep Batch ID:** 45451

Batch ID: 45453

CAS No.		Parmname	Amount Added pg/L		Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
2051-60-7	LCSD	1-MoCB	500		559	112	50-150	0.164	0-20
2051-62-9	LCSD	3-MoCB	500		649	130	50-150	4.71	0-20
13029-08-8	LCSD	4-DiCB	500		454	90.8	50-150	9.22	0-20
2050-68-2	LCSD	15-DiCB	500		620	124	50-150	1.28	0-20
38444-73-4	LCSD	19-TrCB	500		574	115	50-150	3.50	0-20
38444-90-5	LCSD	37-TrCB	500		581	116	50-150	1.85	0-20
15968-05-5	LCSD	54-TeCB	1000		1040	104	50-150	1.93	0-20
32598-13-3	LCSD	77-TeCB	1000		1120	112	50-150	0.794	0-20
70362-50-4	LCSD	81-TeCB	1000		898	89.8	50-150	0.305	0-20
56558-16-8	LCSD	104-PeCB	1000		1130	113	50-150	0.165	0-20
32598-14-4	LCSD	105-PeCB	1000		964	96.4	50-150	4.75	0-20
74472-37-0	LCSD	114-PeCB	1000		1210	121	50-150	0.734	0-20
31508-00-6	LCSD	118-PeCB	1000		1220	122	50-150	6.58	0-20
65510-44-3	LCSD	123-PeCB	1000		1100	110	50-150	0.808	0-20
57465-28-8	LCSD	126-PeCB	1000		1170	117	50-150	0.300	0-20
33979-03-2	LCSD	155-HxCB	1000		1130	113	50-150	0.928	0-20
38380-08-4	LCSD	156-HxCB	2000	C	2350	118	50-150	0.388	0-20
69782-90-7	LCSD	157-HxCB		C156					
52663-72-6	LCSD	167-HxCB	1000		1080	108	50-150	1.35	0-20
32774-16-6	LCSD	169-HxCB	1000		1200	120	50-150	0.752	0-20
74487-85-7	LCSD	188-HpCB	1000		1120	112	50-150	0.836	0-20
39635-31-9	LCSD	189-HpCB	1000		1170	117	50-150	1.05	0-20
2136-99-4	LCSD	202-OcCB	1500		1640	109	50-150	1.04	0-20
74472-53-0	LCSD	205-OcCB	1500		1590	106	50-150	0.820	0-20
40186-72-9	LCSD	206-NoCB	1500		1560	104	50-150	0.313	0-20
52663-77-1	LCSD	208-NoCB	1500		1710	114	50-150	0.298	0-20
2051-24-3	LCSD	209-DeCB	1500		1660	110	50-150	0.498	0-20

Method Blank Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Matrix:**	**WATER**
Client ID:	**MB for batch 45451**	**Instrument ID:**	**HRP875**	**Data File:**	**d27nov20a_2-5**
Lab Sample ID:	**12028047**	**Prep Date:**	**26-NOV-20**	**Analyzed:**	**11/27/20 23:03**
Column:					

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 45451	12028048	d27nov20a_2-3	11/27/20	2044
02	LCSD for batch 45451	12028049	d27nov20a_2-4	11/27/20	2153
03	2010C61-001G RG-North-20201026	17326001	d27nov20a_2-6	11/28/20	0012
04	2010C61-003G RG-South-20201028	17326002	d27nov20a_2-7	11/28/20	0122

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12028047**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 45451**				
Client ID:	**MB for batch 45451**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/27/2020 23:03**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-5**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	5.68	100
2051-61-8	2-MoCB	U	ND	pg/L	5.62	100
2051-62-9	3-MoCB	U	ND	pg/L	4.62	100
13029-08-8	4-DiCB	U	ND	pg/L	21.3	100
16605-91-7	5-DiCB	U	ND	pg/L	10.5	100
25569-80-6	6-DiCB	U	ND	pg/L	9.36	100
33284-50-3	7-DiCB	U	ND	pg/L	8.12	100
34883-43-7	8-DiCB	U	ND	pg/L	8.12	100
34883-39-1	9-DiCB	U	ND	pg/L	11.3	100
33146-45-1	10-DiCB	U	ND	pg/L	10.2	100
2050-67-1	11-DiCB	J	54.3	pg/L	10.0	100
2974-92-7	12-DiCB	CU	ND	pg/L	9.06	200
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	10.0	100
2050-68-2	15-DiCB	U	ND	pg/L	8.48	100
38444-78-9	16-TrCB	U	ND	pg/L	3.44	100
37680-66-3	17-TrCB	U	ND	pg/L	3.86	150
37680-65-2	18-TrCB	CU	ND	pg/L	3.48	200
38444-73-4	19-TrCB	U	ND	pg/L	4.88	100
38444-84-7	20-TrCB	CJ	5.58	pg/L	2.60	200
55702-46-0	21-TrCB	CJ	3.94	pg/L	2.70	200
38444-85-8	22-TrCB	U	ND	pg/L	3.08	100
55720-44-0	23-TrCB	U	ND	pg/L	2.52	100
55702-45-9	24-TrCB	U	ND	pg/L	2.84	100
55712-37-3	25-TrCB	U	ND	pg/L	2.30	100
38444-81-4	26-TrCB	CU	ND	pg/L	2.80	200
38444-76-7	27-TrCB	U	ND	pg/L	3.00	100
7012-37-5	28-TrCB	C20				
15862-07-4	29-TrCB	C26				
35693-92-6	30-TrCB	C18				
16606-02-3	31-TrCB	J	6.32	pg/L	2.66	100
38444-77-8	32-TrCB	U	ND	pg/L	2.68	100

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data

J Value is estimated

U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12028047**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 45451**				
Client ID:	**MB for batch 45451**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/27/2020 23:03**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-5**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	3.04	100
37680-69-6	35-TrCB	U	ND	pg/L	3.06	100
38444-87-0	36-TrCB	U	ND	pg/L	2.94	100
38444-90-5	37-TrCB	U	ND	pg/L	2.94	100
53555-66-1	38-TrCB	U	ND	pg/L	3.02	100
38444-88-1	39-TrCB	U	ND	pg/L	2.48	100
38444-93-8	40-TeCB	CJ	3.78	pg/L	3.36	200
52663-59-9	41-TeCB	U	ND	pg/L	5.54	150
36559-22-5	42-TeCB	U	ND	pg/L	3.88	150
70362-46-8	43-TeCB	U	ND	pg/L	3.90	100
41464-39-5	44-TeCB	CJ	11.1	pg/L	3.50	300
70362-45-7	45-TeCB	CU	ND	pg/L	2.68	200
41464-47-5	46-TeCB	U	ND	pg/L	2.92	100
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	3.70	150
41464-40-8	49-TeCB	CJ	5.84	pg/L	3.44	200
62796-65-0	50-TeCB	CU	ND	pg/L	2.56	200
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	J	14.7	pg/L	4.32	200
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	2.26	100
74338-24-2	55-TeCB	U	ND	pg/L	2.84	100
41464-43-1	56-TeCB	J	4.10	pg/L	2.96	100
70424-67-8	57-TeCB	U	ND	pg/L	3.12	100
41464-49-7	58-TeCB	U	ND	pg/L	2.84	100
74472-33-6	59-TeCB	CU	ND	pg/L	3.02	300
33025-41-1	60-TeCB	U	ND	pg/L	3.20	100
33284-53-6	61-TeCB	CJ	14.5	pg/L	2.82	400
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	3.06	100
52663-58-8	64-TeCB	U	ND	pg/L	2.82	100

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data

J Value is estimated

U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12028047**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 45451**				
Client ID:	**MB for batch 45451**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/27/2020 23:03**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-5**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	J	8.96	pg/L	3.20	200
73575-53-8	67-TeCB	U	ND	pg/L	2.60	100
73575-52-7	68-TeCB	U	ND	pg/L	2.50	100
60233-24-1	69-TeCB	C49				
32598-11-1	70-TeCB	C61				
41464-46-4	71-TeCB	C40				
41464-42-0	72-TeCB	U	ND	pg/L	3.00	100
74338-23-1	73-TeCB	U	ND	pg/L	3.00	100
32690-93-0	74-TeCB	C61				
32598-12-2	75-TeCB	C59				
70362-48-0	76-TeCB	C61				
32598-13-3	77-TeCB	U	ND	pg/L	3.08	100
70362-49-1	78-TeCB	U	ND	pg/L	3.50	100
41464-48-6	79-TeCB	U	ND	pg/L	2.84	100
33284-52-5	80-TeCB	U	ND	pg/L	2.68	100
70362-50-4	81-TeCB	U	ND	pg/L	3.10	100
52663-62-4	82-PeCB	U	ND	pg/L	5.08	100
60145-20-2	83-PeCB	U	ND	pg/L	5.76	100
52663-60-2	84-PeCB	U	ND	pg/L	4.38	100
65510-45-4	85-PeCB	CU	ND	pg/L	3.86	300
55312-69-1	86-PeCB	CJ	9.66	pg/L	3.66	600
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	4.20	200
73575-57-2	89-PeCB	U	ND	pg/L	5.20	150
68194-07-0	90-PeCB	CJ	9.36	pg/L	3.70	300
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	U	ND	pg/L	4.92	100
73575-56-1	93-PeCB	CU	ND	pg/L	3.84	200
73575-55-0	94-PeCB	U	ND	pg/L	3.94	100
38379-99-6	95-PeCB	J	8.40	pg/L	4.76	100
73575-54-9	96-PeCB	U	ND	pg/L	2.36	150

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data

J Value is estimated

U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12028047**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 45451**				
Client ID:	**MB for batch 45451**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/27/2020 23:03**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-5**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	3.88	200
38380-01-7	99-PeCB	J	5.18	pg/L	3.48	100
39485-83-1	100-PeCB	C93				
37680-73-2	101-PeCB	C90				
68194-06-9	102-PeCB	C98				
60145-21-3	103-PeCB	U	ND	pg/L	4.28	100
56558-16-8	104-PeCB	U	ND	pg/L	2.00	200
32598-14-4	105-PeCB	U	ND	pg/L	3.32	150
70424-69-0	106-PeCB	U	ND	pg/L	3.44	100
70424-68-9	107-PeCB	U	ND	pg/L	2.66	100
70362-41-3	108-PeCB	CU	ND	pg/L	3.02	200
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	CJ	11.0	pg/L	2.98	200
39635-32-0	111-PeCB	U	ND	pg/L	2.90	100
74472-36-9	112-PeCB	U	ND	pg/L	2.98	100
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	3.18	100
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB	U	ND	pg/L	10.2	100
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	3.36	100
56558-18-0	121-PeCB	U	ND	pg/L	2.84	100
76842-07-4	122-PeCB	U	ND	pg/L	4.18	100
65510-44-3	123-PeCB	U	ND	pg/L	3.08	100
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	3.50	100
39635-33-1	127-PeCB	U	ND	pg/L	3.34	100
38380-07-3	128-HxCB	CU	ND	pg/L	3.02	200

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data

J Value is estimated

U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12028047**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 45451**				
Client ID:	**MB for batch 45451**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/27/2020 23:03**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-5**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	CU	ND	pg/L	7.72	300
52663-66-8	130-HxCB	U	ND	pg/L	3.92	100
61798-70-7	131-HxCB	U	ND	pg/L	3.66	100
38380-05-1	132-HxCB	U	ND	pg/L	3.36	100
35694-04-3	133-HxCB	U	ND	pg/L	3.86	100
52704-70-8	134-HxCB	U	ND	pg/L	3.86	150
52744-13-5	135-HxCB	CJ	3.16	pg/L	2.16	200
38411-22-2	136-HxCB	U	ND	pg/L	1.76	100
35694-06-5	137-HxCB	U	ND	pg/L	3.22	150
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	3.08	200
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	U	ND	pg/L	3.24	100
41411-61-4	142-HxCB	U	ND	pg/L	4.02	150
68194-15-0	143-HxCB	U	ND	pg/L	3.82	100
68194-14-9	144-HxCB	U	ND	pg/L	2.28	100
74472-40-5	145-HxCB	U	ND	pg/L	1.50	100
51908-16-8	146-HxCB	U	ND	pg/L	3.08	100
68194-13-8	147-HxCB	CJ	3.76	pg/L	3.06	200
74472-41-6	148-HxCB	U	ND	pg/L	2.20	100
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	1.44	100
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	1.76	100
35065-27-1	153-HxCB	CJ	6.66	pg/L	2.72	200
60145-22-4	154-HxCB	U	ND	pg/L	1.80	100
33979-03-2	155-HxCB	U	ND	pg/L	1.32	100
38380-08-4	156-HxCB	CU	ND	pg/L	3.58	200
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	2.40	100
39635-35-3	159-HxCB	U	ND	pg/L	1.76	100
41411-62-5	160-HxCB	U	ND	pg/L	2.52	100

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data

J Value is estimated

U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12028047**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 45451**				
Client ID:	**MB for batch 45451**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/27/2020 23:03**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-5**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	2.74	100
39635-34-2	162-HxCB	U	ND	pg/L	1.60	100
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	2.60	100
74472-46-1	165-HxCB	U	ND	pg/L	2.58	100
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	U	ND	pg/L	1.72	100
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	1.98	100
35065-30-6	170-HpCB	U	ND	pg/L	2.76	100
52663-71-5	171-HpCB	CU	ND	pg/L	2.76	200
52663-74-8	172-HpCB	U	ND	pg/L	2.80	100
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	U	ND	pg/L	2.54	100
40186-70-7	175-HpCB	U	ND	pg/L	2.22	100
52663-65-7	176-HpCB	U	ND	pg/L	1.74	100
52663-70-4	177-HpCB	U	ND	pg/L	2.76	100
52663-67-9	178-HpCB	U	ND	pg/L	2.42	100
52663-64-6	179-HpCB	U	ND	pg/L	1.68	100
35065-29-3	180-HpCB	CU	ND	pg/L	2.20	200
74472-47-2	181-HpCB	U	ND	pg/L	2.38	100
60145-23-5	182-HpCB	U	ND	pg/L	2.12	100
52663-69-1	183-HpCB	CU	ND	pg/L	2.42	200
74472-48-3	184-HpCB	U	ND	pg/L	1.50	100
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	1.60	100
52663-68-0	187-HpCB	J	3.02	pg/L	1.90	100
74487-85-7	188-HpCB	U	ND	pg/L	1.68	150
39635-31-9	189-HpCB	U	ND	pg/L	2.10	100
41411-64-7	190-HpCB	U	ND	pg/L	2.10	100
74472-50-7	191-HpCB	U	ND	pg/L	2.06	100
74472-51-8	192-HpCB	U	ND	pg/L	2.02	100

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data

J Value is estimated

U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12028047**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 45451**				
Client ID:	**MB for batch 45451**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/27/2020 23:03**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-5**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	U	ND	pg/L	2.12	100
52663-78-2	195-OcCB	U	ND	pg/L	2.28	100
42740-50-1	196-OcCB	U	ND	pg/L	1.86	100
33091-17-7	197-OcCB	CU	ND	pg/L	1.36	200
68194-17-2	198-OcCB	CU	ND	pg/L	1.84	200
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	1.36	100
2136-99-4	202-OcCB	U	ND	pg/L	1.44	100
52663-76-0	203-OcCB	U	ND	pg/L	1.58	100
74472-52-9	204-OcCB	U	ND	pg/L	1.40	100
74472-53-0	205-OcCB	U	ND	pg/L	1.80	100
40186-72-9	206-NoCB	U	ND	pg/L	3.92	100
52663-79-3	207-NoCB	U	ND	pg/L	3.00	100
52663-77-1	208-NoCB	U	ND	pg/L	2.96	100
2051-24-3	209-DeCB	U	ND	pg/L	2.38	100
1336-36-3	Total PCB Congeners	J	194	pg/L		100

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		754	2000	pg/L	37.7	(15%-150%)
13C-3-MoCB		887	2000	pg/L	44.4	(15%-150%)
13C-4-DiCB		918	2000	pg/L	45.9	(25%-150%)
13C-15-DiCB		1330	2000	pg/L	66.3	(25%-150%)
13C-19-TrCB		1080	2000	pg/L	54.0	(25%-150%)
13C-37-TrCB		1170	2000	pg/L	58.3	(25%-150%)
13C-54-TeCB		958	2000	pg/L	47.9	(25%-150%)
13C-77-TeCB		1350	2000	pg/L	67.7	(25%-150%)
13C-81-TeCB		1360	2000	pg/L	67.9	(25%-150%)
13C-104-PeCB		1050	2000	pg/L	52.6	(25%-150%)
13C-105-PeCB		1320	2000	pg/L	65.8	(25%-150%)
13C-114-PeCB		1290	2000	pg/L	64.3	(25%-150%)
13C-118-PeCB		1280	2000	pg/L	63.9	(25%-150%)
13C-123-PeCB		1350	2000	pg/L	67.5	(25%-150%)
13C-126-PeCB		1440	2000	pg/L	72.0	(25%-150%)
13C-155-HxCB		1080	2000	pg/L	53.9	(25%-150%)
13C-156-HxCB	C	2500	4000	pg/L	62.5	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1300	2000	pg/L	64.8	(25%-150%)
13C-169-HxCB		1390	2000	pg/L	69.4	(25%-150%)
13C-188-HpCB		1150	2000	pg/L	57.6	(25%-150%)
13C-189-HpCB		1300	2000	pg/L	65.1	(25%-150%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12028047**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 45451**				
Client ID:	**MB for batch 45451**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/27/2020 23:03**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-5**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB		1170	2000	pg/L	58.5	(25%-150%)
13C-205-OcCB		1360	2000	pg/L	68.2	(25%-150%)
13C-206-NoCB		1430	2000	pg/L	71.4	(25%-150%)
13C-208-NoCB		1240	2000	pg/L	61.8	(25%-150%)
13C-209-DeCB		1340	2000	pg/L	66.9	(25%-150%)
13C-28-TrCB		1370	2000	pg/L	68.7	(30%-135%)
13C-111-PeCB		1480	2000	pg/L	74.1	(30%-135%)
13C-178-HpCB		1610	2000	pg/L	80.6	(30%-135%)

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12028048**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 45451**				
Client ID:	**LCS for batch 45451**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/27/2020 20:44**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-3**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB		560	pg/L	6.24	100
2051-62-9	3-MoCB		619	pg/L	5.66	100
13029-08-8	4-DiCB		498	pg/L	19.0	100
2050-68-2	15-DiCB		612	pg/L	9.00	100
38444-73-4	19-TrCB		554	pg/L	5.14	100
38444-90-5	37-TrCB		591	pg/L	7.02	100
15968-05-5	54-TeCB		1060	pg/L	2.04	100
32598-13-3	77-TeCB		1130	pg/L	7.64	100
70362-50-4	81-TeCB		896	pg/L	7.40	100
56558-16-8	104-PeCB		1130	pg/L	1.66	200
32598-14-4	105-PeCB		1010	pg/L	8.60	150
74472-37-0	114-PeCB		1220	pg/L	8.40	100
31508-00-6	118-PeCB		1310	pg/L	8.14	100
65510-44-3	123-PeCB		1090	pg/L	7.88	100
57465-28-8	126-PeCB		1170	pg/L	9.20	100
33979-03-2	155-HxCB		1120	pg/L	1.34	100
38380-08-4	156-HxCB	C	2340	pg/L	9.40	200
69782-90-7	157-HxCB	C156				
52663-72-6	167-HxCB		1100	pg/L	6.52	100
32774-16-6	169-HxCB		1190	pg/L	7.60	100
74487-85-7	188-HpCB		1130	pg/L	1.74	150
39635-31-9	189-HpCB		1160	pg/L	3.48	100
2136-99-4	202-OcCB		1660	pg/L	1.88	100
74472-53-0	205-OcCB		1600	pg/L	2.88	100
40186-72-9	206-NoCB		1560	pg/L	3.72	100
52663-77-1	208-NoCB		1720	pg/L	2.92	100
2051-24-3	209-DeCB		1650	pg/L	2.22	100

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		837	2000	pg/L	41.8	(15%-140%)
13C-3-MoCB		928	2000	pg/L	46.4	(15%-140%)
13C-4-DiCB		966	2000	pg/L	48.3	(30%-140%)
13C-15-DiCB		1300	2000	pg/L	64.8	(30%-140%)
13C-19-TrCB		1110	2000	pg/L	55.5	(30%-140%)
13C-37-TrCB		1270	2000	pg/L	63.3	(30%-140%)
13C-54-TeCB		1070	2000	pg/L	53.7	(30%-140%)
13C-77-TeCB		1490	2000	pg/L	74.7	(30%-140%)
13C-81-TeCB		1500	2000	pg/L	75.2	(30%-140%)
13C-104-PeCB		1180	2000	pg/L	58.9	(30%-140%)
13C-105-PeCB		1500	2000	pg/L	74.8	(30%-140%)
13C-114-PeCB		1460	2000	pg/L	72.8	(30%-140%)
13C-118-PeCB		1460	2000	pg/L	72.8	(30%-140%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12028048**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 45451**				
Client ID:	**LCS for batch 45451**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/27/2020 20:44**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-3**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-123-PeCB		1530	2000	pg/L	76.3	(30%-140%)
13C-126-PeCB		1630	2000	pg/L	81.6	(30%-140%)
13C-155-HxCB		1200	2000	pg/L	60.0	(30%-140%)
13C-156-HxCB	C	2910	4000	pg/L	72.8	(30%-140%)
13C-157-HxCB	C156L					
13C-167-HxCB		1490	2000	pg/L	74.6	(30%-140%)
13C-169-HxCB		1610	2000	pg/L	80.7	(30%-140%)
13C-188-HpCB		1270	2000	pg/L	63.7	(30%-140%)
13C-189-HpCB		1480	2000	pg/L	73.8	(30%-140%)
13C-202-OcCB		1320	2000	pg/L	65.9	(30%-140%)
13C-205-OcCB		1540	2000	pg/L	77.2	(30%-140%)
13C-206-NoCB		1630	2000	pg/L	81.5	(30%-140%)
13C-208-NoCB		1390	2000	pg/L	69.3	(30%-140%)
13C-209-DeCB		1520	2000	pg/L	76.1	(30%-140%)
13C-28-TrCB		1380	2000	pg/L	68.9	(40%-125%)
13C-111-PeCB		1520	2000	pg/L	76.1	(40%-125%)
13C-178-HpCB		1670	2000	pg/L	83.5	(40%-125%)

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12028049**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 45451**				
Client ID:	**LCSD for batch 45451**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/27/2020 21:53**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-4**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB		559	pg/L	15.1	100
2051-62-9	3-MoCB		649	pg/L	12.4	100
13029-08-8	4-DiCB		454	pg/L	35.3	100
2050-68-2	15-DiCB		620	pg/L	17.5	100
38444-73-4	19-TrCB		574	pg/L	22.9	100
38444-90-5	37-TrCB		581	pg/L	15.2	100
15968-05-5	54-TeCB		1040	pg/L	5.40	100
32598-13-3	77-TeCB		1120	pg/L	12.4	100
70362-50-4	81-TeCB		898	pg/L	11.7	100
56558-16-8	104-PeCB		1130	pg/L	3.50	200
32598-14-4	105-PeCB		964	pg/L	11.7	150
74472-37-0	114-PeCB		1210	pg/L	11.6	100
31508-00-6	118-PeCB		1220	pg/L	11.4	100
65510-44-3	123-PeCB		1100	pg/L	10.9	100
57465-28-8	126-PeCB		1170	pg/L	12.3	100
33979-03-2	155-HxCB		1130	pg/L	2.12	100
38380-08-4	156-HxCB	C	2350	pg/L	12.2	200
69782-90-7	157-HxCB	C156				
52663-72-6	167-HxCB		1080	pg/L	8.46	100
32774-16-6	169-HxCB		1200	pg/L	9.80	100
74487-85-7	188-HpCB		1120	pg/L	2.86	150
39635-31-9	189-HpCB		1170	pg/L	5.44	100
2136-99-4	202-OcCB		1640	pg/L	3.02	100
74472-53-0	205-OcCB		1590	pg/L	4.04	100
40186-72-9	206-NoCB		1560	pg/L	8.04	100
52663-77-1	208-NoCB		1710	pg/L	5.70	100
2051-24-3	209-DeCB		1660	pg/L	3.62	100

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		828	2000	pg/L	41.4	(15%-140%)
13C-3-MoCB		935	2000	pg/L	46.8	(15%-140%)
13C-4-DiCB		986	2000	pg/L	49.3	(30%-140%)
13C-15-DiCB		1250	2000	pg/L	62.7	(30%-140%)
13C-19-TrCB		1100	2000	pg/L	54.9	(30%-140%)
13C-37-TrCB		1250	2000	pg/L	62.3	(30%-140%)
13C-54-TeCB		1120	2000	pg/L	56.0	(30%-140%)
13C-77-TeCB		1430	2000	pg/L	71.6	(30%-140%)
13C-81-TeCB		1440	2000	pg/L	72.2	(30%-140%)
13C-104-PeCB		1220	2000	pg/L	60.8	(30%-140%)
13C-105-PeCB		1430	2000	pg/L	71.7	(30%-140%)
13C-114-PeCB		1410	2000	pg/L	70.4	(30%-140%)
13C-118-PeCB		1400	2000	pg/L	70.2	(30%-140%)

PCB Congeners
Certificate of Analysis
Sample Summary

SDG Number:	**2010C61**	**Client:**	**HALL001**	**Project:**	**HALL00113**
Lab Sample ID:	**12028049**			**Matrix:**	**WATER**
Client Sample:	**QC for batch 45451**				
Client ID:	**LCSD for batch 45451**			**Prep Basis:**	**As Received**
Batch ID:	**45453**	**Method:**	**EPA Method 1668A**		
Run Date:	**11/27/2020 21:53**	**Analyst:**	**MJC**	**Instrument:**	**HRP875**
Data File:	**d27nov20a_2-4**			**Dilution:**	**1**
Prep Batch:	**45451**	**Prep Method:**	**SW846 3520C**	**Prep SOP Ref:**	**CF-OA-E-001**
Prep Date:	**26-NOV-20**	**Prep Aliquot:**	**1000 mL**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-123-PeCB		1460	2000	pg/L	73.2	(30%-140%)
13C-126-PeCB		1520	2000	pg/L	76.1	(30%-140%)
13C-155-HxCB		1260	2000	pg/L	63.1	(30%-140%)
13C-156-HxCB	C	2760	4000	pg/L	68.9	(30%-140%)
13C-157-HxCB	C156L					
13C-167-HxCB		1440	2000	pg/L	72.2	(30%-140%)
13C-169-HxCB		1520	2000	pg/L	76.1	(30%-140%)
13C-188-HpCB		1350	2000	pg/L	67.5	(30%-140%)
13C-189-HpCB		1440	2000	pg/L	72.1	(30%-140%)
13C-202-OcCB		1360	2000	pg/L	68.0	(30%-140%)
13C-205-OcCB		1560	2000	pg/L	78.2	(30%-140%)
13C-206-NoCB		1670	2000	pg/L	83.3	(30%-140%)
13C-208-NoCB		1430	2000	pg/L	71.3	(30%-140%)
13C-209-DeCB		1580	2000	pg/L	79.1	(30%-140%)
13C-28-TrCB		1360	2000	pg/L	67.9	(40%-125%)
13C-111-PeCB		1490	2000	pg/L	74.3	(40%-125%)
13C-178-HpCB		1660	2000	pg/L	82.9	(40%-125%)

Comments:

C Congener has coeluters. When Cxxx, refer to congener number xxx for data

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

November 20, 2020

Andy Freeman
Hall Environmental
4901 Hawkins NE
Albuquerque, NM 87109

RE: Project: 2010C61
Pace Project No.: 30390293

Dear Andy Freeman:

Enclosed are the analytical results for sample(s) received by the laboratory on October 30, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

cc: Ms. Jackie Ball, Hall Environmental
Michelle Garcia, Hall Environmental

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: 2010C61
Pace Project No.: 30390293

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: 2010C61
Pace Project No.: 30390293

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30390293001	**2010C61-001I RG-North-20201026**	Water	10/26/20 10:50	10/30/20 09:10
30390293002	**2010C61-003I RG-South-20201028**	Water	10/28/20 14:10	10/30/20 09:10

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: 2010C61
Pace Project No.: 30390293

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30390293001	**2010C61-001I RG-North-20201026**	EPA 900.0	CLA	1	PASI-PA
		EPA 900.0	CMC	1	PASI-PA
		ASTM D5174-97	RMK	1	PASI-PA
30390293002	**2010C61-003I RG-South-20201028**	EPA 900.0	CLA	1	PASI-PA
		EPA 900.0	CMC	1	PASI-PA
		ASTM D5174-97	RMK	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: 2010C61
Pace Project No.: 30390293

Method: **EPA 900.0**
Description: 900.0 Gross Alpha/Beta
Client: Hall Environmental
Date: November 20, 2020

General Information:
2 samples were analyzed for EPA 900.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: 2010C61
Pace Project No.: 30390293

Method: **EPA 900.0**
Description: Adjusted Gross Alpha
Client: Hall Environmental
Date: November 20, 2020

General Information:
2 samples were analyzed for EPA 900.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: 2010C61
Pace Project No.: 30390293

Method: **ASTM D5174-97**
Description: D517497 Total Uranium KPA
Client: Hall Environmental
Date: November 20, 2020

General Information:
2 samples were analyzed for ASTM D5174-97 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2010C61
Pace Project No.: 30390293

Sample: 2010C61-001I RG-North-20201026 **Lab ID: 30390293001** Collected: 10/26/20 10:50 Received: 10/30/20 09:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Gross Alpha	EPA 900.0	**0.922 ± 0.999 (1.93) C:NA T:NA**	pCi/L	11/17/20 07:37	12587-46-1	
		Pace Analytical Services - Greensburg				
Adjusted Gross Alpha	EPA 900.0	**0.000 ± NA (NA) C:NA T:NA**	pCi/L	11/20/20 13:34		
		Pace Analytical Services - Greensburg				
Total Uranium	ASTM D5174-97	**2.34 ± 0.053 (0.262) C:NA T:NA**	ug/L	11/18/20 10:56	7440-61-1	

Sample: 2010C61-003I RG-South-20201028 **Lab ID: 30390293002** Collected: 10/28/20 14:10 Received: 10/30/20 09:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Gross Alpha	EPA 900.0	**4.27 ± 1.89 (2.86) C:NA T:NA**	pCi/L	11/16/20 18:41	12587-46-1	
		Pace Analytical Services - Greensburg				
Adjusted Gross Alpha	EPA 900.0	**3.03 ± NA (NA) C:NA T:NA**	pCi/L	11/20/20 13:34		
		Pace Analytical Services - Greensburg				
Total Uranium	ASTM D5174-97	**1.83 ± 0.028 (0.262) C:NA T:NA**	ug/L	11/19/20 15:43	7440-61-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 2010C61
Pace Project No.: 30390293

QC Batch: 422619
QC Batch Method: EPA 900.0
Analysis Method: EPA 900.0
Analysis Description: 900.0 Gross Alpha/Beta
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30390293001, 30390293002

METHOD BLANK: 2042725 Matrix: Water
Associated Lab Samples: 30390293001, 30390293002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	-0.117 ± 0.635 (1.88) C:NA T:NA	pCi/L	11/17/20 07:26	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 2010C61
Pace Project No.: 30390293

QC Batch: 421707
QC Batch Method: ASTM D5174-97
Analysis Method: ASTM D5174-97
Analysis Description: D5174.97 Total Uranium KPA
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30390293001, 30390293002

METHOD BLANK: 2038256 Matrix: Water
Associated Lab Samples: 30390293001, 30390293002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Total Uranium	0.053 ± 0.002 (0.262) C:NA T:NA	ug/L	11/18/20 10:42	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: 2010C61
Pace Project No.: 30390293

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. Is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: clients.hallenvironmental.com

SUB CONTRATOR: **Pace-Greensburg**	COMPANY: **Pace Analytical Services, Inc.**	PHONE: **(724) 850-5600**	FAX: **(724) 850-5601**
ADDRESS: **1638 Roseytown Rd Ste 2,3,4**		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: **Greensburg, PA 15601**			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2010C61-001I	RG-North-20201026	1LHDPEHNO3	Aqueous	10/26/2020 10:50:00 AM	1	Adjusted Gross Alpha
2	2010C61-003I	RG-South-20201028	1LHDPEHNO3	Aqueous	10/28/2020 2:10:00 PM	1	Adjusted Gross Alpha

001
002

WO#: 30390293

30390293

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 10/29/2020	Time: 8:56 AM	Received By:	Date: 10/30/20	Time: 0910
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAT: Standard ☒ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples N/A °C Attempt to Cool ? NO
Comments:

Page 12 of 13

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Hall Environmental Project # # 30390293

Label	RJM
LIMS Login	RJM

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 7719 4365 8365

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Thermometer Used N/A Type of Ice: Wet Blue None

Cooler Temperature Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# 1000401	Date and Initials of person examining contents: RJM - 11-2-20
Chain of Custody Present:	✓			1.	
Chain of Custody Filled Out:	✓			2.	
Chain of Custody Relinquished:	✓			3.	
Sampler Name & Signature on COC:		✓		4.	
Sample Labels match COC:	✓			5.	
-Includes date/time/ID Matrix: WT					
Samples Arrived within Hold Time:	✓			6.	
Short Hold Time Analysis (<72hr remaining):		✓		7.	
Rush Turn Around Time Requested:		✓		8.	
Sufficient Volume:	✓			9.	
Correct Containers Used:	✓			10.	
-Pace Containers Used:		✓			
Containers Intact:	✓			11.	
Orthophosphate field filtered			✓	12.	
Hex Cr Aqueous sample field filtered			✓	13.	
Organic Samples checked for dechlorination:			✓	14.	
Filtered volume received for Dissolved tests			✓	15.	
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. PH<2	
All containers meet method preservation requirements.	✓			Initial when completed RJM	Date/time of preservation
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):			✓	17.	
Trip Blank Present:			✓	18.	
Trip Blank Custody Seals Present			✓		
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: RJM	Date: 11-2-20

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status saction of the Workorder Edit Screen.

J:\QAQC\Master\Document Managemant\Sample Mgt\Sample Condition Upon Receipt Pittsburgh (C056-9 5April2019)

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C61**

12-Mar-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-56126**	SampType: **MBLK**	TestCode: **EPA Method 1664B**
Client ID: **PBW**	Batch ID: **56126**	RunNo: **73108**
Prep Date: **11/3/2020**	Analysis Date: **11/4/2020**	SeqNo: **2571804** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	ND	10.0								

Sample ID: **LCS-56126**	SampType: **LCS**	TestCode: **EPA Method 1664B**
Client ID: **LCSW**	Batch ID: **56126**	RunNo: **73108**
Prep Date: **11/3/2020**	Analysis Date: **11/4/2020**	SeqNo: **2571805** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	36.6	10.0	40.00	0	91.5	78	114			

Sample ID: **LCSD-56126**	SampType: **LCSD**	TestCode: **EPA Method 1664B**
Client ID: **LCSS02**	Batch ID: **56126**	RunNo: **73108**
Prep Date: **11/3/2020**	Analysis Date: **11/4/2020**	SeqNo: **2571806** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	37.4	10.0	40.00	0	93.5	78	114	2.16	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C61**

12-Mar-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-56135**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW**	Batch ID: **56135**	RunNo: **73075**
Prep Date: **11/1/2020**	Analysis Date: **11/2/2020**	SeqNo: **2569232** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								

Sample ID: **LCSLL-56135**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC**	Batch ID: **56135**	RunNo: **73075**
Prep Date: **11/1/2020**	Analysis Date: **11/2/2020**	SeqNo: **2569237** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.52	1.0	0.5000	0	104	50	150			J
Magnesium	0.52	1.0	0.5000	0	103	50	150			J

Sample ID: **LCS-56135**	SampType: **LCS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW**	Batch ID: **56135**	RunNo: **73075**
Prep Date: **11/1/2020**	Analysis Date: **11/2/2020**	SeqNo: **2569239** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	48	1.0	50.00	0	96.8	85	115			
Magnesium	49	1.0	50.00	0	98.1	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C61**

12-Mar-21

Client: AMAFCA

Project: CMC

Sample ID: **2010C61-001FMS**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **RG-North-20201026**	Batch ID: **A73027**	RunNo: **73027**
Prep Date:	Analysis Date: **10/29/2020**	SeqNo: **2567244** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.025	0.0010	0.02500	0.0006224	96.8	70	130			
Lead	0.013	0.00050	0.01250	0	101	70	130			

Sample ID: **2010C61-001FMSD**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **RG-North-20201026**	Batch ID: **A73027**	RunNo: **73027**
Prep Date:	Analysis Date: **10/29/2020**	SeqNo: **2567245** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.025	0.0010	0.02500	0.0006224	97.3	70	130	0.545	20	
Lead	0.013	0.00050	0.01250	0	100	70	130	0.452	20	

Sample ID: **2010C61-003FMS**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **RG-South-20201028**	Batch ID: **A73027**	RunNo: **73027**
Prep Date:	Analysis Date: **10/29/2020**	SeqNo: **2567247** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.026	0.0010	0.02500	0.0008515	103	70	130			
Lead	0.013	0.00050	0.01250	.00005139	105	70	130			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A73027**	RunNo: **73027**
Prep Date:	Analysis Date: **10/29/2020**	SeqNo: **2567267** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0010								
Lead	ND	0.00050								

Sample ID: **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A73027**	RunNo: **73027**
Prep Date:	Analysis Date: **10/29/2020**	SeqNo: **2567268** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.0011	0.0010	0.001000	0	110	50	150			
Lead	0.00055	0.00050	0.0005000	0	111	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A73027**	RunNo: **73027**
Prep Date:	Analysis Date: **10/29/2020**	SeqNo: **2567269** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C61**

12-Mar-21

Client: AMAFCA

Project: CMC

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A73027**	RunNo: **73027**
Prep Date:	Analysis Date: **10/29/2020**	SeqNo: **2567269** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.024	0.0010	0.02500	0	96.8	85	115			
Lead	0.013	0.00050	0.01250	0	102	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C61**

12-Mar-21

Client: AMAFCA

Project: CMC

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R73035**	RunNo: **73035**
Prep Date:	Analysis Date: **10/29/2020**	SeqNo: **2567522** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R73035**	RunNo: **73035**
Prep Date:	Analysis Date: **10/29/2020**	SeqNo: **2567527** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	95.2	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.1	90	110			

Sample ID: **2010C61-001AMS**	SampType: **ms**	TestCode: **EPA Method 300.0: Anions**
Client ID: **RG-North-20201026**	Batch ID: **R73232**	RunNo: **73232**
Prep Date:	Analysis Date: **11/9/2020**	SeqNo: **2576829** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	16	1.0	17.50	0.3440	88.8	85.4	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R73232**	RunNo: **73232**
Prep Date:	Analysis Date: **11/9/2020**	SeqNo: **2576834** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R73232**	RunNo: **73232**
Prep Date:	Analysis Date: **11/9/2020**	SeqNo: **2576836** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.0	90	110			

Sample ID: **2010C61-001AMSD**	SampType: **msd**	TestCode: **EPA Method 300.0: Anions**
Client ID: **RG-North-20201026**	Batch ID: **R73232**	RunNo: **73232**
Prep Date:	Analysis Date: **11/9/2020**	SeqNo: **2576857** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	16	1.0	17.50	0.3440	89.2	85.4	110	0.399	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C61**

12-Mar-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-56166**	SampType: **MBLK**	TestCode: **EPA Method 8081: PESTICIDES**
Client ID: **PBW**	Batch ID: **56166**	RunNo: **73124**
Prep Date: **11/3/2020**	Analysis Date: **11/4/2020**	SeqNo: **2571220** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	ND	0.10								
Surr: Decachlorobiphenyl	1.5		2.500		59.2	38.2	102			
Surr: Tetrachloro-m-xylene	1.5		2.500		59.5	32.3	92.4			

Sample ID: **LCS-56166**	SampType: **LCS**	TestCode: **EPA Method 8081: PESTICIDES**
Client ID: **LCSW**	Batch ID: **56166**	RunNo: **73124**
Prep Date: **11/3/2020**	Analysis Date: **11/4/2020**	SeqNo: **2571221** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	0.35	0.10	0.5000	0	69.7	17.4	145			
Surr: Decachlorobiphenyl	1.8		2.500		73.3	38.2	102			
Surr: Tetrachloro-m-xylene	1.7		2.500		67.5	32.3	92.4			

Sample ID: **LCSD-56166**	SampType: **LCSD**	TestCode: **EPA Method 8081: PESTICIDES**
Client ID: **LCSS02**	Batch ID: **56166**	RunNo: **73124**
Prep Date: **11/3/2020**	Analysis Date: **11/4/2020**	SeqNo: **2571222** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	0.48	0.10	0.5000	0	95.6	17.4	145	31.4	20	R
Surr: Decachlorobiphenyl	2.5		2.500		99.9	38.2	102	0	20	
Surr: Tetrachloro-m-xylene	2.0		2.500		78.4	32.3	92.4	0	20	

Sample ID: **MB-56166**	SampType: **MBLK**	TestCode: **EPA Method 8081: PESTICIDES**
Client ID: **PBW**	Batch ID: **56166**	RunNo: **73124**
Prep Date: **11/3/2020**	Analysis Date: **11/4/2020**	SeqNo: **2571226** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	ND	0.10								
Surr: Decachlorobiphenyl	1.5		2.500		60.1	38.2	102			
Surr: Tetrachloro-m-xylene	1.6		2.500		62.0	32.3	92.4			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C61**

12-Mar-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-56094**	SampType: **MBLK**	TestCode: **SM5210B: BOD**							
Client ID: **PBW**	Batch ID: **56094**	RunNo: **73094**							
Prep Date: **10/29/2020**	Analysis Date: **11/3/2020**	SeqNo: **2570048**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID: **LCS-56094**	SampType: **LCS**	TestCode: **SM5210B: BOD**							
Client ID: **LCSW**	Batch ID: **56094**	RunNo: **73094**							
Prep Date: **10/29/2020**	Analysis Date: **11/3/2020**	SeqNo: **2570049**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	176	2.0	198.0	0	88.9	84.6	115.4			R

NOTES:

R-RPD between dilutions >30%

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C61**

12-Mar-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-56090**	SampType: **MBLK**	TestCode: **SM 9223B Fecal Indicator: E. coli MPN**
Client ID: **PBW**	Batch ID: **56090**	RunNo: **73015**
Prep Date: **10/28/2020**	Analysis Date: **10/29/2020**	SeqNo: **2566688** Units: **MPN/100mL**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
E. Coli	<1	1.000								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C61**

12-Mar-21

Client: AMAFCA

Project: CMC

Sample ID: **MB**	SampType: **MBLK**	TestCode: **SM 4500 NH3: Ammonia**
Client ID: **PBW**	Batch ID: **R73186**	RunNo: **73186**
Prep Date:	Analysis Date: **11/6/2020**	SeqNo: **2574097** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	1.0								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **SM 4500 NH3: Ammonia**
Client ID: **LCSW**	Batch ID: **R73186**	RunNo: **73186**
Prep Date:	Analysis Date: **11/6/2020**	SeqNo: **2574098** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	9.9	1.0	10.00	0	99.4	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C61**

12-Mar-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-56210**	SampType: **MBLK**	TestCode: **EPA Method 365.1: Total Phosphorous**
Client ID: **PBW**	Batch ID: **56210**	RunNo: **73152**
Prep Date: **11/4/2020**	Analysis Date: **11/5/2020**	SeqNo: **2573241** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	ND	0.010								

Sample ID: **LCS-56210**	SampType: **LCS**	TestCode: **EPA Method 365.1: Total Phosphorous**
Client ID: **LCSW**	Batch ID: **56210**	RunNo: **73152**
Prep Date: **11/4/2020**	Analysis Date: **11/5/2020**	SeqNo: **2573242** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.24	0.010	0.2500	0	95.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C61**

12-Mar-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-56113**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **56113**	RunNo: **73044**
Prep Date: **10/29/2020**	Analysis Date: **10/30/2020**	SeqNo: **2567736** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-56113**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **56113**	RunNo: **73044**
Prep Date: **10/29/2020**	Analysis Date: **10/30/2020**	SeqNo: **2567737** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Sample ID: **2010C61-001CDUP**	SampType: **DUP**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **RG-North-20201026**	Batch ID: **56113**	RunNo: **73044**
Prep Date: **10/29/2020**	Analysis Date: **10/30/2020**	SeqNo: **2567739** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	243	20.0						3.77	10	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C61**

12-Mar-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-56235**	SampType: **MBLK**	TestCode: **SM 4500 Norg C: TKN**
Client ID: **PBW**	Batch ID: **56235**	RunNo: **73185**
Prep Date: **11/5/2020**	Analysis Date: **11/6/2020**	SeqNo: **2574077** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0								

Sample ID: **LCS-56235**	SampType: **LCS**	TestCode: **SM 4500 Norg C: TKN**
Client ID: **LCSW**	Batch ID: **56235**	RunNo: **73185**
Prep Date: **11/5/2020**	Analysis Date: **11/6/2020**	SeqNo: **2574078** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	9.9	1.0	10.00	0	99.4	80	120			

Sample ID: **2010C61-001CMS**	SampType: **MS**	TestCode: **SM 4500 Norg C: TKN**
Client ID: **RG-North-20201026**	Batch ID: **56235**	RunNo: **73185**
Prep Date: **11/5/2020**	Analysis Date: **11/6/2020**	SeqNo: **2574080** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10	1.0	10.00	0	102	75	125			

Sample ID: **2010C61-001CMSD**	SampType: **MSD**	TestCode: **SM 4500 Norg C: TKN**
Client ID: **RG-North-20201026**	Batch ID: **56235**	RunNo: **73185**
Prep Date: **11/5/2020**	Analysis Date: **11/6/2020**	SeqNo: **2574081** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10	1.0	10.00	0	105	75	125	2.70	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010C61**

12-Mar-21

Client: AMAFCA

Project: CMC

Sample ID: **MB-56151**	SampType: **MBLK**	TestCode: **SM 2540D: TSS**
Client ID: **PBW**	Batch ID: **56151**	RunNo: **73090**
Prep Date: **11/2/2020**	Analysis Date: **11/3/2020**	SeqNo: **2569868** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	ND	4.0								

Sample ID: **LCS-56151**	SampType: **LCS**	TestCode: **SM 2540D: TSS**
Client ID: **LCSW**	Batch ID: **56151**	RunNo: **73090**
Prep Date: **11/2/2020**	Analysis Date: **11/3/2020**	SeqNo: **2569869** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	100	4.0	92.10	0	113	83.71	119.44			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **AMAFCA** Work Order Number: **2010C61** RcptNo: **1**

Received By: **Sean Livingston** **10/28/2020 3:16:00 PM** S. Livingston

Completed By: **Erin Melendrez** **10/28/2020 4:25:22 PM**

Reviewed By: JR 10/28/20 @ 16:38
CMC 10/29/20

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

# of preserved bottles checked for pH: 12
(<2 or >12 unless noted)
Adjusted? NO
Checked by: JR 10/29/20
(BOD/unpres./E Coli: SGL 10/28/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.8	Good				
2	0.4	Good				

Chain-of-Custody Record

Client: AMAFCA

Mailing Address: 2600 Prospect Ave

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: CMC

Project #:

Project Manager: Patrick Chavez

Sampler: E. Bastien

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 5.4+0=5.4 0.4+0=0.4 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2010C61	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	See attached list	E. coli (Enumeration)				
10/26/20	10:50	SW	RG-North-20201026			-001/-002											X					
10/28/20	14:10	SW	RG-South-20201028			-003/-004											X	X				
10/28/20	12:05	SW	RG-Alameda-20201028			-005												X				
			Trip Blank			-006																
			ENH 10/29/20																			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/26	15:10	Elizabeth Bastien	SGL	COO	10/26/20	15:16
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: Note: RG-North-20201026 turned in already E. coli + BOD due to short hold times.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Collaborative Monitoring Cooperative - Analyses List
Attach to Chain of Custody

Please refer to attached NPDES Permit No. NMR04A00 Appendix F. Methods and minimum quantification levels (MQL's) will be those approved under 40 CFR 136 and specified in the attached permit

Analyte (Bold Indicates WQS)	CAS #	Fraction	Method #	MDL (µg/L)
Hardness (Ca + Mg)	NA	Total	200.7	2.4
Lead	7439-92-1	Dissolved	200.8	0.09
Copper	7440-50-8	Dissolved	200.8	1.06
Ammonia + organic nitrogen	7664-41-7	Total	350.1	31.32
Total Kjehldal Nitrogen	17778-88-0	Total	351.2	58.78
Nitrate + Nitrite	14797-55-8	Total	353.2	10.17
Polychlorinated biphenyls (PCBs)	1336-36-3	Total	1668	0.014
Tetrahydrofuran (THF)	109-99-9	Total	8260C	7.9
bis(2-Ethylhexyl)phthalate	117-81-7	Total	8270D	0.2
Dibenzofuran	132-64-9	Total	8270D	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	Total	8270D	0.2
Benzo(b)fluoranthene	205-99-2	Total	8270D	0.1
Benzo(k)fluoranthene	207-08-9	Total	8270D	0.1
Chrysene	218-01-9	Total	8270D	0.2
Benzo(a)pyrene	50-32-8	Total	8270D	0.3
Dibenzo(a,h)anthracene	53-70-3	Total	8270D	0.3
Benzo(a)anthracene	56-55-3	Total	8270D	0.2
Dieldrin	60-57-1	Total	8081	0.1
Pentachlorophenol	87-86-5	Total	8270D	0.2
Benzidine	92-87-5	Total	8270D	0.1
Chemical Oxygen Demand	E1641638[2]	Total	HACH	5100
Gross alpha (adjusted)	NA	Total	Method 900	0.1 pCi/L
Total Dissolved Solids	E1642222[2]	Total	SM 2540C	60.4
Total Suspended Solids	NA	Total	SM 2540D	3450
Biological Oxygen Demand	N/A	Total	Standard Methods	930
Oil and Grease		Total	1664A	5000
Ecoli			SM 9223B	
pH			SM 4500	
Phosphorus		Dissolved	365.1	100
Phosphorus		Total	365.1	100
Chromium IV		Total	3500Cr C-2011	100

ATTACHMENT 2

FY 2021 WET SEASON COMPLETED DATA VERIFICATION AND VALIDATION (V&V) FORMS

Attachment 1.1 Water Quality Sample Data Verification and Validation Worksheet

Study Name: Compliance Monitoring Cooperative (CMC)
Year: FY 2021 (October 2020 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande North – 10/26/2020
Version of Verification/Validation Procedures: QAPP – CMC SOP #2 (2/2015); AMAFCA SOP #5 (2/2019)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? ☒ Yes ☐ No

If yes, proceed; if no, attempt to locate missing forms, then indicate any remaining missing forms and action taken.

Missing Field Data Forms	Action Taken

Total number of occurrences: 0

B. Are station name and ID, and sampling date and time on forms consistent with database? ☒ Yes ☐ No
If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station and Parameter	Action Taken	Re-verified?

Total number of occurrences: 0

C. Are field data on forms consistent with database? ☒ Yes ☐ No
If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station	Sampling Date	Parameter(s) Corrected	Re-verified?

Total number of occurrences: 0

D. Are RIDs correct and associated with the correct analytical suite, media subdivision (e.g. surface water, municipal waste, etc.) and activity type (e.g. Field observation, Routine sample, QA sample etc.)?
☒ Yes ☐ No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify

Station/RID	Sampling Date	RID Corrected	Re-verified?

Total number of occurrences: 0

☒ **Step 1 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 2: Verify Data Deliverables
A. Have all data in question been delivered? ☒ Yes ☐ No

If yes, proceed; if no, indicate RIDs with missing data (samples or blanks) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken. Complete this step upon receipt of all missing data.

RID	Submittal Date	Missing Data/Parameters	Date of Initial Verification	Date Missing Data Were Received

Total number of occurrences: 0

B. Do all of the analytical suites have the correct number and type of analytes. ☒ Yes ☐ No

If yes, proceed; if no, indicate RIDs with missing or incorrect analyte(s) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken.
*Note – Lab report identifies “Dissolved Phosphorous” as “Total Phosphorous” on a filtered sample (identified under “Client Sample ID” as (Diss)).

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?

Rio Grande North	10/26/2020	Lab report lists Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	Notified AMAFCA of this and verified with HEAL. BHI added note to the lab report.	Yes
_____	_____	_____	_____	_____

*Note – HEAL Lab report order number 2010C61.

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 3: Verify Flow Data

*Note – Not Applicable – no flow data provided with CMC sample collection

A. Identify incorrect or missing data on the flow calculation spreadsheet and correct errors.

Station	Sampling Date	Flow data missing or incorrect?
_____	_____	_____
_____	_____	_____

Total number of occurrences: 0

B. Identify incorrect or missing discharge measurements, correct errors in database and re-verify.

Station	Sampling Date	Flow data missing or incorrect?	Re-verified?
_____	_____	_____	_____
_____	_____	_____	_____

Total number of occurrences: 0

Not Applicable

☐ **Step 3 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 4: Verify Analytical Results for Missing Information or Questionable Results

Were any results with missing/questionable information identified? ☒ Yes ☐ No

If no, proceed; if yes, indicate results with missing information or questionable results or attach report. Contact data source and indicate action taken. Complete this step upon receipt of missing information or clarification of questionable results (clarify questionable results only, DO NOT change results without written approval (from lab or QA officer) and associated documentation).

RID	Sample Date	Missing or Questionable Information/Results	Action Taken
Rio Grande North	10/26/2020	Lab report provides Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	BHI added note to the lab report.

*Note – HEAL Lab report order number 2010C61.
Total number of occurrences: 1

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 5: Validate Blanks Results
Were any analytes of concern detected in blank samples? ☐ Yes ☒ No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager, with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes have been added to database correctly.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database? *

*See validation procedures to determine which associated data need to be flagged and include on *Validation Codes Form*.

Total number of occurrences: 0

☒ **Step 5 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 6: Validate Holding Times Violations
Were any samples submitted that did not meet specified holding times? ☒ Yes ☐ No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database to ALL associated data?*
Rio Grande North	10/26/2021	Dieldrin	No	Surface water sample	H	Yes
Rio Grande North	10/26/2021	TSS	No	Surface water sample	H	Yes

*See validation procedures to determine which associated data need to be flagged.
*Note – Lab reports lists pH with hold time flag. Database uses field data reported pH, so this is hold time is not applicable.
Total number of occurrences: 2

☒ **Step 6 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 7: Validate Replicate/Duplicate Results (if applicable)
Were any replicate/duplicate pairs submitted outside of the established control limit of 20%?
☐ Yes ☒ No
If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID Pairs		Replicate or Duplicate?	Sample Date	Parameter	RPD	Validation Code/Flag Applied	Code/Flag verified in database applied?*
_____	_____	_____	_____	_____	_____		_____
_____	_____	_____	_____	_____	_____		_____

*See validation procedures to determine which associated data need to be flagged.

Total number of occurrences: 0

☒ **Step 7 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

****

After all of the above steps have been completed, save and print the worksheet, attach all applicable supplemental information and sign below.

I acknowledge that the data verification and validation process has been completed for the data identified above in accordance with the procedures described in the CMC QAPP, SOP #2



4/22/2021

Data Verifier/Validator Signature Date

COMPLETION OF DATA VERIFICATION AND VALIDATION PROCESS

Once the data verification and validation process has been completed for the entire study (note: if the worksheet is for a subset of the data from a study, be sure ALL the data for the entire study is included before final completion of the data verification and validation process), notify the NMSQUID administrator that the process is complete and request that “V V in STORET” be added to the project title.

Once all data have been verified and validated for a study provide copies of ALL *Data Verification and Validation Worksheets* and attachments associated with the study to the Quality Assurance Officer and retain originals in the project binder.

Attachment 1.2 SWQB Validation Codes

When deficiencies are identified through the data verification and validation process, AMAFCA documents or "flags" the deficiencies by assigning validation codes. All data collected from the last compliant QC sample and up to the next compliant QC sample are assigned validation codes. The validation code alerts the data user that the results are outside QA control limits and may require re-sampling or a separate, qualitative analysis based on professional judgment.

Validation Code	Definition	WQX Equivalent
A1	Sample not collected according to SOP	
B1	Chemical was detected in the field blank at a concentration less than 5% of the sample concentration.	
BN	Blanks NOT collected during sampling run	
BU	Detection in blank. Analyte was not detected in this sample above the method's sample detection limit.	BU
RB1	Chemical was detected in the field blank at a concentration greater than or equal to 5% of the sample concentration. Results for this sample are rejected because they may be the result of contamination; the results may not be reported or used for regulatory compliance purposes.	B
R1	Rejected due to incorrect sample preservation	R
R2	Rejected due to equipment failure in the field	R
R3	Rejected based on best professional judgment	R
D1	Spike recovery not within method acceptance limits	
F1	Sample filter time exceeded	
J1	Estimated: the analyte was positively identified and the associated value is an approximate concentration of the analyte in the sample	J
K1	Holding time violation	H
Ea	Estimated-Incubation temperature between 35.5 and 38.0° Celsius	
Er	Rejected-Incubation temperature < 34.5 or >38.0° Celsius	
PD1	Percent difference between duplicate samples excessive	
S1	Per SLD, uncertainties (sigmas) are expressed as one standard deviation, i.e. one standard error. Small negative or positive values that are less than two standard deviations should be interpreted as "less than the detection limit."	
S2	Data are suspect but deemed usable based on best professional judgment; documentation of justification is required and should be included in the Data Verification and Validation Packet and reported with results	
Z1	Macroinvertebrate data did not meet QC criteria specified in Section 2.5 of QAPP	
H1	Habitat data did not meet QC criteria specified in Section 2.5 of QAPP	

Attachment 1.1 Water Quality Sample Data Verification and Validation Worksheet

Study Name: Compliance Monitoring Cooperative (CMC)
Year: FY 2021 (October 2020 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande at Alameda – 10/28/20
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015); AMAFCA SOP #5 (2/2019)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? ☒ Yes ☐ No

If yes, proceed; if no, attempt to locate missing forms, then indicate any remaining missing forms and action taken.

Missing Field Data Forms	Action Taken

Total number of occurrences: 0

B. Are station name and ID, and sampling date and time on forms consistent with database? ☒ Yes ☐ No
If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station and Parameter	Action Taken	Re-verified?

Total number of occurrences: 0

C. Are field data on forms consistent with database? ☒ Yes ☐ No
If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station	Sampling Date	Parameter(s) Corrected	Re-verified?

Total number of occurrences: 0

D. Are RIDs correct and associated with the correct analytical suite, media subdivision (e.g. surface water, municipal waste, etc.) and activity type (e.g. Field observation, Routine sample, QA sample etc.)?

☒ Yes ☐ No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify

Station/RID	Sampling Date	RID Corrected	Re-verified?
_____	_____	_____	_____
_____	_____	_____	_____

Total number of occurrences: 0

☒ **Step 1 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 2: Verify Data Deliverables

A. Have all data in question been delivered? ☒ Yes ☐ No

If yes, proceed; if no, indicate RIDs with missing data (samples or blanks) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken. Complete this step upon receipt of all missing data.

RID	Submittal Date	Missing Data/Parameters	Date of Initial Verification	Date Missing Data Were Received
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Total number of occurrences: 0

B. Do all of the analytical suites have the correct number and type of analytes. ☒ Yes ☐ No

If yes, proceed; if no, indicate RIDs with missing or incorrect analyte(s) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken.

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 3: Verify Flow Data
***Note – Not Applicable – no flow data provided with CMC sample collection.**
A. Identify incorrect or missing data on the flow calculation spreadsheet and correct errors.

Station	Sampling Date	Flow data missing or incorrect?

Total number of occurrences: 0

B. Identify incorrect or missing discharge measurements, correct errors in database and re-verify.

Station	Sampling Date	Flow data missing or incorrect?	Re-verified?

Total number of occurrences: 0

Not Applicable
☐ **Step 3 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 4: Verify Analytical Results for Missing Information or Questionable Results

Were any results with missing/questionable information identified? ☐ Yes ☒ No

If no, proceed; if yes, indicate results with missing information or questionable results or attach report. Contact data source and indicate action taken. Complete this step upon receipt of missing information or clarification of questionable results (clarify questionable results only, DO NOT change results without written approval (from lab or QA officer) and associated documentation).

RID	Sample Date	Missing or Questionable Information/Results	Action Taken

Total number of occurrences: 1

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 5: Validate Blanks Results
Were any analytes of concern detected in blank samples? ☐ Yes ☒ No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager, with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes have been added to database correctly.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database? *

*See validation procedures to determine which associated data need to be flagged and include on *Validation Codes Form*.

Total number of occurrences: 0

☒ **Step 5 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 6: Validate Holding Times Violations
Were any samples submitted that did not meet specified holding times? ☐ Yes ☒ No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database to ALL associated data?*

*See validation procedures to determine which associated data need to be flagged.

Total number of occurrences: 0

☒ **Step 6 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 7: Validate Replicate/Duplicate Results (if applicable)
Were any replicate/duplicate pairs submitted outside of the established control limit of 20%?
☐ Yes ☒ No
If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID Pairs		Replicate or Duplicate?	Sample Date	Parameter	RPD	Validation Code/Flag Applied	Code/Flag verified in database applied?*
_____	_____	_____	_____	_____	_____		_____
_____	_____	_____	_____	_____	_____		_____

Total number of occurrences: 0

☒ **Step 7 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

****

After all of the above steps have been completed, save and print the worksheet, attach all applicable supplemental information and sign below.

I acknowledge that the data verification and validation process has been completed for the data identified above in accordance with the procedures described in the CMC QAPP, SOP #2

Sarah Conrad 4/22/2021

Data Verifier/Validator Signature Date

COMPLETION OF DATA VERIFICATION AND VALIDATION PROCESS

Once the data verification and validation process has been completed for the entire study (note: if the worksheet is for a subset of the data from a study, be sure ALL the data for the entire study is included before final completion of the data verification and validation process), notify the NMSQUID administrator that the process is complete and request that “V V in STORET” be added to the project title.

Once all data have been verified and validated for a study provide copies of ALL *Data Verification and Validation Worksheets* and attachments associated with the study to the Quality Assurance Officer and retain originals in the project binder.

Attachment 1.2 SWQB Validation Codes

When deficiencies are identified through the data verification and validation process, AMAFCA documents or "flags" the deficiencies by assigning validation codes. All data collected from the last compliant QC sample and up to the next compliant QC sample are assigned validation codes. The validation code alerts the data user that the results are outside QA control limits and may require re-sampling or a separate, qualitative analysis based on professional judgment.

Validation Code	Definition	WQX Equivalent
A1	Sample not collected according to SOP	
B1	Chemical was detected in the field blank at a concentration less than 5% of the sample concentration.	
BN	Blanks NOT collected during sampling run	
BU	Detection in blank. Analyte was not detected in this sample above the method's sample detection limit.	BU
RB1	Chemical was detected in the field blank at a concentration greater than or equal to 5% of the sample concentration. Results for this sample are rejected because they may be the result of contamination; the results may not be reported or used for regulatory compliance purposes.	B
R1	Rejected due to incorrect sample preservation	R
R2	Rejected due to equipment failure in the field	R
R3	Rejected based on best professional judgment	R
D1	Spike recovery not within method acceptance limits	
F1	Sample filter time exceeded	
J1	Estimated: the analyte was positively identified and the associated value is an approximate concentration of the analyte in the sample	J
K1	Holding time violation	H
Ea	Estimated-Incubation temperature between 35.5 and 38.0° Celsius	
Er	Rejected-Incubation temperature < 34.5 or >38.0° Celsius	
PD1	Percent difference between duplicate samples excessive	
S1	Per SLD, uncertainties (sigmas) are expressed as one standard deviation, i.e. one standard error. Small negative or positive values that are less than two standard deviations should be interpreted as "less than the detection limit."	
S2	Data are suspect but deemed usable based on best professional judgment; documentation of justification is required and should be included in the Data Verification and Validation Packet and reported with results	
Z1	Macroinvertebrate data did not meet QC criteria specified in Section 2.5 of QAPP	
H1	Habitat data did not meet QC criteria specified in Section 2.5 of QAPP	

Attachment 1.1 Water Quality Sample Data Verification and Validation Worksheet

Study Name: Compliance Monitoring Cooperative (CMC)
Year: FY 2021 (October 2020 – Wet Season Sample)
Project Coordinator: For Data Review and Reporting – SJG, BHI
V&V Reviewer: SJG
Data covered by this worksheet: Rio Grande South – 10/28/20
Version of Verification/Validation Procedures: QAPP – SOP #2 (2/2015); AMAFCA SOP #5 (2/2019)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? ☒ Yes ☐ No

If yes, proceed; if no, attempt to locate missing forms, then indicate any remaining missing forms and action taken.

Missing Field Data Forms	Action Taken

Total number of occurrences: 0

B. Are station name and ID, and sampling date and time on forms consistent with database? ☒ Yes ☐ No
If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station and Parameter	Action Taken	Re-verified?

Total number of occurrences: 0

C. Are field data on forms consistent with database? ☒ Yes ☐ No
If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station	Sampling Date	Parameter(s) Corrected	Re-verified?

Total number of occurrences: 0

D. Are RIDs correct and associated with the correct analytical suite, media subdivision (e.g. surface water, municipal waste, etc.) and activity type (e.g. Field observation, Routine sample, QA sample etc.)?

☒ Yes ☐ No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify

Station/RID	Sampling Date	RID Corrected	Re-verified?

Total number of occurrences: 0

☒ **Step 1 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 2: Verify Data Deliverables

A. Have all data in question been delivered? ☒ Yes ☐ No

If yes, proceed; if no, indicate RIDs with missing data (samples or blanks) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken. Complete this step upon receipt of all missing data.

RID	Submittal Date	Missing Data/Parameters	Date of Initial Verification	Date Missing Data Were Received

Total number of occurrences: 0

B. Do all of the analytical suites have the correct number and type of analytes. ☒ Yes ☐ No

If yes, proceed; if no, indicate RIDs with missing or incorrect analyte(s) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken.

*Note – Lab report identifies “Dissolved Phosphorous” as “Total Phosphorous” on a filtered sample (identified under “Client Sample ID”).

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?
Rio Grande South	10/28/2020	Lab report lists Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	Notified AMAFCA of this and verified with HEAL. BHI added note to the lab report.	Yes
_____	_____	_____	_____	_____

*Note – HEAL Lab report order number 2010C61.

☒ **Step 2 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 3: Verify Flow Data

*Note – Not Applicable – no flow data provided with CMC sample collection

A. Identify incorrect or missing data on the flow calculation spreadsheet and correct errors.

Station	Sampling Date	Flow data missing or incorrect?
_____	_____	_____
_____	_____	_____

Total number of occurrences: 0

B. Identify incorrect or missing discharge measurements, correct errors in database and re-verify.

Station	Sampling Date	Flow data missing or incorrect?	Re-verified?
_____	_____	_____	_____
_____	_____	_____	_____

Total number of occurrences: 0

Not Applicable

☐ **Step 3 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 4: Verify Analytical Results for Missing Information or Questionable Results

Were any results with missing/questionable information identified? ☒ Yes ☐ No

If no, proceed; if yes, indicate results with missing information or questionable results or attach report. Contact data source and indicate action taken. Complete this step upon receipt of missing information or clarification of questionable results (clarify questionable results only, DO NOT change results without written approval (from lab or QA officer) and associated documentation).

RID	Sample Date	Missing or Questionable Information/Results	Action Taken
Rio Grande South	10/28/2020	Lab report provides Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	BHI added note to the lab report.

*Note – HEAL Lab report order number 2010C61.
Total number of occurrences: 1

☒ **Step 4 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 5: Validate Blanks Results
Were any analytes of concern detected in blank samples? ☐ Yes ☒ No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager, with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes have been added to database correctly.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database? *

*See validation procedures to determine which associated data need to be flagged and include on *Validation Codes Form*.

Total number of occurrences: 0

☒ **Step 5 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 6: Validate Holding Times Violations
Were any samples submitted that did not meet specified holding times? ☐ Yes ☒ No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database to ALL associated data?*
Rio Grande South	10/28/2021	BOD	No	Surface water sample	H	Yes
_____	_____	_____	_____	_____		_____

*See validation procedures to determine which associated data need to be flagged.
*Note – Lab reports lists pH with hold time flag. Database uses field data reported pH, so this is hold time is not applicable.
Total number of occurrences: 1

☒ **Step 6 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

- -

Step 7: Validate Replicate/Duplicate Results (if applicable)
Were any replicate/duplicate pairs submitted outside of the established control limit of 20%?
☐ Yes ☒ No
If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID Pairs		Replicate or Duplicate?	Sample Date	Parameter	RPD	Validation Code/Flag Applied	Code/Flag verified in database applied?*
_____	_____	_____	_____	_____	_____		_____
_____	_____	_____	_____	_____	_____		_____

Total number of occurrences: 0

☒ **Step 7 Completed** ***Initials:*** SJG ***Date:*** 4/22/2021

****

After all of the above steps have been completed, save and print the worksheet, attach all applicable supplemental information and sign below.

I acknowledge that the data verification and validation process has been completed for the data identified above in accordance with the procedures described in the CMC QAPP, SOP #2



4/22/2021

Data Verifier/Validator Signature Date

COMPLETION OF DATA VERIFICATION AND VALIDATION PROCESS

Once the data verification and validation process has been completed for the entire study (note: if the worksheet is for a subset of the data from a study, be sure ALL the data for the entire study is included before final completion of the data verification and validation process), notify the NMSQUID administrator that the process is complete and request that “V V in STORET” be added to the project title.

Once all data have been verified and validated for a study provide copies of ALL *Data Verification and Validation Worksheets* and attachments associated with the study to the Quality Assurance Officer and retain originals in the project binder.

Attachment 1.2 SWQB Validation Codes

When deficiencies are identified through the data verification and validation process, AMAFCA documents or "flags" the deficiencies by assigning validation codes. All data collected from the last compliant QC sample and up to the next compliant QC sample are assigned validation codes. The validation code alerts the data user that the results are outside QA control limits and may require re-sampling or a separate, qualitative analysis based on professional judgment.

Validation Code	Definition	WQX Equivalent
A1	Sample not collected according to SOP	
B1	Chemical was detected in the field blank at a concentration less than 5% of the sample concentration.	
BN	Blanks NOT collected during sampling run	
BU	Detection in blank. Analyte was not detected in this sample above the method's sample detection limit.	BU
RB1	Chemical was detected in the field blank at a concentration greater than or equal to 5% of the sample concentration. Results for this sample are rejected because they may be the result of contamination; the results may not be reported or used for regulatory compliance purposes.	B
R1	Rejected due to incorrect sample preservation	R
R2	Rejected due to equipment failure in the field	R
R3	Rejected based on best professional judgment	R
D1	Spike recovery not within method acceptance limits	
F1	Sample filter time exceeded	
J1	Estimated: the analyte was positively identified and the associated value is an approximate concentration of the analyte in the sample	J
K1	Holding time violation	H
Ea	Estimated-Incubation temperature between 35.5 and 38.0° Celsius	
Er	Rejected-Incubation temperature < 34.5 or >38.0° Celsius	
PD1	Percent difference between duplicate samples excessive	
S1	Per SLD, uncertainties (sigmas) are expressed as one standard deviation, i.e. one standard error. Small negative or positive values that are less than two standard deviations should be interpreted as "less than the detection limit."	
S2	Data are suspect but deemed usable based on best professional judgment; documentation of justification is required and should be included in the Data Verification and Validation Packet and reported with results	
Z1	Macroinvertebrate data did not meet QC criteria specified in Section 2.5 of QAPP	
H1	Habitat data did not meet QC criteria specified in Section 2.5 of QAPP	

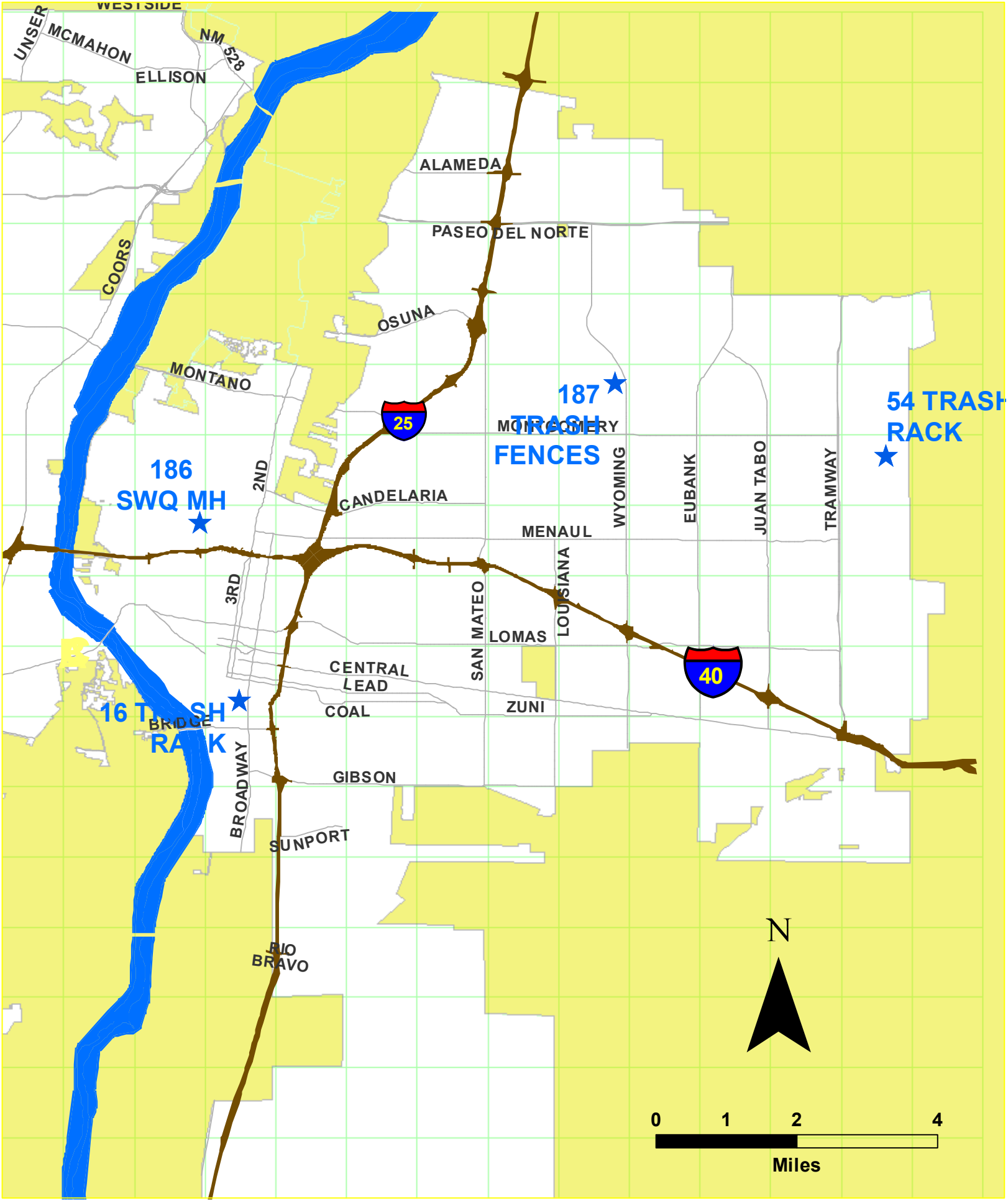
Compliance Monitoring Cooperative (CMC)
Summary of E. coli Loading Calculation Compared to Waste Load Allocation (WLA)

CMC Sample #	FY	Wet or Dry Season	Storm Event Date	Stream Segment	Stream Name / Related USGS Gage	Total E. coli Loading in River Exceeds TMDL for River?	Sample at Alameda, Segment midpoint	Estimated CMC E. coli Loading (CFU/day) for Each Segment	Daily Mean Flow (cfs)	Flow Conditions	WLA for CMC Based on Flow Conditions & Stream Segment (CFU/day)	WLA - Potential Exceedance or Acceptable	CMC - Delta - E. coli Loading Minus WLA (CFU/day)
1	FY 2017	Wet Season	8/10/2016	2105.1_00	***Alameda to Angostura*** Non-Pueblo Alameda Bridge to Angostura Diversion / 08329928 - Rio Grande near Alameda	Yes	N/A*	8.32E+11	639	Dry	3.24E+10	WLA Potential Exceedance	8.00E+11
			8/10/2016	2105_50	***Isleta to Alameda*** Isleta Pueblo Boundary to Alameda Street Bridge / 0833000 - Rio Grande at Albuquerque, NM (Central)	Yes		2.34E+11	703	Mid	4.22E+10	WLA Potential Exceedance	1.92E+11
2	FY 2017	Wet Season	9/12/2016	2105.1_00	***Alameda to Angostura*** Non-Pueblo Alameda Bridge to Angostura Diversion / 08329928 - Rio Grande near Alameda	Yes	N/A*	4.67E+11	435	Dry	3.24E+10	WLA Potential Exceedance	4.35E+11
			9/12/2016	2105_50	***Isleta to Alameda*** Isleta Pueblo Boundary to Alameda Street Bridge / 0833000 - Rio Grande at Albuquerque, NM (Central)	Yes		1.02E+11	467	Dry	1.57E+10	WLA Potential Exceedance	8.62E+10
3	FY 2017	Wet Season	9/21/2016	2105.1_00	***Alameda to Angostura*** Non-Pueblo Alameda Bridge to Angostura Diversion / 08329928 - Rio Grande near Alameda	Yes	N/A*	1.29E+11	350	Low	1.68E+10	WLA Potential Exceedance	1.13E+11
			9/21/2016	2105_50	***Isleta to Alameda*** Isleta Pueblo Boundary to Alameda Street Bridge / 0833000 - Rio Grande at Albuquerque, NM (Central)	Yes		1.22E+10	251	Low	3.42E+09	WLA Potential Exceedance	8.74E+09
4	FY 2017	Dry Season	11/21/2016	2105.1_00	***Alameda to Angostura*** Non-Pueblo Alameda Bridge to Angostura Diversion / 08329928 - Rio Grande near Alameda	No	N/A*	--	710	Mid	No Value	WLA Acceptable	--
			11/21/2016	2105_50	***Isleta to Alameda*** Isleta Pueblo Boundary to Alameda Street Bridge / 0833000 - Rio Grande at Albuquerque, NM (Central)	Yes		1.68E+12	881	Mid	4.22E+10	WLA Potential Exceedance	1.63E+12
5	FY 2018	Wet Season	7/27/2017	2105.1_00	***Alameda to Angostura*** Non-Pueblo Alameda Bridge to Angostura Diversion / 08329928 - Rio Grande near Alameda	No	Yes	2.50E+10	545	Dry	3.24E+10	WLA Acceptable	--
			7/27/2017	2105_50	***Isleta to Alameda*** Isleta Pueblo Boundary to Alameda Street Bridge / 0833000 - Rio Grande at Albuquerque, NM (Central)	Yes		8.63E+10	470	Dry	1.57E+10	WLA Potential Exceedance	7.06E+10
6	FY 2018	Wet Season	9/27/2017	2105.1_00	***Alameda to Angostura*** Non-Pueblo Alameda Bridge to Angostura Diversion / 08329928 - Rio Grande near Alameda	Yes	No**	7.34E+12	983	Moist	9.09E+10	WLA Potential Exceedance	7.25E+12
			9/27/2017	2105_50	***Isleta to Alameda*** Isleta Pueblo Boundary to Alameda Street Bridge / 0833000 - Rio Grande at Albuquerque, NM (Central)	Yes		2.18E+12	1,190	Moist	6.29E+10	WLA Potential Exceedance	2.11E+12
7	FY 2019	Dry Season	3/13/2019	2105.1_00	***Alameda to Angostura*** Non-Pueblo Alameda Bridge to Angostura Diversion / 08329928 - Rio Grande near Alameda	Yes	No	8.49E+11	1,188	Moist	9.09E+10	WLA Potential Exceedance	7.59E+11
			3/13/2019	2105_50	***Isleta to Alameda*** Isleta Pueblo Boundary to Alameda Street Bridge / 0833000 - Rio Grande at Albuquerque, NM (Central)	Yes		2.52E+11	1,202	Moist	6.29E+10	WLA Potential Exceedance	1.89E+11
8 - Not Required	FY 2021	Wet Season	10/28/2020	2105.1_00	***Alameda to Angostura*** Non-Pueblo Alameda Bridge to Angostura Diversion / 08329928 - Rio Grande near Alameda	No	Yes	0.00E+00	146	Low	1.68E+10	WLA Acceptable	--
			10/28/2020	2105_50	***Isleta to Alameda*** Isleta Pueblo Boundary to Alameda Street Bridge / 0833000 - Rio Grande at Albuquerque, NM (Central)	Yes		1.99E+11	180	Low	3.42E+09	WLA Potential Exceedance	1.95E+11
9 - Not Required	FY 2021	Dry Season	4/28/2021	2105.1_00	***Alameda to Angostura*** Non-Pueblo Alameda Bridge to Angostura Diversion / 08329928 - Rio Grande near Alameda	No	Yes	--	872	Mid	No Value	WLA Acceptable	--
			4/28/2021	2105_50	***Isleta to Alameda*** Isleta Pueblo Boundary to Alameda Street Bridge / 0833000 - Rio Grande at Albuquerque, NM (Central)	Yes		2.02E+12	931	Moist	6.29E+10	WLA Potential Exceedance	1.95E+12

* collecting a sample within the Rio Grande at Alameda Blvd is the location of the NMED defined stream segment divide. This sample point was added after discussion with NMED in February 2017 regarding potential refinements to E. coli loading calculations. The CMC did notupdate their sampling plan to require this, but agreed to collect this when feasible.
** For the 9/27/2017 storm, had an Alameda sample for the pre-storm event, but not during the storm.

Attachment 2

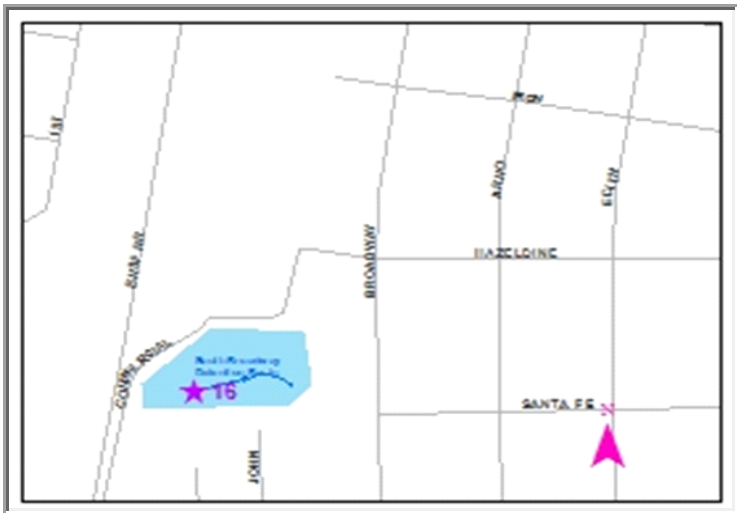
FY2021 Storm Water Quality Features



FY 2021 Stormwater Quality Features SWQ

LOCATION	0.1 M SW BROADWAY AND HAZELDINE SW

STRUCTURE_NAME	CONCRETE BOX SPILLWAY





MAP_KEY	K14	City_Quad	SW

Year_Built	2021	link	X:\MD\SHARE\MD-Storm\Ponds-Trash Racks-cat\TRASH_RACKS

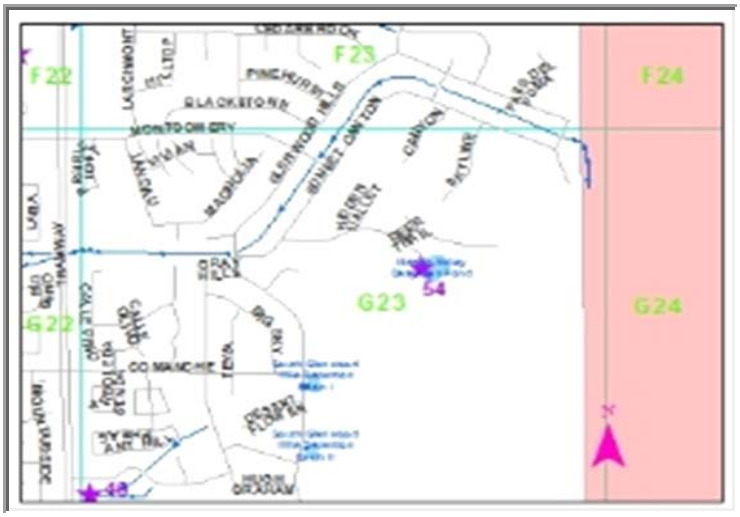
NOTES	INSIDE SOUTH BROADWAY POND

SWQ SIZE	8' X 8' X 4 1/2' WITH 6" DIA TUBES 12" OC COVERED WITH 2" X 2"WIRE MESH	cost	$122,000

PROJECT_NO	797200	NUMBER	16

LOCATION	0.1 M SE HIDDEN VALLEY AND DEER TRAIL

STRUCTURE_NAME	TRASH RACK OUTLET

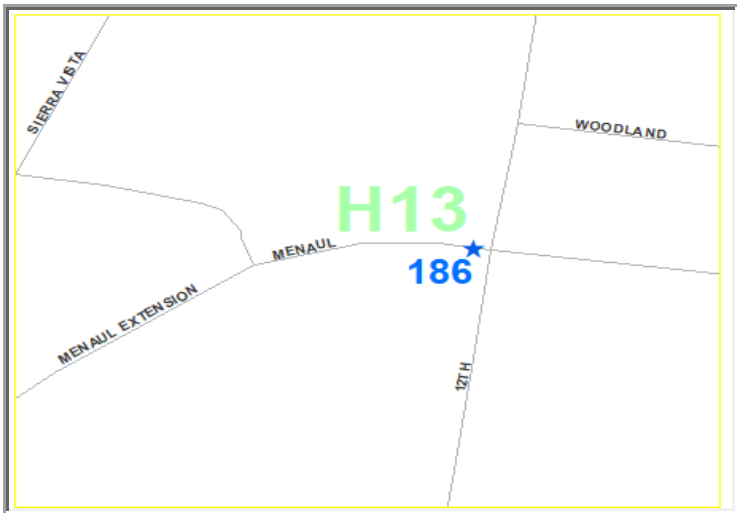




MAP_KEY	G23	City_Quad	NE
Year_Built	2021	link	X:\MD\SHARE\MD-Storm\Ponds-Trash Racks-cat\TRASH_RACKS
NOTES	INSIDE THE HIDDEN VALLEY POND		
SWQ SIZE	1 1/2" X 3/16" GRATE FOR THE FRONT FACE, 22" X12" FOR TOP	cost	$18,000
PROJECT_NO	455590	NUMBER	54

LOCATION	MENAUL AND 12TH ST NW

STRUCTURE_NAME	

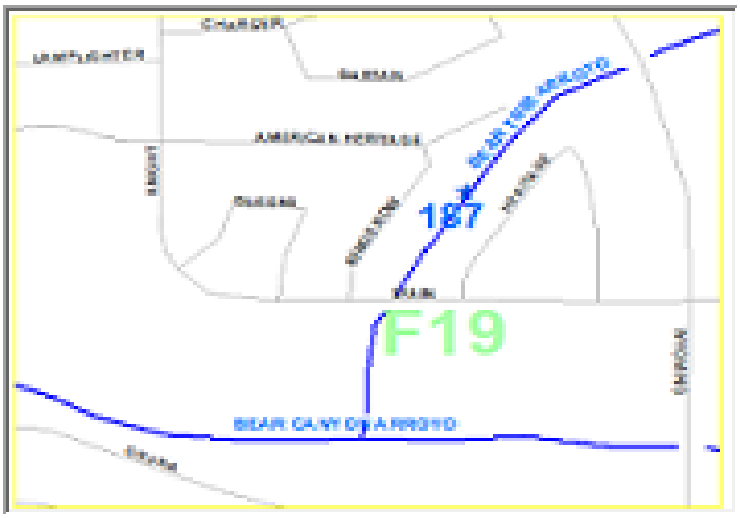




MAP_KEY	H-13	City_Quad	NW
Year_Built	2021	link	X:\MD\SHARE\MD-Storm\Ponds-Trash Racks-cat\TRASH_RACKS
NOTES	AMAFCA SWQ MH		
SWQ SIZE	6' DIA WITH ALUMINUM BAFFLE AND EXFILTRATION BOX	cost	$18,000
PROJECT_NO	718693	NUMBER	186

LOCATION	LOWER BEAR TRIBUTARY SWQ FACILITY

STRUCTURE_NAME	TRASH FENCES





MAP_KEY	F-19	City_Quad	NE
Year_Built	2021	link	X:\MD\SHARE\MD-Storm\Ponds-Trash Racks-cat\TRASH_RACKS
NOTES	5 SERIES OF TRASH RACKS ACROSS THE ARROYO		
SWQ SIZE	40' X 5'	cost	$400,000
PROJECT_NO	amafca proj	NUMBER	187

Attachment 3

Impervious Area Added

FY2021

DRAINAGE FILE	PROJECT NAME/DES	APPROVAL SOUGHT	REVIEW DATE	ACRES IMP	WQ POND AT CO	SQ FT IMP FEE IN LIEU	AMOUNT PAID FEE IN LIEU
A11D011H	MCMAHON MARKET PLACE NEW SHELL BUILDING, LOT 5-A	11-Mar-21	CO-PERM-R	1.06	Yes		
A11D011I	MCHAHON MARKET PLACE NEW SHELL BUILDING	02-Feb-21	CO-PERM	1.39	Yes		
B11D002B	PARADISE BLUFF (5015 MIDNIGHT VISTA)	28-May-21	CO-PERM	0.11	Yes		
B17D006	ASCENSION SUBDIVISION	22-Mar-21	ROFG	3.36	No	4,304.27	$25,825.64
B20D067	8500 GLENDALE (REVISION with POOL)	28-May-21	CO-PERM	0.21	No		
C09D011	VALLE PRADO UNIT 4 (REVISION#3) LOTS 7, 10,15-19, 44-45	14-May-21	ROFG		No		
C09D012	Durango Unit 3A	29-Mar-21	ROFG	2.83	No		
C09D012	DURANGO SUBDIVISION UNIT 5	14-May-21	ROFG	2.07	Yes		
C09D012	DURANGO SUBDIVISION UNIT 4	14-May-21	ROFG	2.34	No		
C11D005	5508 VALIENTE NW (REVISION)	08-Apr-21	CO-PERM	0.16	No		
C11D006	5504 VALIENTE	24-Feb-21	CO-PERM	0.16	No		
C12D058	TACO BELL	30-Apr-21	CO-TEMP	0.48	Yes		
C17D119	HORIZON VILLAGE	22-Mar-21	ROFG	2.88	Yes		
C18D037H	THE COMMONS @ EAGLE ROCK BLDG B - 5501 EAGLE ROCK NE	10-Aug-20	CO-PERM	0.18	Yes		
C18D037H	THE COMMONS @ EAGLE ROCK BLDG C - 5501 EAGLE ROCK NE	27-Jul-20	CO-PERM-R	0.18	Yes		
C18D038A	ACADEMY DENTAL CENTER (REVISION#3)	25-Sep-20	CO-PERM-R	0.84	Yes		
C18D038A	ACADEMY DENTAL CENTER (REVISION#3)	11-Sep-20	CO-TEMP				
C18D070	BARLOW SHOP	16-Jul-20	CO-PERM	0.28	Yes		
C18D083	LEGACY NAA APARTMENTS 2-REVISION	21-Sep-20	CO-PERM	3.78	Yes		
C18D083	LEGACY NAA APARTMENTS 2-BLDG 1, 3,5&6	25-Jan-21	CO-PERM				
C18D086	ALAMEDA DEVELOPMENT	04-Aug-20	ROFG		No		
C18D086A	STONE AGE CLIMBING REVISION #2	31-Jul-20	CO-PERM	0.18	No		
C20D079	HOLLY SENIOR LIVING	29-Mar-21	CO-PERM	1.80	Yes		
C20D084	DR. FANNING DENTAL OFFICE	19-Nov-20	CO-PERM	0.30	Yes		
D09D005	MONTECITO VISTAS UNITS 3 & 4	04-Aug-20	ROFG	6.40	No		
D10D003B19	8000 CAMINO ALTO CT NW	29-Sep-20	CO-PERM	0.13	Yes		
D10D003C3	8016 CANONCITO DR. NW (REVISION)	17-Aug-20	CO-PERM-R	0.16	Yes		
D10D003E10	6320 CANAVIO	29-Sep-20	CO-PERM	0.18	Yes		
D10D003F13A	6300 PETIRROJO RD NW (REVISION)	08-Jun-21	CO-PERM	0.16	Yes		
D10D003F17	6309 VISTA DEL PRADO	15-Dec-20	CO-PERM	0.13	Yes		
D10D003G14	6512 CAMINO DEL OESTE	13-May-21	CO-PERM	0.16	Yes		
D10D003G16	6504 CAMINO D DEL OESTE NW (ADDED HOTTUB) (REVISION#3)	05-May-21	CO-PERM	0.16	Yes		
D10D003G21A	RAMOS MANUEL & PAULINE	15-Sep-20	CO-PERM	0.18	Yes		
D10D003J4	6608 PAPAGAYO (REVISION)	14-Sep-20	CO-PERM	0.18	Yes		
D10D003J4	6608 PAPAGAYO (REVISION)	29-Sep-20	CO-PERM-R		Yes		
D10D003K15	6636 SUJETO ROAD NW	23-Oct-20	CO PERM	0.18	Yes		
D10D003K20	6616 SUJETO ROAD NW	10-Jun-21	CO-PERM	0.18	Yes		
D10D003K4	6611 PAPAGAYO ROAD NW *	08-Sep-20	CO PERM	0.30	Yes		
D10D003K8A	8004 COMPASS NW	08-Jun-21	CO-PERM	0.16	Yes		
D10D003L11	6505 PAPAGAYO	05-Mar-21	CO-PERM	0.16	Yes		
D10D003L5	6516 PATO RD	19-Feb-21	CO-PERM	0.16	Yes		
D10D003M37	6615 SUJETO	29-Apr-21	CO-PERM	0.18	Yes		
D10D003M39	6623 SUJETO-REVISION WITH POOL	28-Oct-20	CO-PERM		Yes		
D10D003M4	6616 KIMMICK - CANDELARIA/GONZALEZ LOT 4	03-Feb-21	CO-PERM	0.31	Yes		
D10D003M40	6627 SUJETO NW with POOL	10-Aug-20	CO-PERM	0.18	Yes		
D10D003M8	6600 KIMMICK	05-May-21	CO-PERM	0.16	Yes		
D10D003N26	8005 CANONCITO	05-Oct-20	CO-PERM	0.18	Yes		
D10D003O3	6504 PAPAGAYO NW (REVISION)	05-May-21	CO-PERM	0.16	Yes		
D10D003Q14	6415 PETIRROJO RD NW (REVISION WITH POOL)	17-Aug-20	CO-PERM	0.16	Yes		
D10D003Q14	6415 PETIRROJO RD NW (REVISION WITH POOL)	25-Aug-20	CO-PERM-R		Yes		
D10D003Q3	6436 PICARDIA	28-May-21	CO-PERM	0.18	Yes		
D10D003S2	ALLAN JOHNSON	27-Aug-20	CO-PERM	0.18	Yes		
D10D003S2	ALLAN JOHNSON	27-Aug-20	CO-PERM-R		Yes		
D10D017	6615 RIMROCK DR NW (REVISION)	29-Sep-20	CO-PERM	0.16	Yes		
D10D019	6708 RIM ROCK (REVISION)	15-Apr-21	CO-PERM	0.16	Yes		
D16D002I	7901 LAS LOMITAS (REVISION)	27-Oct-20	CO-PERM	0.13	Yes		
D16D103	7800 LAS LOMITAS DR	11-Feb-21	CO-PERM	0.14	Yes		
D17D003AA	JOURNAL CTR.- PH. 2 UNIT 1, LOT 2	14-Jul-20	CO-PERM	0.38	No	16,553.00	$3,704.00
D17D061A	EMCOMPASS HEALTH	30-Oct-20	CO-PERM	0.57	No	24,620.00	$4,272.00
D18D009A	HOPE CHRISTIAN ELEM SCHOOL - PALOMAS	24-May-21	CO-PERM	3.51	Yes		
D18D056A	OVERTURE SENIOR	28-Sep-20	CO-PERM	3.28	No	142,876.00	$32,360.00
D18D056A	OVERTURE SENIOR AREA 3	18-Aug-20	CO-TEMP		No		
D19D031	PALOMAS AVE NE	30-Oct-20	CO-PERM	1.80	Yes		
D19D031	PALOMAS AVE NE	25-Sep-20	CO-TEMP		Yes		
E10D038	8015 VICTORIA DR. NW (REVISION)	18-Feb-21	CO-PERM	1.97	Yes		
E10D038	8015 VICTORIA DR. NW (REVISION)	02-Mar-21	CO-PERM-R		Yes		
E10D070	6301 CASA BLANCA	18-Dec-20	CO-PERM	0.13	Yes		
E10D074	6212 KAYENTA DR NW (REVISION)	17-Aug-20	CO-PERM	0.10	Yes		
E10D075	7940 VICTORIA DR NW	16-Apr-21	CO-PERM	0.17	Yes		
E10D083	6401 LITTLE JOE	20-Apr-21	CO-PERM	0.12	Yes		
E12D006H	BEYOND HEALTH OFFICE BUILDING	23-Apr-21	CO-PERM	0.32	No	13,847.00	$3,136.00
E17D076B	LOVELACE MEDICAL GROUP, PHASE 2	01-Oct-20	CO-PERM	0.58	No		
E23D009B	6804 PINO ARROYO CT	28-May-21	CO-PERM	0.30	Yes		
E23D035	13501 ELENA GALLEGOS (REVISION)	25-Dec-20	CO-PERM	0.24	Yes		
E24D006	6705 EMORY OAK PL NE	08-Jul-20	CO-PERM	0.40	Yes		
F11D007	COORS VILLAGE-REVISION	09-Jul-20	ROFG/SIA				
F16D003E1	MULTI USE RECREATIONAL FACILITY-TOP GOLF	25-Sep-20	CO-PERM	9.41	Yes		
F16D014C	WUA CUSTOMER SERVICE & OPERATIONS FACILITIES	25-Sep-20	CO-TEMP	11.10	Yes		
F16D015A	FIRST FINANCIAL CREDIT UNION	06-Jan-21	CO-PERM	2.64	Yes		
F16D053	MONTGOMERY CARWASH	07-Aug-20	CO-PERM	0.78	Yes		
F17D044C	JEFFERSON HOTEL	04-Aug-20	CO-PERM	2.75	No	8,581.00	$1,952.00

FY2021

DRAINAGE FILE	PROJECT NAME/DES	APPROVAL SOUGHT	REVIEW DATE	ACRES IMP	WQ POND AT CO	SQ FT IMP FEE IN LIEU	AMOUNT PAID FEE IN LIEU
F17D044C	JEFFERSON HOTEL	04-Aug-20	ROFG				
F17D103	RYANS SEWING	26-Mar-21	CO-PERM	1.76	Yes		
F19D003A	MONTGOMERY CHURCH REVISION	01-Jul-20	CO-PERM	1.06	Yes		
F19D038	8234 NORTHRIDGE	27-Jan-21	CO-PERM	0.41	Yes		
F20D005	CHAMPION XPRESS CARWASH-4516 WYOMING	30-Oct-20	CO-PERM	0.82	Yes		
F20D005	CHAMPION XPRESS CARWASH-4516 WYOMING	15-Oct-20	CO-TEMP				
G10D029I	HORIZON ACADEMY WESTFIELD	30-Jul-20	CO-PERM	0.00	Yes		
G10D029J	COMMUNITY BAPTIST CHURCH	19-Feb-21	CO-PERM	0.70	Yes		
G11D014A	ST JOSEPH ON THE RIO GRANDE CHURCH	11-Jun-21	CO-PERM	8.05	Yes		
G11D069D	BLAKES STORE #75	02-Mar-21	CO-PERM	0.59	Yes		
G11D069D	BLAKES STORE #75	18-Mar-21	CO-PERM				
G11D071	GLOBAL STORAGE-COORS	06-Aug-20	ROFG				
G14D092	ST. THERESE SCHOOL	19-Nov-20	CO-PERM	0.15	Yes		
G14D092	ST. THERESE SCHOOL	20-Nov-20	CO-PERM				
G17D019B	COA PALO DURO SENIOR FITNESS CENTER ADDITION	12-Mar-21	CO-PERM	0.01	Yes		
G17D032	CHIPOTLE	25-Dec-20	CO-PERM	0.35	Yes		
G17D032	CHIPOTLE	03-Dec-20	CO-TEMP				
H09D017F	DEL WEBB @ MIREHAVEN PH. 2	04-Aug-20	ROFG-R	24.14	Yes		
H09D017G	DEL WEBB @ MIREHAVEN BORROW 3A & 3B	14-Aug-20	ROFG	19.60	Yes		
H10D006B	ALBUQUERQUE RV & BOAT STORAGE	28-Jul-20	CO-PERM	5.42	Yes		
H12D022	2816 CARLOTA	28-May-21	CO-PERM	0.08	Yes		
H13D114	3010 12TH ST NW	27-Jan-21	CO-PERM	0.14	Yes		
H13D115	2633 FLORAL RD (REVISION)	22-Apr-21	CO-PERM	0.18	Yes		
H15D068	MAVERIK STORE-MENAUL/UNIVERSITY (REVISION)	26-Mar-21	CO-PERM	2.33	Yes		
H16D083E	STARBUCKS AT MENAUL AND CARLISLE (REVISION)	14-Sep-20	CO-PERM	0.49	Yes		
H19D040	7212 MENAUL	30-Jul-20	CO-TEMP	0.42	No	18,164.50	$3,149.21
H19D040	7212 MENAUL	11-Aug-20	CO-TEMP				
H19D084	2440 LOUISIANA LOTS	06-Jan-21	CO-PERM	0.52	No	22,651.00	$3,856.00
H19D086	JIFFY LUBE (REVISON)	17-Dec-20	CO-PERM	0.85	Yes		
H19D086	JIFFY LUBE	30-Oct-20	ROFG				
H20D043	FIRE STATION 9	27-Oct-20	CO-PERM	1.20	Yes		
H20D043	FIRE STATION 9	08-Oct-20	CO-TEMP				
H21D029	US EAGLE FCU	26-Jan-21	CO-PERM	0.51	No	22,216.00	$3,824.00
H21D029	US EAGLE FCU	11-Dec-20	CO-TEMP				
J10D002G2	7601 LOS VOLCANES RD NW UNIT A	09-Oct-20	CO-PERM	9.14	Yes		
J11D032	POSTEN ACCESS DRIVWAY 730 COORS BLVD NW	19-Feb-21	CO-PERM	0.95	Yes		
J11D039	700 COORS BLVD NW	24-Nov-20	CO-PERM	0.43	Yes		
J12D015	BOSQUE ANTIGUA	26-Feb-21	ROFG	2.77	Yes		
J13D209	MOUNTAIN TOWNHOMES	30-Oct-20	CO-PERM	0.15	Yes	2,413.00	$531.00
J13D210	BEING THERE LIVE WORK DUPLEX	14-Sep-20	CO-PERM	0.56	Yes		
J13D210	BEING THERE LIVE WORK DUPLEX	07-Jan-21	CO-PERM-R				
J20D032	EUBANK ANIMAL CLINIC	06-Apr-21	CO-PERM	0.08	Yes		
J20D037	MURPHY EXPRESS-REVISION	14-Sep-20	CO-PERM	0.65	Yes		
J20D040	9912 BELLAMAH	11-Jun-21	CO-PERM	0.12	Yes		
J21D024	1105 JUAN TABO BLVD NE	07-Dec-20	CO-PERM	0.48	No	20,908.00	$2,689.00
J22D050	ABQ. SCHOOL OF EXCELLENCE (REVISION)	14-Sep-20	CO-TEMP	3.92	Yes		
J22D050	ABQ. SCHOOL OF EXCELLENCE (REVISION)	25-Jan-21	EXTENSION				
J22D050	ABQ. SCHOOL OF EXCELLENCE (REVISION)X2	01-Apr-21	EXTENSION				
J22D050	ABQ. SCHOOL OF EXCELLENCE (REVISION)X3	22-Apr-21	EXTENSION				
J22D050	ABQ. SCHOOL OF EXCELLENCE (REVISION)X4	24-May-21	EXTENSION				
J22D068	MOUNTAINSIDE CHURCH ADDITION-REVISION	07-Aug-20	CO-PERM	0.03	Yes		
J22D070	TOWNHOUSE FOR AHMET TIRYAKI 900 & 910 CHELWOOD	18-Dec-20	CO-PERM	0.46	Yes		
J23D027	13804 HAINES RESIDENCE	07-May-21	CO-PERM	0.11	Yes		
K09D044	MAVERIK STORE-BLUEWATER & 98TH	24-Nov-20	CO-TEMP	2.34	Yes		
K10D023D	Maverik – Unser/Los Volcanes	04-Jan-21	CO-PERM	2.29	Yes		
K10D023D	MAVERIK STORE -LOS VOLCANES/UNSER (REVISION)	21-Jul-20	CO-TEMP				
K10D045	UNSER CROSSING-DEFINED FITNESS	09-Feb-21	CO-PERM	4.54	Yes		
K10D058	NUEVO ATRISCO	11-Sep-20	CO-PERM	1.80	Yes		
K10D058	NUEVO ATRISCO	28-Sep-20	CO-PERM				
K10D058	NUEVO ATRISCO	14-Sep-20	CO-TEMP				
K10D061	MURPHY EXPRESS	05-Oct-20	CO-PERM	0.45	Yes		
K10D061	MURPHY EXPRESS	02-Oct-20	CO-TEMP				
K13D034H	BIOPARK COMPACTOR RELOCATION	28-Sep-20	CO-PERM	0.00	No		
K13D078	SAN PATRICIO TOWNHOMES (1512 SAN PATRICIO)	14-Jul-20	CO-PERM	0.05	Yes		
K13D078A	SAN PATRICIO TOWNHOMES (1508 SAN PATRICIO)	19-Nov-20	CO-PERM	0.05	Yes		
K14D118	915 SILVER SW	09-Jul-20	CO-PERM	0.06	Yes		
K14D118A	913 SILVER SW	09-Jul-20	CO-PERM	0.04	Yes		
K14D222	220 HAZELDINE AVE	07-May-21	CO-PERM	0.04	Yes		
K15D005	PRESBYTERIAN ED WAITING ROOM	05-Feb-21	CO-PERM	0.04	Yes		
K15D034A	BROADSTONE HIGHLANDS NORTH BLOCK	23-Mar-21	CO-PERM	2.16	No	94,090.00	$21,312.00
K15D034B	SPRINGHILL SUITES	02-Oct-20	CO-PERM	1.11	No	48,352.00	$12,912.00
K15D034B	SPRINGHILL SUITES	27-Jul-20	CO-TEMP				
K15D034B	SPRINGHILL SUITES	10-Sep-20	EXTENSION				
K15D034D	HIGHLANDS PARKING LOT/ HIGHLANDS PEDESTRIAN BRIDGE	06-May-21	CO-PERM	1.60	No	69,696.00	$15,864.00
K16D072A	CORNELL APARTMENTS 200 CORNELL SE	15-Mar-21	CO-PERM	0.72	Yes		
K16D084	STANFORD TOWNHOMES	08-Mar-21	CO-PERM	0.28	Yes		
K16D084	STANFORD TOWNHOMES	12-Mar-21	CO-PERM-R				
K18D105	TIRYAKI APTS	30-Oct-20	CO-PERM	0.36	No	15,838.00	$2,368.00
K19D138	BERNALILLO COUNTY THV	18-Dec-20	CO-PERM	0.75	Yes		
L14D013	DENNIS CHAVEZ COMMUNITY CENTER Phase 2	04-Jun-21	CO-PERM	0.14	Yes		
L15D041	STARBUCK DRIVE-THRU	14-Sep-20	CO-PERM	0.61	Yes		

FY2021

DRAINAGE FILE	PROJECT NAME/DES	APPROVAL SOUGHT	REVIEW DATE	ACRES IMP	WQ POND AT CO	SQ FT IMP FEE IN LIEU	AMOUNT PAID FEE IN LIEU
L18D050A	WILSON POOL & PARK 1100 CARDENAS DR SE	25-Jun-21	CO-PERM	0.64	Yes		
L20D071	B&D INDUSTRIES, INC	16-Nov-20	CO-PERM	0.40	Yes	4,482.00	$1,016.00
L20D071	B&D INDUSTRIES, INC	17-Jul-20	CO-TEMP				
L20D073	10020 CENTRAL SE	23-Apr-21	CO-PERM	0.41	Yes		
L23D014C	115 LANIER	20-Jul-20	CO-PERM	0.14	Yes		
L23D014D	13705 COVERED WAGON, LOT 7	29-Jul-20	CO-PERM	0.15	Yes		
L23D014E	13727 COVERED WAGON, LOT 2	18-Aug-20	CO-PERM	0.15	Yes		
M10D016J	7000 HUSEMAN PL SW NEW OFFICE WAREHOUSE FACILITY	10-Jul-20	CO-PERM	0.74	Yes		
M15D023G	COMFORT SUITES - 1401 WOODWARD SE	11-Feb-21	CO-PERM	1.70	Yes		
M21D018	JUAN TABO HILLS ESTATES	21-Sep-20	ROFG	54.70	Yes		
M21D021	COOPERATIVE EDUCATION SERVICES	28-Apr-21	CO PERM	1.61	Yes		
P09D002D	VALLE DE ATRISCO APARTMENT DEVELOPMENT	25-Jan-21	CO-PERM	6.61	No		
P09D002D	VALLE DE ATRISCO APARTMENT DEVELOPMENT, BLDGS, A,B,C,E,H,J&K	26-Jan-21	CO-PERM				
P09D002D	VALLE DE ATRISCO APARTMENT DEVELOPMENT, BLDGS, A,B,C,E,H,J&K	27-May-21	ROFG				
P09D002F	CEJA VISTA OFF-SITE UNIT 1 (REVISION)	25-Jan-21	ROFG	1.58	Yes		
P09D002F	CEJA VISTA OFF-SITE UNIT 1 (REVISION)	25-Mar-21	ROFG-R				
P09D002F	CEJA VISTA OFF-SITE UNIT 1 (REVISION)	27-May-21	ROFG-R				
P09D002H	CEJA VISTA OFFSITE UNIT 1	25-Mar-21	ROFG				
				Total Impervious Area (acres)		Total Impervious Area - Payment-in-Lieu (acres)	Total Payment-in-Lieu (Dollars)
				249.24		**12.16**	**$138,770.85**

Attachment 4

Dry Weather Screening Results

Dry Weather Screening of Outfalls 2021

OUTFALL_NO	LOCATION	QUAD	GRID	PageNo
1	SAN JOSE DRAIN AT WOODWARD SE	SE	M-14	1
2	BROADWAY POND INFLOW CHANNEL	SE	K-14	2
3	MENAUL POND INFLOW CHANNEL	NE	H-15	3
4	BARELAS PUMPING PLANT INFLOW	SW	L-13	4
5	KIRTLAND CHANNEL AT MULBERRY NE	SE	M-15	5
6	SAN ANTONIO ARROYO AT RIO GRANDE	NW	F-12	6
7	CALABACILLAS ARROYO AT RIO GRANDE	NW	C-14	7
8	HAHN ARROYO AT CARLISLE NE	NE	G-16	8
9	EMBUDO AT PENNSYLVANIA SOUTH OF MENUAL NE	NE	J-19	9
10	NDC AT TUCKER NE	NE	J-16	10
11	BEAR CANYON ARROYO AT NDC	NE	G-16	11
12	SOUTH PINO ARROYO AT WASHINGTON NE	NE	D-17	12
13	NORTH PINO ARROYO AT NDC	NE	D-17	13
14	SOUTH DOMINGO BACA ARROYO AT WASHINGTON NE	NE	C-17	14
15	AMOLE DEL NORTE CHANNEL AT BLAKE RD SW	SW	N-10	15
16	WEST BLUFF NW OUTFALL AT RIO GRANDE	NW	H-11	16
17	SNOW VISTA ARROYO AT DE VARGAS SW	SW	M-09	17
18	MONTANO EAST OF COORS NW	NW	E-12	18
19	MONTANO NW PS-47 WEST OF RIO GRANDE BLVD	NW	F-12	19
20	CANDELARIA NW PS-40 AT RIO GRANDE	NW	G-12	20
21	NAMASTE AND COORS NW	NW	F-11	21
22	SNOW GOOSE AT OXBOW BLUFF NW	NW	G-11	22
23	SEQUOIA NW AT RIO GRANDE	NW	G-11	23
24	REDLANDS - GRANDE VISTA NW	NW	G-12	24
25	PASEO DEL REY - OURAY - VISTA GRANDE NW	NW	H-11	25
26	DURANES NW PS AT RIO GRANDE	NW	H-12	26
27	CALLE DEL VISTA-ATRISCO NW	NW	H-11	27
28	WESTCLIFFE AND JOSEPHINE NW	NW	H-12	28
29	SAN JOSE DRAIN AT RIO BRAVO SW	SW	P-13	29
30	ATRISCO-ATRISCO PL-RIVERVIEW NW	NW	J-11	30
31	LABAJADA-ATRISCO-NORTH 30 IN PIPE	NW	J-11	31
32	LABAJADA-ATRISCO-SOUTH 36 IN PIPE	NW	J-11	32
33	CENTRAL-SUNSET-OSAGE PS-44 TWO PIPES 36 AND 42 IN	NW	J-12	33
34	CENTRAL-SUNSET-OSAGE NW PS-44-6 IN PIPE	NW	J-12	34
35	ALCALDE SW PS-41 AT RIO GRANDE	SW	K-13	35
36	NDC AT ALAMEDA NE	NE	C-17	36
37	TIJERAS ARROYO AT 2ND ST SW	SW	Q-12	37
38	MIRANDELA BY PUEBLO PARK SE OF COORS AND MONTANO NW	NW	E-12	38
39	BOSQUE SCHOOL AND MIRANDELA SE OF COORS AND MONTANO NW	NW	E-12	39
40	1406-1412 RIVERVIEW NW	NW	J-11	40

Dry Weather Screening of Outfalls-2021

Outfalls
Arroyos
City Areas

0 1 2
Miles

N

LOCATION	**SAN JOSE DRAIN AT BETHEL SE**

OUTFALL_NO	1	QUAD	SE	GRID	M-14	SAMPLED	☐
DATE_INSP	3/2/2021	TIME	11:44	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	48	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**BROADWAY POND INFLOW CHANNEL**

OUTFALL_NO	2	QUAD	SE	GRID	K-14	SAMPLED	☑
DATE_INSP	2/3/2021	TIME	10:49	Inspected by	VV, MM		
WEATHER	CLOUDY	flow	Y	FLOW_GPM	1		
APPEARANCE	clear-no sheen	GROSS POLLUTANT	No odor, slight to mod particulates				
Source of Flow	cooling tower of lovelace medical center at 601 Dr MLKJ NE						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab	Hall Environmental Analysis Lab				

AIR_TEMP_F	55	Lab_Report	2102219
WATER_TEMP_F	43		
pH	8.35	E_coli_Coliform_mpn/100ml	325.5
CONDUCTIVITY_Umos/cm	1200	Ammonia_mg/l	<1
BOD_mg/l	<2	Nitrite_NO2_mg/l	
COD_mg/l	<20	Nitrate_NO3_mg/l	
TSS_mg/l	<4	Nitrite+Nitrate_mg/l	1.2
TDS_mg/l	761	TKN_Tot_Kjeld_N_mg/l	1.1
N-Hexane Extractabie-(Oil_Grease)_mg/l	<9.5	Phosphorus_total_mg/l_P	0.4



LOCATION	**MENAUL POND INFLOW CHANNEL**

OUTFALL_NO	3	QUAD	NE	GRID	H-15	SAMPLED	☑
DATE_INSP	1/12/2021	TIME	1:43 pm	Inspected by	MM,VV		
WEATHER	SUNNY	flow	YES	FLOW_GPM	20		
APPEARANCE	clear	GROSS POLLUTANT	No Odor, No Particulates				
Source of Flow	fire hydrant wash out and broken water line.						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab	Hall Environmental Analysis Lab				

AIR_TEMP_F	45	Lab_Report	2101437
WATER_TEMP_F	42		
pH	8.22	E_coli_Coliform_mpn/100ml	1.0
CONDUCTIVITY_Umos/cm	400	Ammonia_mg/l	<1.0
BOD_mg/l	4.7	Nitrite_NO2_mg/l	<0.5
COD_mg/l	<20.	Nitrate_NO3_mg/l	<0.5
TSS_mg/l	<4.0	Nitrite+Nitrate_mg/l	
TDS_mg/l	271	TKN_Tot_Kjeld_N_mg/l	<1.0
N-Hexane Extractabie-(Oil_Grease)_mg/l	<9.5	Phosphorus_total_mg/l_P	0.05



3

LOCATION	**BARELAS PUMPING PLANT INFLOW**

OUTFALL_NO	4	QUAD	SW	GRID	L-13	SAMPLED	☑
DATE_INSP	2/3/2021	TIME	2:00	Inspected by	VV, MM		
WEATHER	CLOUDY	flow	YES	FLOW_GPM	10		
APPEARANCE	cloudy,slight sheen	GROSS POLLUTANT	slight musty odor, sight to mod particulates				
Source of Flow	Groundwater infiltration and irrigation water waste						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab	Hall Environmental Analysis Lab				

AIR_TEMP_F	63	Lab_Report	2102219
WATER_TEMP_F	53		
pH	8.39	E_coli_Coliform_mpn/100ml	1732.9
CONDUCTIVITY_Umos/cm	850	Ammonia_mg/l	<1
BOD_mg/l	<2	Nitrite_NO2_mg/l	
COD_mg/l	<20	Nitrate_NO3_mg/l	
TSS_mg/l	<4	Nitrite+Nitrate_mg/l	<1
TDS_mg/l	550	TKN_Tot_Kjeld_N_mg/l	<1
N-Hexane Extractabie-(Oil_Grease)_mg/l	<9.4	Phosphorus_total_mg/l_P	0.15



LOCATION	**KIRTLAND CHANNEL AT MULBERRY NE**						
OUTFALL_NO	5	QUAD	SE	GRID	M-15	SAMPLED	☐
DATE_INSP	3/2/2021	TIME	11:56	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	48	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



5

LOCATION	**SAN ANTONIO ARROYO AT RIO GRANDE**

OUTFALL_NO	6	QUAD	NW	GRID	F-12	SAMPLED	☐
DATE_INSP	1/13/2021	TIME	10:30	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	45	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**CALABACILLAS ARROYO AT RIO GRANDE**

OUTFALL_NO	7	QUAD	NW	GRID	C-14	SAMPLED	☐
DATE_INSP	1/12/2021	TIME	9:15	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT					
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	24	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**HAHN ARROYO AT CARLISLE NE**

OUTFALL_NO	8	QUAD	NE	GRID	G-16	SAMPLED	☑
DATE_INSP	3/2/2021	TIME	9:55	Inspected by	VV, MM		
WEATHER	SUNNY	flow	YES FLOW	FLOW_GPM	1		
APPEARANCE	Slight yellow, No Sheen	GROSS POLLUTANT	No Odor, Slight particulates				
Source of Flow	well wash water from Volandia2 wells						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab	Hall Environmental Analysis Lab				

AIR_TEMP_F	39	Lab_Report	2103135
WATER_TEMP_F	51		
pH	8.40	E_coli_Coliform_mpn/100ml	3.1
CONDUCTIVITY_Umos/cm	870	Ammonia_mg/l	<0.1
BOD_mg/l	4.6	Nitrite_NO2_mg/l	<0.5
COD_mg/l	35	Nitrate_NO3_mg/l	<0.5
TSS_mg/l	15	Nitrite+Nitrate_mg/l	
TDS_mg/l	484	TKN_Tot_Kjeld_N_mg/l	4.2
N-Hexane Extractabie-(Oil_Grease)_mg/l	<9.4	Phosphorus_total_mg/l_P	0.06



8

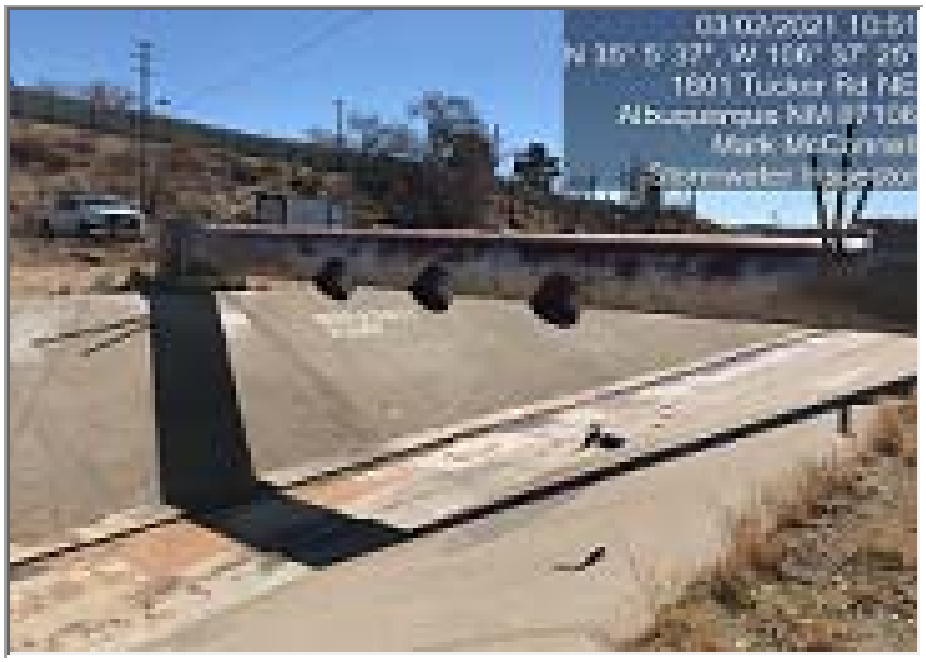
LOCATION	**EMBUDO AT PENNSYLVANIA SOUTH OF MENUAL NE**

OUTFALL_NO	9	QUAD	NE	GRID	J-19	SAMPLED	☐
DATE_INSP	3/2/2021	TIME	8:29	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	32	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**NDC AT TUCKER**

OUTFALL_NO	10	QUAD	NE	GRID	J-16	SAMPLED	☐
DATE_INSP	3/2/2021	TIME	10:53	Inspected by			
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	44	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



10

LOCATION	**BEAR CANYON ARROYO AT NDC**

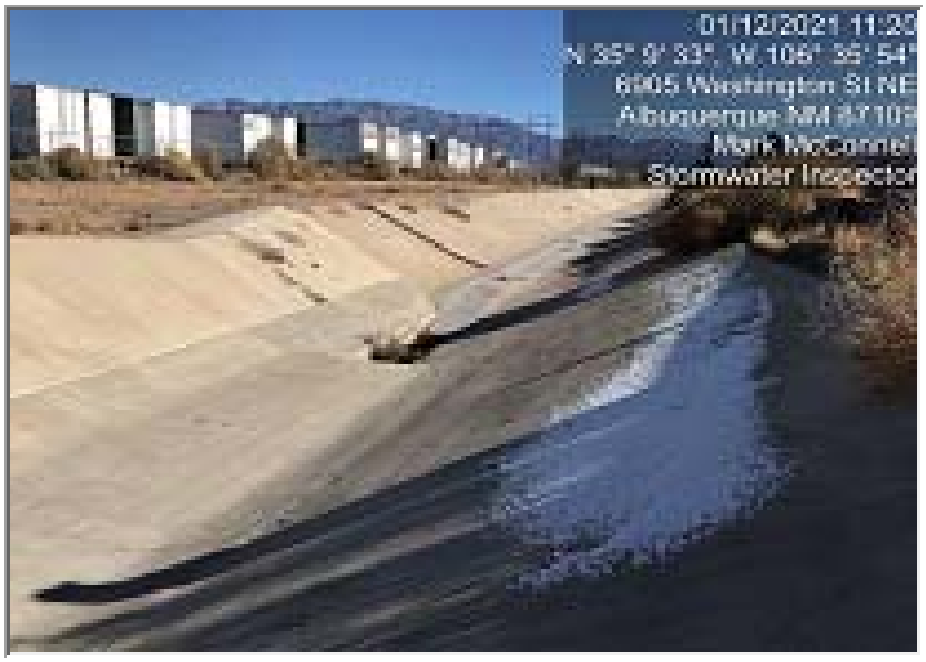
OUTFALL_NO	11	QUAD	NE	GRID	G-16	SAMPLED	☐
DATE_INSP	1/12/2021	TIME	11:30	Inspected by	MM,VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	37	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



11

LOCATION	**SOUTH PINO ARROYO AT WASHINGTON NE**

OUTFALL_NO	12	QUAD	NE	GRID	D-17	SAMPLED	☐
DATE_INSP	1/12/2021	TIME	11:20	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	37	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**NORTH PINO ARROYO AT TIBURON NE**

OUTFALL_NO	13	QUAD	NE	GRID	D-17	SAMPLED	☐
DATE_INSP	3/2/2021	TIME	12:24	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	50	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**SOUTH DOMINGO BACA ARROYO AT WASHINGTON NE**

OUTFALL_NO	14	QUAD	NE	GRID	C-17	SAMPLED	☐
DATE_INSP	1/12/2021	TIME	10:00	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT					
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	32	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



14

LOCATION	**AMOLE DEL NORTE CHANNEL AT BLAKE SW**

OUTFALL_NO	15	QUAD	SW	GRID	N-10	SAMPLED	☑
DATE_INSP	3/4/2021	TIME	11:30	Inspected by	VV, MM		
WEATHER	SUNNY	flow	YES	FLOW_GPM	0.5		
APPEARANCE	very cloudy, No sheen	GROSS POLLUTANT	No odor, mod particulates, Slight yellow to tan colo				
Source of Flow	irrigation water escape						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab	Hall Environmental Analysis Lab				

AIR_TEMP_F	52	Lab_Report	2103222
WATER_TEMP_F	47		
pH	8.06	E_coli_Coliform_mpn/100ml	<1
CONDUCTIVITY_Umos/cm	550	Ammonia_mg/l	<1
BOD_mg/l	3.9	Nitrite_NO2_mg/l	<0.5
COD_mg/l	<40	Nitrate_NO3_mg/l	<0.5
TSS_mg/l	32	Nitrite+Nitrate_mg/l	
TDS_mg/l	373	TKN_Tot_Kjeld_N_mg/l	1.5
N-Hexane Extractabie-(Oil_Grease)_mg/l	<9.4	Phosphorus_total_mg/l_P	0.21



15

LOCATION	**WEST BLUFF NW OUTFALL AT RIO GRANDE**

OUTFALL_NO	16	QUAD	NW	GRID	H-11	SAMPLED	☐
DATE_INSP	1/25/2021	TIME	11:40	Inspected by	MM, VV		
WEATHER	CLOUDY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	38	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**SNOW VISTA ARROYO AT DE VARGAS SW**

OUTFALL_NO	17	QUAD	SW	GRID	M-09	SAMPLED	☐
DATE_INSP	3/3/2021	TIME	11:12	Inspected by	VV, MM		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	52	Lab_Report					
WATER_TEMP_F							

pH		E_coli_Coliform_mpn/100ml	
CONDUCTIVITY_Umos/cm		Ammonia_mg/l	
BOD_mg/l		Nitrite_NO2_mg/l	
COD_mg/l		Nitrate_NO3_mg/l	
TSS_mg/l		Nitrite+Nitrate_mg/l	
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l	
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P	



LOCATION	**MONTANO EAST OF COORS NW**

OUTFALL_NO	18	QUAD	NW	GRID	E-12	SAMPLED	☐
DATE_INSP	1/13/2021	TIME	9:20	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	36	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	MONTANO NW PS-47 WEST OF RIO GRANDE BLVD						
OUTFALL_NO	19	QUAD	NW	GRID	F-12	SAMPLED	☐
DATE_INSP	1/13/2021	TIME	9:40	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	39	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



19

LOCATION	**CANDELARIA NW PS-40 AT RIO GRANDE**

OUTFALL_NO	20	QUAD	NW	GRID	G-12	SAMPLED	☐
DATE_INSP	2/3/2021	TIME	8:52	Inspected by	MM, VV		
WEATHER	CLOUDY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	49	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



20

LOCATION	**NAMASTE AND COORS NW**
OUTFALL_NO	21
QUAD	NW
GRID	F-11
SAMPLED	☐
DATE_INSP	1/13/2021
TIME	10:50
Inspected by	MM, VV
WEATHER	SUNNY
flow	NO FLOW
FLOW_GPM	0
APPEARANCE	na
GROSS POLLUTANT	na
Source of Flow	na
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_
Lab	
AIR_TEMP_F	47
Lab_Report	
WATER_TEMP_F	
pH	
E_coli_Coliform_mpn/100ml	
CONDUCTIVITY_Umos/cm	
Ammonia_mg/l	
BOD_mg/l	
Nitrite_NO2_mg/l	
COD_mg/l	
Nitrate_NO3_mg/l	
TSS_mg/l	
Nitrite+Nitrate_mg/l	
TDS_mg/l	
TKN_Tot_Kjeld_N_mg/l	
N-Hexane Extractabie-(Oil_Grease)_mg/l	
Phosphorus_total_mg/l_P	



21

LOCATION	**SNOW GOOSE AT OXBOW BLUFF NW**

OUTFALL_NO	22	QUAD	NW	GRID	G-11	SAMPLED	☐
DATE_INSP	1/20/2021	TIME	9:15	Inspected by	VV, MM		
WEATHER	CLOUDY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	32	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**SEQUOIA NW AT RIO GRANDE**

OUTFALL_NO	23	QUAD	NW	GRID	G-11	SAMPLED	☐
DATE_INSP	1/13/2021	TIME	11:30	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	49	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



23

LOCATION	**REDLANDS - GRANDE VISTA NW**

OUTFALL_NO	24	QUAD	NW	GRID	G-12	SAMPLED	☐
DATE_INSP	1/13/2021	TIME	11:40	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	49	Lab_Report					
WATER_TEMP_F							

pH		E_coli_Coliform_mpn/100ml	
CONDUCTIVITY_Umos/cm		Ammonia_mg/l	
BOD_mg/l		Nitrite_NO2_mg/l	
COD_mg/l		Nitrate_NO3_mg/l	
TSS_mg/l		Nitrite+Nitrate_mg/l	
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l	
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P	



24

LOCATION	**PASEO DEL REY - OURAY - VISTA GRANDE NW**

OUTFALL_NO	25	QUAD	NW	GRID	H-11	SAMPLED	☐
DATE_INSP	1/25/2021	TIME	10:40	Inspected by	VV, MM		
WEATHER	CLOUDY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	38	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



25

LOCATION	**DURANES NW PS AT RIO GRANDE**

OUTFALL_NO	26	QUAD	NW	GRID	H-12	SAMPLED	☑
DATE_INSP	2/3/2021	TIME	9:20	Inspected by	MM, VV		
WEATHER	CLOUDY	flow	YES	FLOW_GPM	5		
APPEARANCE	clear, no sheen	GROSS POLLUTANT	No Odor, No Particulates				
Source of Flow	well wash out from Durance 4 & 6 wells and groundwater infiltration						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab	Hall Environmental Analysis Lab				

AIR_TEMP_F	50	Lab_Report	2102219
WATER_TEMP_F	46		
pH	7.74	E_coli_Coliform_mpn/100ml	59.1
CONDUCTIVITY_Umos/cm	570	Ammonia_mg/l	<1
BOD_mg/l	<2	Nitrite_NO2_mg/l	
COD_mg/l	<20	Nitrate_NO3_mg/l	
TSS_mg/l	<4	Nitrite+Nitrate_mg/l	<1
TDS_mg/l	349	TKN_Tot_Kjeld_N_mg/l	<1
N-Hexane Extractabie-(Oil_Grease)_mg/l	<9.3	Phosphorus_total_mg/l_P	0.07



LOCATION	**CALLE DEL VISTA-ATRISCO NW**

OUTFALL_NO	27	QUAD	NW	GRID	H-11	SAMPLED	☐
DATE_INSP	1/29/2021	TIME	8:50	Inspected by	VV, MM		
WEATHER	CLOUDY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	31	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**WESTCLIFFE AND JOSEPHINE NW**

OUTFALL_NO	28	QUAD	NW	GRID	H-12	SAMPLED	☐
DATE_INSP	1/25/2021	TIME	10:30	Inspected by	MM, VV		
WEATHER	CLOUDY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	38	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**SAN JOSE DRAIN AT RIO BRAVO SW**

OUTFALL_NO	29	QUAD	SW	GRID	P-13	SAMPLED	☐
DATE_INSP	3/2/2021	TIME	11:30	Inspected by	MM,VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	48	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**ATRISCO-ATRISCO PL-RIVERVIEW NW**

OUTFALL_NO	30	QUAD	NW	GRID	J-11	SAMPLED	☐
DATE_INSP	1/29/2021	TIME	9:37	Inspected by	VV, MM		
WEATHER	CLOUDY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	34	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



30

LOCATION	**LABAJADA-ATRISCO-NORTH 30 IN PIPE**

OUTFALL_NO	31	QUAD	NW	GRID	J-11	SAMPLED	☐
DATE_INSP	1/29/2021	TIME	9:18	Inspected by	VV, MM		
WEATHER	CLOUDY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE		GROSS POLLUTANT					
Source of Flow							
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	33	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



31

LOCATION	**LABAJADA-ATRISCO-SOUTH 36 IN PIPE**

OUTFALL_NO	32	QUAD	NW	GRID	J-11	SAMPLED	☐
DATE_INSP	1/29/2021	TIME	9:18	Inspected by	VV, MM		
WEATHER	CLOUDY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	33	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



32

LOCATION	**CENTRAL-SUNSET-OSAGE PS-44 TWO PIPES 36 AND 42 IN**

OUTFALL_NO	33	QUAD	NW	GRID	J-12	SAMPLED	☐
DATE_INSP	1/29/2021	TIME	10:04	Inspected by	VV, MM		
WEATHER	CLOUDY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	34	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**CENTRAL-SUNSET-OSAGE NW PS-44-6 IN PIPE**

OUTFALL_NO	34	QUAD	NW	GRID	J-12	SAMPLED	☐
DATE_INSP	1/29/2021	TIME	10:14	Inspected by	VV, MM		
WEATHER	CLOUDY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT					
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	34	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**ALCALDE SW PS-41 AT RIO GRANDE**

OUTFALL_NO	35	QUAD	SW	GRID	K-13	SAMPLED	☐
DATE_INSP	1/29/2021	TIME	10:51	Inspected by	VV, MM		
WEATHER	CLOUDY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	37	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**NDC AT ALAMEDA NE**

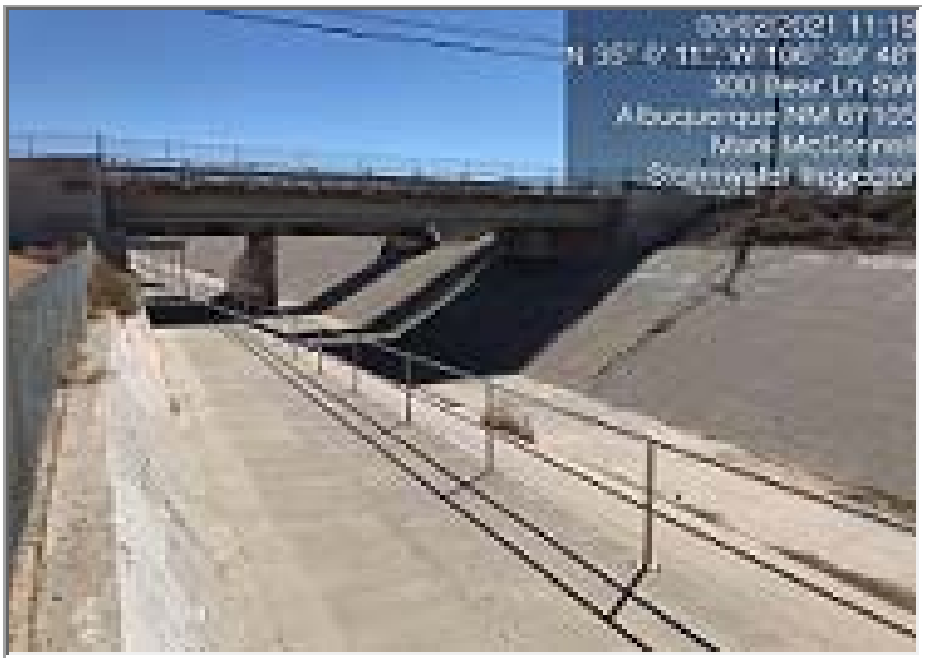
OUTFALL_NO	36	QUAD	NE	GRID	C-17	SAMPLED	☑
DATE_INSP	3/9/2021	TIME	9:17	Inspected by	VV, MM		
WEATHER	SUNNY	flow	YES	FLOW_GPM	20		
APPEARANCE	slightly cloudy	GROSS POLLUTANT	No Odor, No Sheen, Heavy Particulates				
Source of Flow	well wash out, irrigation skape water and broken pipe lines.						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab	Hall Environmental Analysis Lab				

AIR_TEMP_F	39	Lab_Report	2103222
WATER_TEMP_F	34		
pH	8.36	E_coli_Coliform_mpn/100ml	7.5
CONDUCTIVITY_Umos/cm	600	Ammonia_mg/l	<1
BOD_mg/l	2.8	Nitrite_NO2_mg/l	<0.5
COD_mg/l	24.2	Nitrate_NO3_mg/l	<0.5
TSS_mg/l	6	Nitrite+Nitrate_mg/l	
TDS_mg/l	362	TKN_Tot_Kjeld_N_mg/l	<1
N-Hexane Extractabie-(Oil_Grease)_mg/l	<9.4	Phosphorus_total_mg/l_P	0.03



LOCATION	**TIJERAS ARROYO AT 2ND ST SW**

OUTFALL_NO	37	QUAD	SW	GRID	Q-12	SAMPLED	☐
DATE_INSP	3/2/2021	TIME	11:20	Inspected by	MM		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	48	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**MIRANDELA BY PUEBLO PARK SE OF COORS AND MONTANO NW**

OUTFALL_NO	38	QUAD	NW	GRID	E12	SAMPLED	☐
DATE_INSP	1/13/2021	TIME	9:00	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	34	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**BOSQUE SCHOOL AND MIRANDELA SE OF COORS AND MONTANO NW**

OUTFALL_NO	39	QUAD	NW	GRID	E12	SAMPLED	☐
DATE_INSP	1/13/2021	TIME	9:00	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	34	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



LOCATION	**1406-1412 RIVERVIEW NW**

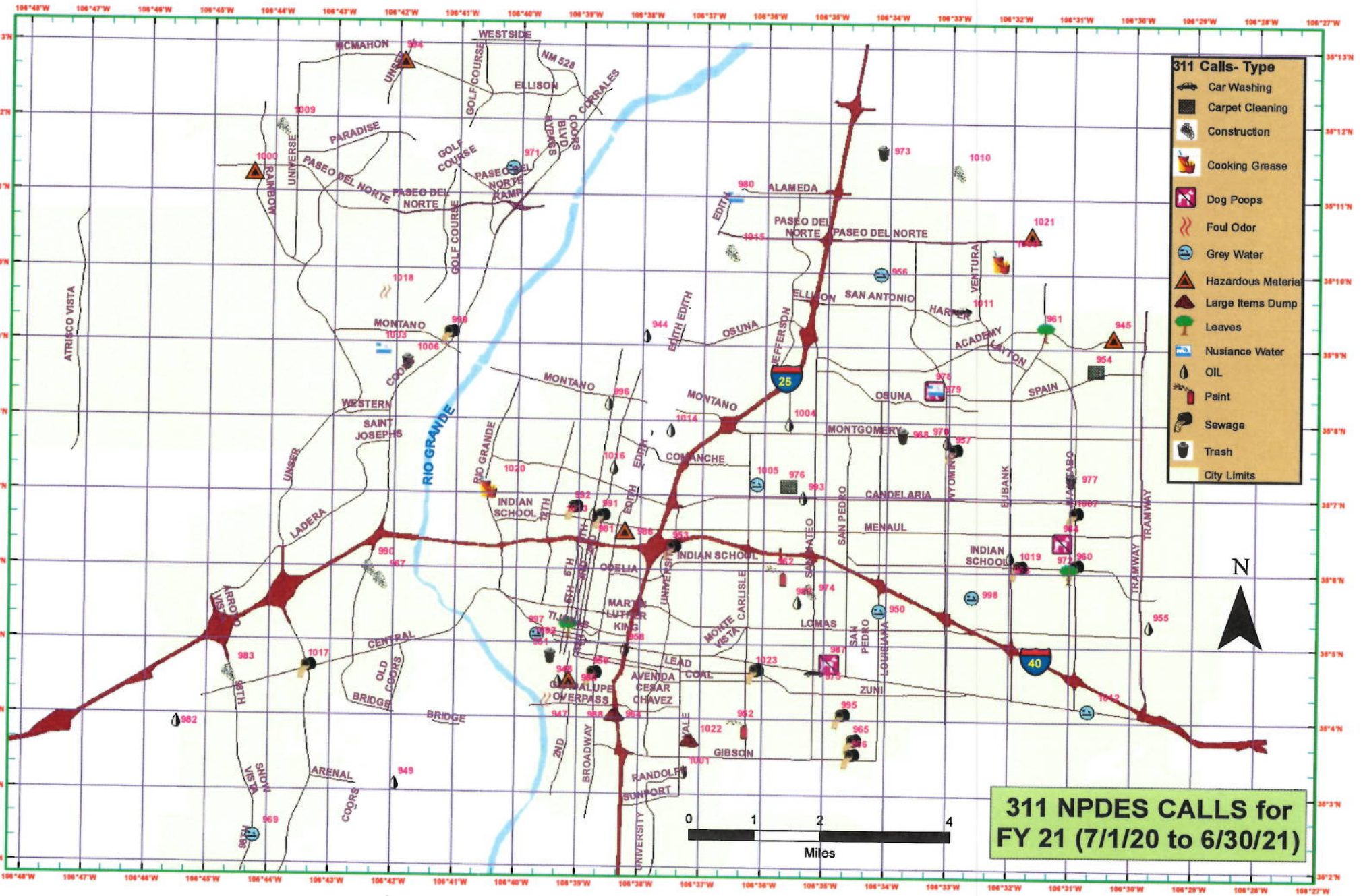
OUTFALL_NO	40	QUAD	NW	GRID	j11	SAMPLED	☐
DATE_INSP	3/3/2021	TIME	2:08	Inspected by	MM, VV		
WEATHER	SUNNY	flow	NO FLOW	FLOW_GPM	0		
APPEARANCE	na	GROSS POLLUTANT	na				
Source of Flow	na						
link	X:\MD\SHARE\MD-Storm\7_NPDES\311_SWQ_	Lab					
AIR_TEMP_F	64	Lab_Report					
WATER_TEMP_F							
pH		E_coli_Coliform_mpn/100ml					
CONDUCTIVITY_Umos/cm		Ammonia_mg/l					
BOD_mg/l		Nitrite_NO2_mg/l					
COD_mg/l		Nitrate_NO3_mg/l					
TSS_mg/l		Nitrite+Nitrate_mg/l					
TDS_mg/l		TKN_Tot_Kjeld_N_mg/l					
N-Hexane Extractabie-(Oil_Grease)_mg/l		Phosphorus_total_mg/l_P					



40

Attachment 5

Map and Listing of Illicit Discharges


311 Calls- Type
Car Washing
Carpet Cleaning
Construction
Cooking Grease
Dog Poops
Foul Odor
Grey Water
Hazardous Material
Large Items Dump
Leaves
Nusiance Water
OIL
Paint
Sewage
Trash
City Limits
N
0
1
2
4
Miles
311 NPDES CALLS for FY 21 (7/1/20 to 6/30/21)
RIO GRANDE
MONTANO
PASEO DEL NORTE
ALAMEDA
OSUNA
MONTGOMERY
CANDELARIA
MENAUL
INDIAN SCHOOL
LOMAS
ZUNI
GIBSON
RANDOLPH
SUNPORT
LEAD
COAL
AVENIDA CESAR CHAVEZ
MARTIN LUTHER KING
ODELIA
CENTRAL
BRIDGE
ARENAL
LADERA
WESTERN
SAINT JOSEPHS
ATRISCO VISTA
UNSER
RAINBOW
UNIVERSE
PARADISE
GOLF COURSE
WESTSIDE
ELLISON
NM 528
CORRALES
COORS BLVD
BYPASS
PASEO DEL NORTE RAMP
EDITH
JEFFERSON
SAN ANTONIO
HARPER
VENTURA
ACADEMY
LAYTON
SPAIN
WYOMING
EUBANK
TRAMWAY
SAN PEDRO
SAN MATEO
CARLISLE
MONTE VISTA
LOUISIANA
BROADWAY
2ND
UNIVERSITY
12TH
6TH
5TH
ARROYO VISTA
98TH
SNOW VISTA
COORS
OLD COORS
25
40

Complaint_Date	Facility_Address	Type_of_Complai	EVENT_I	page
7/2/2020	OSUNA AND 2ND ST. NW	OIL	944	1
7/2/2020	6304 PUMA NE	HAZARDOUS MA	945	2
7/8/2020	BARELAS PS OUTFALL NEAR TINGLEY AND MARQUEZ SW	FOUL ODOR	947	3
7/13/2020	431 PACIFIC SW	OIL	948	4
7/14/2020	1861 ATRISCO SW	OIL	949	5
7/16/2020	1200 LOUISIANA SE	GREY WATER	950	6
7/28/2020	523 8TH SW	TRASH	951	7
7/28/2020	917 AMHERST SE	PAINT	952	8
7/31/2020	MOTEL 6 AT 1701 UNIVERSITY NE	SEWAGE	953	9
8/4/2020	5713 NUGGET NE	CARPET CLEANIN	954	10
8/3/2020	1240 WILLYS KNIGHT NE	OIL	955	11
8/11/2020	6902 SAN FRANCISCO NE	GREY WATER	956	12
8/13/2020	8500 JAMES NE	SEWAGE	957	13
8/18/2020	CENTRAL AND LOCUST SE	OIL	958	14
8/20/2020	723 BROADWAY SE	SEWAGE	959	15
8/28/2020	1734 JUAN TABO NE	SEWAGE	960	16
8/22/2020	ACADEMY AND EUBANK NE	LEAVES	961	17
9/3/2020	4306 SUNNINGDALE NE	PAINT	962	18
9/2/2020	RMM SERVICE AT 2005 EUBANK NE	OIL	963	19
9/12/2020	DENNIS CHAVEZ PARK - NE OF PARK EAST OF HIGH ON DAN SE.	LARGE ITEMS DU	964	20
9/13/2020	CALIFORNIA AND ROSS SE	SEWAGE	965	21
9/15/2020	SAHARA MOTEL AT 5915 GIBSON SE	SEWAGE	966	22
9/15/2020	GLENRIO AND 57TH NW	CONSTRUCTION	967	23
9/17/2020	7410 MONTGOMERY NE	TRASH	968	24
9/23/2020	98TH AND BLAKE SW	GREY WATER	969	25
10/10/2020	PETE'S AUTO CARE AT 4410 WYOMING NE	OIL	970	26
11/2/2020	POND AT CONGRESS AND IRVING NW	GREY WATER	971	27
11/15/2020	1716 MURIEL NE	LEAVES	972	28
11/16/2020	9400 LOUISIANA NE	TRASH	973	29
12/5/2020	5116 SUNNINGDALE NE	CONSTRUCTION	974	30
12/1/2020	MISTER CAR WASH 5308 CENTRAL NE	CAR WASHING	975	31
12/9/2020	BEL AIR PARK APARTMENTS AT 4500 AZTEC NE	CARPET CLEANIN	976	32
12/26/2020	NORTH GLENWOOD HILLS ARROYO AT 3501 JUAN TABO NE	TRASH	977	33
12/31/2020	BEAR TRIB ARROYO AT 5313 HERITAGE NE	DOG POOPS	978	34
12/31/2020	BEAR TRIB ARROYO BEHIND 5325 HERITAGE NE	NUSIANCE WATE	979	35
1/4/2021	8625 PASEO ALAMEDA NE	NUSIANCE WATE	980	36
1/4/2021	RIDGELINE SUPPLY CO. AT 404 TOWNER NE	HAZARDOUS MA	981	37
1/14/2021	FIRE ACADEMY AT 11700 SUNSET GARDENS SW	OIL	982	38
1/27/2021	CONSTRUCTION SITE AT NW VOLCANO AND 98TH NW	CONSTRUCTION	983	39
2/2/2021	11008 PROSPECT NE	DOG POOPS	984	40
1/16/2021	1012 3RD SW	HAZARDOUS MA	985	41
1/25/2021	RIDGELINE SUPPLY CO. AT 404 TOWNER NE	HAZARDOUS MA	986	42
2/3/2021	213 ALVARADO NE	DOG POOPS	987	43

Complaint_Date	Facility_Address	Type_of_Complai	EVENT_I	page
2/8/2021	DENNIS CHAVEZ PARK 715 KATHRYN SE	LARGE ITEMS DU	988	44
2/11/2021	904 MONROE NE	OIL	989	45
2/10/2021	COORS AND HANOVER	CONSTRUCTION	990	46
2/11/2021	3RD ST & WOODLAND NW	SEWAGE	991	47
2/22/2021	MENAUL FROM WOODLAND TO LA PABLANA	SEWAGE	992	48
3/5/2021	QUINCY AND CANDELARIA NE	OIL	993	49
3/10/2021	UNSER & MCMAHON NW	HAZARDOUS MA	994	50
3/1/2021	RV AT CAGUA AND SOUTHERN SE	SEWAGE	995	51
3/11/2021	FOOD TRUCK AT 419 BERRY NW	OIL	996	52
3/15/2021	ZOO AT 1003 12TH ST SW	GREY WATER	997	53
3/19/2021	9121 ASPEN NE	GREY WATER	998	54
3/19/2021	SOMBRA DEL OSO APAR. 6000 MONTANO PLAZA NW	SEWAGE	999	55
3/20/2021	7301 HEARTHSTONE NW	HAZARDOUS MA	1000	56
3/22/2021	BEST WESTERN 2400 YALE SE	OIL	1001	57
4/1/2021	5TH AND TIJERAS NW	LEAVES	1002	58
4/2/2021	5512 ARABIAN NW	NUSIANCE WATE	1003	59
4/3/2021	JEFFERSON CROSSING APART. 4401 MONTGOMERY NE	OIL	1004	60
4/6/2021	3712 ALTA MONTE NE	GREY WATER	1005	61
4/9/2021	POND AT 5201 VALLE VISTA NW	TRASH	1006	62
4/16/2021	AARONS RENTAL 2528 JUAN TABO NE	SEWAGE	1007	63
4/17/2021	S DOMINGO BACA ARROYO W OF HOLBROOK	COOKING GREAS	1008	64
4/21/2021	6815 BRUSHFIELD NW	CONSTRUCTION	1009	65
3/4/2021	8500 GLENDALE NE	CONSTRUCTION	1010	66
3/23/2021	8600 CHERRY HILLS NE	CAR WASHING	1011	67
4/29/2021	MYERS RV AT 12024 CENTRAL SE	GREY WATER	1012	68
5/10/2021	COURT JOHN MOTEL AT 2700 4TH AT WOODLAND NW	OIL	1013	69
5/19/2021	801 NIKANDA NE	OIL	1014	70
5/19/2021	CONSTRUCTION AT LAS LOMITAS AND CUESTA ABAJO	CONSTRUCTION	1015	71
5/20/2021	4000 2ND AT 2ND AND HEADINGLY NW	OIL	1016	72
5/26/2021	CENTRAL AND UNSER	SEWAGE	1017	73
5/5/2021	MARIPOSA ARROYO AT MOJAVE-HOMESTADE NW	FOUL ODOR	1018	74
6/2/2021	10212 MCKNIGHT NE	SEWAGE	1019	75
6/3/2021	LA MONTANTA CO-OP FOOD MARKET AT 2400 RIO GRANDE N	COOKING GREAS	1020	76
6/9/2021	EUBANK & HOLLY NE -8115 RONAN NE	HAZARDOUS MA	1021	77
6/15/2021	ALLEY WEST OF CORNELL SE 1801-1805	LARGE ITEMS DU	1022	78
6/23/2021	3808 LEAD SE	SEWAGE	1023	79